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SEEDS OF JUSTICE

Reforming GMO regulation in the Philippines in accordance with legal precedents established by the MASIPAG and Greenpeace cases against Bt Eggplant and Golden Rice

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Magsasaka at Siyentipiko para sa Pag-unlad ng Agrikultura

Introduction

Genetically Modified Organisms (GMOs) are organisms (plants, animals, or microorganisms) whose genetic material (DNA) has been altered through methods that do not occur naturally, such as mating or natural recombination. This technology is often referred to as "modern biotechnology," "gene technology," "recombinant DNA technology," or "genetic engineering." It enables the transfer of specific genes between different organisms, even across unrelated species. Foods derived from or produced using GM organisms are commonly known as GM foods.[1] Some examples of GMOs in the Philippines are Bt corn, Bt Eggplant and Golden Rice. [2]

The Philippines stands at a critical juncture regarding its national policy on GMOs. While existing biosafety regulations provide a framework for research and commercial release, they have proven inadequate in addressing growing public and stakeholder concerns regarding food sovereignty, environmental safety, and public health. In fact, the environmental release of GMOs faced challenges in two high-profile environmental cases: Greenpeace et al. v. DA, et al. in 2012, and MASIPAG, et al. v. DA, et al. in 2022. [3]

This paper, entitled Seeds of Justice, takes its name from the recognition that seeds are not merely agricultural inputs but symbols of sovereignty, sustainability, and fairness. The title underscores the central argument that justice must be sown into the very foundations of biosafety governance—ensuring that policies on GMOs protect communities, uphold constitutional rights, and safeguard ecological integrity. By examining the MASIPAG and Greenpeace cases, this study proposes legislative reforms for the regulation of GMOs in the Philippines. It analyzes pertinent rulings by the Supreme Court and Court of Appeals, critically assesses Department Circular No. 9, s. 2025 in light of these legal precedents, and synthesizes findings concerning policy tensions and stakeholder responses. The study concludes with recommendations for establishing a balanced and sustainable biosafety framework.

It is primarily addressed to Filipino policymakers. However, legal professionals, civil servants, members of civil society, university students, and researchers dealing with GMO issues in the Philippines and other countries may also find this paper useful. Ultimately, this paper seeks to plant the Seeds of Justice—grounding biosafety reforms in fairness, accountability, and the protection of both people and the environment.

Outline

THE GLOBAL DEBATE ON GMOS

A significant global trend is emerging in opposition to genetically modified organisms (GMOs). This opposition is manifested in various countries through legal measures, constitutional provisions, and public sentiment, and involves a complex interplay of scientific, ethical, economic, and political perspectives.

Scientifically, the debate often centers on the potential benefits and risks of genetic modification. Proponents highlight advantages, such as increased crop yields, enhanced nutritional value (e.g. golden rice with Vitamin A), reduced pesticide use, and greater resilience to pests and diseases. They argue that genetic engineering is a precise method of crop improvement, often seen as an extension of traditional breeding methods. Concerns, however, include potential impacts on biodiversity, the development of herbicide-resistant weeds, the possibility of unforeseen ecological effects, and the long-term health implications of consuming GMOs. While many scientific bodies conclude that approved GMOs are as safe as their non-GMO counterparts, ongoing research continues to explore potential nuances.

Ethically, questions arise about human intervention in natural processes. Some argue that altering the genetic makeup of organisms crosses a moral boundary, viewing it as "playing God" or interfering with the integrity of nature. Others counter that humans have always modified organisms through selective breeding, and that genetic engineering is simply a more advanced and targeted form of this practice. Issues of animal welfare, particularly in the context of genetically modified livestock, also feature in ethical discussions.

Economically, the debate often revolves around intellectual property rights and

the concentration of power among large biotechnology companies. Critics argue that patenting GM seeds can lead to dependency for farmers, restrict access to diverse seed varieties, and potentially exacerbate existing inequalities. Proponents, however, emphasize the economic benefits of increased agricultural productivity, reduced input costs, and greater food security in certain regions. The economic impact on international trade and market access for GMO and non-GMO products is also a significant consideration.

Politically, the GMO regulation varies significantly across different countries and regions. Some nations have strict labeling requirements and moratoria on GM crop cultivation, reflecting public apprehension and a precautionary approach. Others have adopted a more permissive stance, focusing on scientific risk assessment. International trade agreements and the political influence of agricultural lobbies also play a crucial role in shaping GMO policies. Activism, public perception, and consumer choice further complicate the political landscape.

In summary, the GMO debate is not a simple yes-or-no question. It involves a continuous assessment of evolving scientific understanding, deeply held ethical values, complex economic realities, and diverse political agendas, making it a truly global and ongoing discussion.

Global GMO Regulations

Many countries are exercising caution and choosing not to adopt GMOs, such as Golden Rice and Bt Eggplant, as the associated uncertainties remain unresolved.[4]

Golden Rice (transformation event name: GR2E) and Bacillus thuringiensis Eggplant (transformation event name: EE-1 Eggplant) are examples of genetically modified organisms (GMOs).[5]

Golden Rice is a genetically modified rice variety developed through the insertion of a gene from maize and another from a common soil bacterium. This genetic modification enables the rice plant to produce beta-carotene in its edible parts, the compound responsible for the yellow color in fruits and vegetables like squash, papaya, and carrots, and which the human body converts into vitamin A. Primarily funded and developed by

institutions, Golden Rice was conceived to combat widespread vitamin A deficiency. The technology behind Golden Rice is patented by Syngenta, a multinational agrochemical corporation. After three decades of costly scientific development, it is now being introduced for commercial cultivation in the Philippines for the first time. [6]

On the other hand, the Bt eggplant (aubergine/brinjal) is a genetically modified plant containing a gene from the soil bacterium Bacillus thuringiensis. This technology was developed by Maharashtra Hybrid Seeds Company (Mahyco) of India, in which Monsanto—a transnational agrochemical corporation later acquired by Bayer—holds a 26% stake. Indian collaborators, including the University of Agriculture Sciences (UAS) at Dharwad and Sathguru Management Consultants Ltd., a private Indian company coordinating on behalf of USAID and Cornell University, also contributed to its development. [7]

Bt Eggplant was engineered to produce its own toxin, similar to the Bt bacterium, in order to combat the fruit and shoot borer, a common pest that damages eggplants.[8]

In May 2022, Mexico's Supreme Court rejected Bayer's appeal, upholding the regulator's decision to deny the import of GM corn for animal feed. This ruling reinforced the 2013 "precautionary principle" judgment, which permits authorities to reject GM crop planting permits if they pose potential harm to the health of the Mexican populace or the environment. This followed a December 2020 decree by Mexican President Andrés Manuel López Obrador, enacting a ban on GM corn for human consumption by 2024. The decree also mandated the elimination of glyphosate, a herbicide used in GM crop cultivation, which remains a subject of contentious debate regarding its potentially carcinogenic effects.[9]

In India, after the 10-year moratorium on Bt Eggplant/Brinjal field testing, the government junked another plan to allow new trials of Bt Eggplant/Brinjal and other transgenic crops unless the concerned states certify no objection and that an isolated land for the trials is confirmed.[10]

Ecuador's constitution explicitly outlines its stance against GMOs. In 2008, the nation declared itself free of transgenic crops and seeds, with exceptions only when their ntroduction serves the national interest, as substantiated by the President and approved by the National Assembly. Furthermore, it prohibits the development, production, ownership, marketing, import, transport, storage, and use of GMOs that pose a threat to human health, food sovereignty, or ecosystems.[11]

Similarly, nineteen of the 27 European Union member states have opted to either partially or fully ban GMOs, following a European Commission call for each nation to decide whether to opt out of growing GMO crops, even if permitted within EU regulations.[12]

A number of countries, including France, Germany, Austria, Greece, Hungary, the Netherlands, Latvia, Lithuania, Luxembourg, Bulgaria, Poland, Denmark, Malta, Slovenia, Italy, and Croatia, have implemented a complete ban on GMOs. Additionally, Wallonia (the French-speaking region of Belgium), Scotland, Wales, and Northern Ireland have also opted out. Currently, the only GM crop cultivated within the EU is Monsanto's GM maize MON 810, primarily grown in Spain and Portugal for animal feed, not for human consumption.[13]

This regulatory resistance extends significantly into Africa, where nations have enacted stringent protections to safeguard indigenous seed sovereignty and public health. Algeria, Mozambique, and Zimbabwe maintain strict, comprehensive prohibitions on both the cultivation and importation of GMOs.[14] Similarly, East African neighbors Tanzania and Uganda prohibit GMO imports, choosing instead to prioritize national food self-sufficiency through agroecological frameworks.[15] Even in nations like Kenya where the executive branch attempted to legalize GMO commercialization, the judiciary intervened via a landmark Court of Appeal injunction, halting all cultivation and trade due to a lack of public participation and biosafety consensus.[16]

Global GMO regulation varies widely, reflecting diverse views on scientific understanding, public perception, economics, and national sovereignty. Some nations adopt GMOs for food security, while others exercise caution due to uncertainties about long-term health and environmental impacts. This ongoing debate necessitates strong regulatory frameworks, clear risk assessments, and continued scientific research to ensure decisions prioritize human well-being and ecological balance.

The Philippine GMO in focus

The discourse surrounding GMOs in the Philippines represents a multifaceted and critical intersection of agricultural policy, public health, environmental law, and economic development. As a nation with a rich agricultural heritage, the Philippines was an early adopter of modern biotechnology, with the commercial propagation of Bt corn beginning in 2002.[17]

The country has since become a key case study in the global debate over GMO governance, particularly with the ongoing controversies surrounding prominent crops such as Golden Rice and Bt Eggplant. At the core of the GMO debate in the Philippines lies a profound schism between two competing regulatory philosophies.

On one side is a top-down, technology-centric approach that views biotechnology as an indispensable tool for achieving economic growth and food security. Proponents of this view, including government agencies and pro-biotechnology organizations, argue that the Philippines must overcome "lingering court cases and shifting policy directions"

to unlock the full potential of high-value GM crops.[18] They point to the decades of global use without confirmed adverse effects as evidence of safety.[19]

On the other side is a grassroots, rights-based approach rooted in the principles of food sovereignty and environmental protection. Organizations representing farmers, civil society, and legal advocates have consistently challenged government policies, arguing that the regulatory system has been "deeply compromised" and consistently favors the interests of "biotech corporations and their institutional backers".[20] This perspective maintains that the fundamental right of people to control their own food systems and the long-term integrity of native biodiversity and human health must take precedence over commercial interests and a fast-tracked regulatory process.[21]

Local Intiiatives

Moreover, opposition to GMOs often stems from local initiatives advocating against the co-existence of organic agriculture and genetically modified crops, primarily through ordinances. This coexistence is difficult because wind and insects can easily carry GM pollen onto organic fields, accidentally mixing the crops. Once an organic farm is contaminated, it loses its official organic certification, which instantly ruins the farmer's business and livelihood. This widespread community resistance is also fueled by the perceived known and unknown risks associated with GMO food, as evidenced by numerous studies and scientific literature worldwide.

Several local governments have enacted Organic Agriculture Ordinances, some of which explicitly state that "Organic Agriculture cannot co-exist with genetically-modified crops, chemically produced crops and related organisms, both living and non-living."

These include the Provinces of Mindoro Oriental, Quezon, Negros Oriental, Negros Occidental, Bohol, Iloilo, Bukidnon, Davao Del Norte, North Cotabato, and South Cotabato; the Municipalities of Teresa, Cabangcalan, Dumingag and Sto Niño; and the Cities of Bais and Bayawan. Additionally, some of these local governments have implemented GMO Ban Ordinances.[22]

In 2010, the University of the Philippines Mindanao complied with the order of then-Davao City Mayor and current Vice President Sara Duterte to uproot Bt Eggplant from its field test site. This action was taken due to the university's failure to conduct consultations with the city and barangay governments regarding the test site, which was located near the campus entrance.[23]

In 2013, farmers in the Province of Camarines Sur uprooted experimental Golden Rice due to concerns about contamination of their non-GM rice crops. [24]

In 2014, over 20,000 Filipinos submitted petitions to the Department of Agriculture (DA) and the Department of Environment and Natural Resources (DENR) to express their opposition to Golden Rice. Following the 2016 decision of the Honorable Court on the Bt Eggplant case, various organizations and individuals—including Magsasaka at Siyentipiko Para sa Pag-Unlad ng Agrikultura (MASIPAG), Greenpeace Southeast Asia - Philippines (Greenpeace), Southeast Asia Regional Initiatives for Community Empowerment (SEARICE), Kilusang Magbubukid ng Pilipinas (KMP), Climate Change Network for Community-based Initiatives (CCNI), Salinlahi Alliance for Children (Salinlahi), Inc., Orlando Mercado, Teodoro Mendoza, Liza Maza, Reginald Vallejos, Mae Paner, Virginia Nazareno, Jocelyn Jamandron, and Lauro Diego—leveraged existing legal frameworks. They utilized the Joint Departmental Circular 01 s. 2016 (JDC No. 1-2016), which was later revised into Joint Departmental Circular 01 s. 2021 (JDC No. 1-2021), along with other relevant laws. Their aim was to voice concerns and advocate for independent risk and impact assessments, robust public participation opportunities, and precautionary measures before the commercial propagation of Golden Rice and Bt Eggplant in the country.[25]

Since 1983, the safety of GMOs has been a subject of ongoing discourse, particularly after the development of antibiotic-resistant tobacco raised concerns. In fact, public discussion continues to focus on the food safety and nutritional equivalence of GMO foods. [26] This long-standing debate highlights the importance of the Precautionary Principle, which allows regulators to take protective action even when full scientific certainty is still lacking.

The government's fundamental duty, as mandated by the Constitution, is to serve and protect its citizens. Therefore, the enactment and implementation of laws, policies, and regulations concerning matters like GMOs—which have the potential for multifaceted adverse impacts on our lives—must always align with the people's constitutional right to health and to a balanced and healthful ecology. [27]

SECTION 2

The Present GMO Regulatory Regime in the Philippines

The discourse surrounding GMOs has persisted for over two decades. Thus, it is crucial to examine the pertinent governing laws: Executive Order No. 430 (EO430), the Department of Agriculture's (DA) Administrative Order No. 8, series of 2002 (DAO 08-2002), Executive Order No. 514 (EO514), Joint Department Circular No. 1, Series of 2016 (JDC 1-2016), NCBP Resolution No. 001, series of 2020 (NCBP Resolution 001-2020), Joint Department Circular No. 1, Series of 2021 (JDC 1-2021), and more recently, Memorandum Circular No. Series of 2022 (MC 08-2022).

EO 430

In 1990, Executive Order 430 established the National Committee on Biosafety of the Philippines (NCBP). A critical task of the NCBP is to "identify and evaluate potential hazards involved in initiating genetic engineering experiments or the introduction of new species and genetically engineered organisms and recommend measures to minimize risks."[28]

In 1991, the NCBP established the Philippine Biosafety Guidelines to regulate the import, movement, and release of potentially hazardous biological materials. These guidelines detail the necessary physical and biological containment and safety procedures for handling such materials. Subsequently, in 1998, the Guidelines on the Planned Release of GMOs and Potentially Harmful Alien Species (PHES) were introduced.[29]

The Convention on Biological Diversity (CBD), a multilateral treaty, came into force in 1993. It acknowledged the vast potential of modern biotechnology for human

well-being, provided it is developed and utilized with appropriate safeguards for both the environment and human health.[30] The Philippines was among the 154 countries that signed the CBD.[31]

The Philippines signed the Cartagena Protocol, a supplementary provision to the CBD, on May 24, 2000. This protocol, which came into effect on September 11, 2003, is a biosafety and diversity agreement that governs the international movement of GMOs. It established an advanced informed consent procedure, ensuring that countries possess the necessary information to make well-informed decisions regarding GMO imports. [32]

On June 18, 2001, then-President Gloria Macapagal Arroyo issued a policy statement[33] on biotechnology, reaffirming the government's commitment to promoting the safe and responsible use of modern biotechnology and its products. This policy aimed to achieve and maintain food security, equitable access to healthcare, a sustainable and safe environment, and industrial development. Subsequently, DAO 08-2002 was adopted in April 2002 to support these objectives.

DAO 08-2002

In 2002, then Secretary of Agriculture Leonardo Montemayor issued DAO 08-200.[34]

DAO 08-2002 laid out principles and guidelines for risk assessment, established requirements for import and environmental release permits, and detailed procedures for obtaining import authorizations, conducting field tests, disseminating regulated articles, and importing regulated articles for direct use as food, feed, or processing, all in accordance with NCBP policies.

DAO 08-2002 contained palpable loopholes, as identified by the High Court in the 2015 Greenpeace case.[35] These shortcomings, which led to the declaration of nullity of DAO 08-2002 in the aforementioned decision, included:

1. A lack of mechanisms to mandate compliance with international biosafety protocols.
2. Non-compliance with the transparency and public participation requirements under the National Biosafety Framework (NBF).

3. Risk assessments conducted by an informal group, the Biosafety Advisory Team of the Department of Agriculture (DA), composed of representatives from the Bureau of Plant Industry (BPI), Bureau of Animal Industry, Fertilizer and Pesticide Authority (FPA), Department of Environment and Natural Resources (DENR), Department of Health (DOH), and Department of Science and Technology (DOST).
4. The absence of specific guidelines for conducting risk assessments, allowing the DA to consider expert advice and guidelines developed by relevant international organizations and regulatory authorities from countries with significant experience in regulating the articles in question.
5. Limitations to the DA's authority.

EO 514

Executive Order No. 514, issued on March 17, 2006, established the National Biosafety Framework (NBF) to strengthen and institutionalize the role of the National Committee on Biosafety of the Philippines (NCBP). This order specifically outlines stringent standards for biosafety decisions concerning the application of modern biotechnology.

A key objective of the NBF is to enhance decision-making processes related to modern biotechnology products, striving for greater effectiveness, predictability, efficiency, balance, cultural appropriateness, ethical consideration, transparency, and public participation.[36]

Accordingly, biosafety decisions must adhere to precautionary guidelines and integrate comprehensive risk assessments, environmental impact assessments, and socio-economic, ethical, and cultural considerations. These decisions should align with the Cartagena Protocol, incorporating ongoing monitoring and benefit assessment.[37]

The NBF also mandates transparent and participatory decision-making, emphasizing that effective biosafety management requires the involvement of all relevant stakeholders and organizations, who must have sufficient access to information and opportunities for responsible participation in the biosafety decision-making process. [38]

Decisions concerning modern biotechnology must fundamentally adhere to the principles, guidelines, and standards set forth by the NBF, which all relevant agencies are obliged to follow, and which must align with their respective rules and regulations. Should any conflict arise in applying these principles, the paramount consideration will always be the protection of public interest and welfare.[39]

Nevertheless, the NBF does not restrict the legal authority and power of department and agency heads to consider national interest and public welfare in biosafety decisions. The core purpose of this administrative regulation is to enhance the existing biosafety framework, enabling it to better address and integrate advancements in modern biotechnology and ensure compliance with the Cartagena Protocol on Biosafety.[40]

DAO 08-2002

Following the nullification of DAO 08-2022, JDC 1-2016 was jointly inaugurated by the DA, DOST, DENR, DOH, and DILG.[41] The CODEX Alimentarius Guidelines[42] were adopted to govern the risk assessment of activities involving the research, development, handling, use, transboundary movement, environmental release, and management of genetically modified plants and plant products derived from modern biotechnology.

JDC 1-2016 outlines a comprehensive framework for biosafety decision-making, aligning with the National Biosafety Framework (NBF) principles. This framework incorporates precautionary standards, rigorous risk assessment, environmental and health impact assessments, and considerations for socioeconomic, ethical, and cultural factors. It also emphasizes transparent public participation and the right of access to information. Furthermore, the document delineates specific roles for various government agencies, including the Department of Agriculture (DA), Bureau of Plant Industry (BPI), Department of Science and Technology (DOST), Department of Environment and Natural Resources (DENR), Department of Health (DOH), and Department of the Interior and Local Government (DILG), within the designated committees of the JDC.[43]

The Biosafety Committee is responsible for evaluating applications concerning regulated articles, specifically for restricted use, restricted testing, field trials, commercial applications, and direct use of live or modified organisms. Furthermore, it assesses the health impacts of regulated articles intended for field trials, commercial propagation, and direct use. Conversely, the Institutional Biosafety Committee (IBC) focuses on conducting risk assessments and developing risk

management strategies for applicants seeking restricted use, restricted testing, or field trial approvals. All activities involving regulated articles must prioritize the protection of both the environment and human health.[44] Finally, the Science and Technology Review Panel (STRP) is tasked with assessing the potential risks that regulated articles pose to both the environment and human health.[45]

In addition to the roles of various government agencies, JDC 1-2016 also established standard procedures for approving applications for field trials,[46] commercial propagation,[47] and direct use of regulated articles for food and feed or processing.[48] The structure of JDC-01-2016 (now JDC-01-2021) notably diverges from the defunct DAO 08-2002.

In its 2016 Resolution[49], the Supreme Court highlighted the institutional superiority of JDC No. 1-2016 over the invalidated DAO 08-2002, noting that the new circular effectively resolved the previous biosafety and transparency gaps through the following mechanisms:

1. It provides a more comprehensive avenue for public participation in cases involving field trials.
2. It requires applications for permits and permits already issued to be made public by posting them online on the websites of the NCBP and the BPI.
3. The Institutional Biosafety Committee (IBC) includes an elected local official from the locality where the field testing will be conducted as one of the community representatives.
4. It prescribes additional qualifications for the members of the STRP, the pool of scientists that evaluates the risk assessment submitted by the applicant for field trial, commercial propagation, or direct use of regulated articles. Aside from not being an official, staff, or employee of the DA or any of its attached agencies, JDC 01-2016 requires that members of the STRP: (i) must not be directly or indirectly employed or engaged by a company or institution with pending applications for permits under JDC No. 01-2016; (ii) must possess technical expertise in food and nutrition, toxicology, ecology, crop protection, environmental science, molecular biology and biotechnology, genetics, plant breeding, or animal nutrition; and (iii) must be well-respected in the scientific community.

Meanwhile, NCBP Resolution 001-2020 was established on May 8, 2020, to further strengthen EO 514.

NCBP RESOLUTION 001-2020

NCBP Resolution 001-2020 focuses on regulating plants and plant products developed through plant breeding innovations (PBIs) or new plant breeding techniques (NBTs).

In accordance with Section 4.1 of EO514, the NCBP is designated as the primary body responsible for coordinating and harmonizing inter-agency and multi-sector efforts to establish biosafety policies in the Philippines.

To achieve this, the Department of Agriculture (DA) proposed the formation of a Technical Working Group (TWG). This group would examine NBTs and assist in developing new guidelines or amending existing biosafety guidelines to address specific issues related to NBTs that are not covered under JDC 1-2016.

JDC 1-2021

On July 21, 2021, JDC 1-2016 was amended by the relevant regulatory agencies to become JDC 1-2021. This amendment was made in compliance with Executive Order 514, the laws and regulations of relevant government agencies, Republic Act No. 7394, also known as the "Consumer Protection Act of the Philippines," and Republic Act No. 11032, or the "Ease of Doing Business and Efficient Government Service Delivery Act of 2018."

JDC 1-2021 governs the rules and regulations for research and development, processing and use, transboundary movement, release into the environment, and management of plants and plant products obtained through modern biotechnology. According to NCBP Resolution 001-2020, plants and plant products obtained using PBI or NBT that do not contain new combinations of genetic material from modern biotechnology are not subject to this notice.

Initially, JDC 1-2021 was perceived as a mere reiteration and reflection of JDC 1-2016's implementation and applicability. However, a closer examination reveals a relaxation of the requirements and parameters previously set forth in JDC 1-2016. The most notable changes include:

1. Shortened Application Process: The application process has been reduced from 85 working days to 40 working days.
2. Elimination of Biosafety Approval Renewal: The requirement to renew biosafety approvals every five years for direct use and commercial propagation has been removed. Consequently, the supporting Biosafety Permits (BSPs) no longer have an expiration date.
3. Establishment of Joint Assessment Group (JAG): A Joint Assessment Group (JAG) has been established to evaluate biosafety permit applications. This group comprises representatives from the DA biosafety committee head and other external technical experts. However, the JDC 1-2021 does not explicitly clarify that the DOST-BC remains the lead agency, whose role was critical in approving biosafety permits after they met the rigorous and strict requirements under JDC-01-2016.
4. Limited Monitoring Mechanism: The monitoring mechanism conducted by regulators is now limited to mere paper reviews, which is critical for effective risk assessment.

Currently, the provisions of JDC-1-2021 serve as the framework for the present practices of GMO implementation in the Philippines.

OTHER REGULATIONS

MC-08-2022, which came into effect on March 21, 2022, outlines the Department of Agriculture's (DA) rules and procedures for evaluating plant breeding innovation (PBI) products. It also provides guidelines for assessing and monitoring PBI products to determine if they fall within the scope of JDC1-2021, based on NCBP Resolution 001-2020.

Considering this legal background concerning GMOs, it is evident that all regulations originated from the creation of the National Committee on Biosafety of the Philippines (NCBP) under Executive Order (EO) 430. This was specifically in anticipation of the introduction of new species and genetically engineered organisms that could pose potential hazards to human health and the environment.

However, instead of upholding fundamental laws such as EO 430, EO 514, JDC 1-2016, NCBP Resolution 001-2020, and the respective charters and regulations of relevant agencies, these government bodies have reportedly fallen short of established standards, thereby compromising the safety of Filipinos.

This inadequacy led to cases such as the 2015 Greenpeace case before the Supreme Court and the 2022 MASIPAG case before the Court of Appeals. It underscores the critical need to balance progress in biotechnology with the Filipinos' fundamental rights to life, health, and a balanced and healthful ecology.

These cases have not only shaped the regulatory landscape but have also established enduring legal benchmarks that continue to guide and influence the national discourse on biotechnology.

SECTION 3

Case Digest of MASIPAG et al. v. DA et al. (2022)[50]

This is a petition for the Writ Kalikasan[51] and Writ of Continuing Mandamus[52] (including prayer for grant of Interim Environment Protection Order (TEPO) originally filed by petitioners MASIPAG et al. in the Supreme Court on 17 October 2022. This legal action was initiated due to the issuance of biosecurity permits for the commercial propagation of GR2E ("Golden Rice") and for the direct use of EE-1 brinjal ("Bt brinjal") as food, feed, and for processing. These permits were granted despite the inherent risks of severe and irreversible environmental damage, particularly to the biodiversity of rice and brinjal, and to human health across the nation. Furthermore, the permits were issued in non-compliance with existing rules and regulations governing such activities, specifically JDC No. 1-2016 on Biosafety, and other relevant environmental laws in effect at the time of their issuance and enforcement.

FACTS

This case concerns two genetically modified organisms (GMOs): Golden Rice (transformation event name GR2E) and Bacillus thuringiensis Eggplant, or Bt Eggplant (transformation name EE-1 Eggplant).

The Supreme Court issued a Writ of Kalikasan in 2015 against the University of the Philippines - Los Baños (UPLB) and others, ordering them to cease and desist from conducting field trials of Bt Eggplant due to its irreversible effects. The Court found that existing regulations from the Department of Agriculture (DA) and the Department of Science and Technology (DOST) were insufficient to guarantee the safety of human health and the environment.

Consequently, the Supreme Court permanently enjoined the field testing of Bt Eggplant, declared DA Administrative Order No. 08-2002 null and void for failing to consider the provisions of the National Biosafety Framework (NBF) established under Executive Order 514, and temporarily enjoined any application for contained use, field testing, propagation, commercialization, and importation of GMOs until a new administrative order is promulgated in accordance with law. However, this decision was set aside by the Supreme Court on July 26, 2016, on the ground of mootness. Nonetheless, the high court found that Bt eggplant remains hazardous to human health and the environment.

In August 2021, MASIPAG and others learned through the DA's website about the issuance of Biosafety Permits (BSPs) by the Bureau of Plant Industry (BPI) in favor of the Philippine Rice Research Institute (PhilRice) and UPLB.

For this reason, MASIPAG and others (the DA Appellants) filed a Petition for Review before the DA, appealing the BPI's decision to issue these BSPs. They argued that: i) the Field Trial of Golden Rice should be revoked for non-compliance with the procedural requirements under Joint Department Circular (JDC) No. 1-2016, and ii) the BSPs for Direct Use of Bt Eggplant should be revoked because the Supreme Court in the 2016 Writ of Kalikasan case had already found Bt eggplant to be unsafe. However, the DA dismissed the Petition for Review, ruling that the issuance of the BSPs strictly complied with the procedural requirements of JDC No. 01-2016.

Meanwhile, the petitioners discovered that PhilRice filed an application for registration of Golden Rice seeds with the BPI on March 4, 2022. The BPI approved this application on April 7, 2022.

Furthermore, the petitioners learned that on March 31, 2022, UPLB filed an application for commercial propagation of Bt eggplant before the BPI.

Hence, this petition seeks, among other things: i) for the respondents to refrain from commercially propagating Golden Rice and issuing a biosafety permit for the commercial propagation of Bt Eggplant; ii) to declare all Biosafety Permits for Golden Rice and Bt Eggplant as null and void; and iii) for the respondents, as required by relevant laws and regulations, to perform independent risk and impact assessments, obtain prior and informed consent from farmers and indigenous people, and establish a liability mechanism in case of damages.

UPLB and others, through the Office of the Solicitor General (OSG), countered this petition, contending that it must be dismissed as the elements for the issuance of a writ of kalikasan are not present. They argued that the observations and statements of several scientists raised by the petitioners were insufficient. On the contrary, they asserted that: i) the DENR's findings indicate that the commercial propagation of Golden Rice poses no significant adverse effect on the environment because it is similar and comparable to its conventional rice counterpart; and the Joint Assessment Group (JAG) concluded that Bt Eggplant is as safe as its conventional counterpart and is not expected to pose any significant risk to human and animal health, and to the environment; ii) the BPI Director lawfully issued the BSPs in favor of PhilRice and UPLB, in accordance with the provisions of JDC No. 1-2016; iii) petitioners failed to adduce evidence of environmental damage or prejudice to the life, health, or property of inhabitants of two or more cities or provinces, to refute the findings of the

proponents and assessors which were adopted by the BPI; and iv) the mere circumstance that the respondents permitted activities relating to Golden Rice and Bt Eggplant does not mean they neglected their avowed duties to promote health and environmental safety.

The Office of the Government Corporate Counsel (OGCC), on the other hand, contended the following: (i) the instant petition is procedurally defective, being barred by administrative res judicata and violating the rule against forum shopping; (ii) the petitioners are not entitled to the privilege of the writ of kalikasan; and (iii) the petitioners are not entitled to a writ of continuing mandamus.

Issues

PROCEDURAL

1. Is the current petition barred by administrative res judicata?
2. Did the petitioners commit forum-shopping when they filed this petition?
3. Did the petitioners disregard the hierarchy of courts by filing directly with the Supreme Court instead of a lower court with concurrent jurisdiction?

FACTUAL

1. Do Golden Rice and BT Eggplant pose environmental, health, and socio-economic risks and impacts?
2. Were environmental, health, and socio-economic risk and impact assessments performed for Golden Rice and BT Eggplant?

SUBSTANTIVE/LEGAL

1. Should the privilege of the writ of kalikasan be granted?
2. Is the issuance of a writ of continuing mandamus proper and necessary in this case?
3. Should the BPI revoke the biosafety permits for the commercial propagation of Golden Rice and for direct use as food or feed, and deny/revoke the application/permit for commercial propagation of BT Eggplant, due to non-compliance with JDC-1-2016 (the prevailing regulation at the time of issuance/application)?

Held

The Court of Appeals ruled in favor of the petitioners (MASIPAG et al.), granting their petition on both procedural and substantive grounds.

Procedural

The instant Petition is not barred by administrative *res judicata*; no forum shopping.

The Court of Appeals clarified that res judicata applies to the review of lower court decisions within the judicial hierarchy. However, jurisprudence also acknowledges administrative res judicata, which dictates that a matter already determined by a competent authority, whether judicial or quasi-judicial, by public, executive, or administrative officers and boards acting within their jurisdiction, should not be reopened.

The court deemed it unreasonable to compel petitioners to exhaust all administrative remedies, and thus delay proceedings, for the following reasons:

First, petitioners' concern involves a strong public interest regarding the perceived imminent threats and adverse effects of Golden Rice and Bt Eggplant on the public's constitutional rights to health and a balanced and healthful ecology.

Second, the petitioners' appeal would have impleaded the DA Secretary as respondent, who acts as the alter ego of the President and whose actions bear the latter's implied and assumed approval.

Third and finally, a Motion for Reconsideration (MR) or appeal of the DA Resolution does not constitute a plain, speedy, and adequate recourse for the petitioners, as only the DA Secretary would be impleaded, while other responsible agencies under JDC Nos. 1-2016 and 1-2021, along with the proponents of Golden Rice and Bt Eggplant, would not yet be parties to the appeal. Procedural formalities must yield when there is a plea for substantial and urgent protection.

In light of the above, the court concluded that the petitioner did not engage in forum shopping. "Forum shopping occurs when a party repetitively avails of several judicial remedies in courts, simultaneously or successively, all substantially founded on the same transactions and the same essential facts and circumstances, and all raising substantially the same issues either pending in or already resolved adversely by some other court."

In this particular case, the court held that no prior case had been decided. Furthermore, as discussed, no prior case had been brought before a court or tribunal where the doctrine of res judicata would apply.

Hierarchy of courts; exception

In its decision on this issue, the Court of Appeals cited Segovia v. Climate Change Commission, which established that the ecological problem's magnitude, as outlined in the Rules of Procedure for Environmental Cases (RPEC), satisfies at least one exception to the rule on hierarchy of courts, namely, when direct resort is permissible due to public welfare concerns. While the RPEC allows direct filing with the Supreme Court, the decision to accept such a petition ultimately rests with the Supreme Court's discretion. From this, it can logically be inferred that the Supreme Court's discretion to accept or reject a petition extends to its power to refer the petition to this court for hearing, evidence collection, and decision, as it did in this instance.

Evidence presented before this Honorable Court necessitates the application of the precautionary principle.

In its deliberation, the Court of Appeals clarified that the precautionary principle mandates preventative or mitigative measures when human activities, despite scientific justification, pose an uncertain, serious, and irreversible threat of environmental damage.

The Court further elaborated that the Philippines' adherence to the precautionary principle is evident in its rules, laws, and international agreements. Beyond the Rules of Procedure for Environmental Cases (RPEC), other pertinent legal instruments demonstrating the country's recognition of this principle include: i) Executive Order 514, which established the National Biosafety Framework (NBF); ii) The 1992 Rio Declaration on Environment and Development; iii) the Cartagena Protocol; and iv) Joint Department Circular Nos. 1-2016 and 1-2021.

The Court concluded that, guided by the precautionary standard set forth in these instruments and after a thorough examination of the evidence, the three conditions for the precautionary principle's application—uncertainty, the possibility of irreversible harm, and the possibility of serious harm—were present in this case.

This conclusion was justified by the Court's reasoning that while trials on Golden Rice and Bt eggplant aimed to determine their effects or risks and gather relevant data, the overall safety of these GMOs remains unknown. Therefore, a precautionary approach is necessary, especially given the respondents' declaration that they had commenced distributing GMO fruits prior to the filing of this petition.

Non-compliance with monitoring provisions of the JDCs.

The Court of Appeals expressed regret regarding the monitoring mechanism and risk assessment procedures outlined in JDC No. 1-2016 (governing BSPs for Golden Rice and Bt Eggplant for Direct Use as Food and Feed or for Processing) and JDC No. 1-2021 (governing the BSP for Commercial Propagation of Bt Eggplant), citing non-compliance by the concerned government regulatory agencies.

The Court observed that JDC No. 1-2021 largely mirrors the monitoring provisions of JDC No. 1-2016, with some modifications. While both JDCs stipulate that monitoring is to be conducted by the BPI with assistance from other agencies, the "hot-tubbing"—the concurrent hearing of expert witnesses from both the proponents and the petitioners—established two key points: first, UPLB's monitoring activities for Bt Eggplant are solely for assessing its insect resistance; and second, the BPI and other government agencies are not, in fact, conducting compliance monitoring for the issued BSPs.

Consequently, the Court concluded that the BPI and other government regulatory agencies were not undertaking genuine, exhaustive, independent, and proactive monitoring activities. It was evident that the government's approach was reactive—simply receiving, waiting for, or responding to information from proponents or the public—rather than initiating or actively engaging in monitoring. This effectively shifted the burden of meeting regulatory obligations and responsibilities onto the proponents and the public.

The Court underscored that government oversight of GMO activities is a serious responsibility, not a mere formality to be disregarded or delegated. Appropriate monitoring is an essential component of risk assessment, as it provides a means of identifying potential impacts and consequences of GMOs on humans and the environment. Through active and proper monitoring, government regulators can observe, identify, and address potential risks of GMO activities that may not be apparent from scientific literature alone.

Insufficiency of JDC provisions

The Court of Appeals highlighted critical deficiencies in the Joint Department Circulars (JDCs) that government regulators must address to ensure comprehensive safety assessments for GMOs and regulated articles like Golden Rice and Bt Eggplant. The Court elaborated on these shortcomings as follows:

First, the monitoring provisions of JDC No. 1-2021 are excessively broad. While the JDC mandates that the Bureau of Plant Industry (BPI) and Biosafety Committees monitor compliance with permit conditions by Biosafety Permit (BSP) holders, it fails to specify the methodology for such monitoring. Unlike the detailed, step-by-step procedures provided for securing BSPs, there are no equivalent procedures for monitoring.

Second, JDC No. 1-2021 lacks a provision for the labeling of GMOs to differentiate them from non-genetically modified products. During the hearing, it was confirmed that Golden Rice and Bt Eggplant are not required to be labeled as GMOs when sold in the market. Consequently, consumers can only distinguish these products if they are already aware of their distinctive characteristics. It is imperative that consumers, who possess the freedom to choose their food, are accurately informed about the nature, quality, and quantity of food products available to them. Proper labeling is essential to ensure the consuming public is fully aware of products released to the market and adequately apprised of the contents and ingredients of the food they select.

Third, the drafters of the JDC should adopt a more realistic timeframe for processing BSP applications. While timely action on these applications is necessary, the prescribed periods should not solely be based on Republic Act No. 11032, also known as the Ease of Doing Business Law or the Anti-Red Tape Law, which pertains to business permits and simple transactions. BSPs for GMO activities are fundamentally different in nature. It is in the public's best interest that BSPs undergo thorough review and evaluation by assessors and regulators, rather than being hastily issued merely to comply with shorter statutory periods.

Petitioners are entitled to the privilege of the Writ of Kalikasan.

The Court of Appeals granted the Writ of Kalikasan, citing several ecological concerns under the Rules of Procedure for Environmental Cases (RPEC):

- **Conflicting Scientific Views:** The court noted that the scientific community holds conflicting views regarding the risks and effects of Golden Rice and Bt Eggplant. This uncertainty poses potential severe threats to human welfare and the environment.

- **Insufficient Monitoring Mechanisms:** Biosafety Permits (BSPs) issued to PRRI and UPLB for the field trial, direct use as food and feed, processing, and commercial propagation of Golden Rice and Bt Eggplant lacked adequate monitoring mechanisms. This omission significantly contributes to the uncertainty surrounding the impacts of these GMOs on society, implicitly threatening environmental damage. Such a defect runs counter to the Joint Department Circulars (JDCs) which aim to uphold constitutional rights to life, health, and a balanced environment, and to protect consumer interests.

- **National Impact:** The GMOs, under the BSPs, are slated for widespread planting and distribution across the Philippines. Given the current lack of concrete methods to track these regulated articles, any potential risks and effects could have a national impact.

Furthermore, with the advent of JDC No. 1-2021, BSPs for Direct Use as Food and Feed, or Processing, and Commercial Propagation no longer have an expiration date, exacerbating these concerns.

The issuance of a writ of continuing mandamus is proper and necessary in this case.

The Court of Appeals deemed the writ of continuing mandamus appropriate given the circumstances for the following reasons:

First, the BPI and relevant government agencies unlawfully neglected their crucial duty of conducting monitoring activities, which are essential for risk assessment.

Second, these obligations are stipulated in the regulations and applicable issuances to the BSPs, specifically JDC Nos. 1-2016 and 1-2021, issued in favor of PRRI and UPLB.

Third, the JDCs are environmental regulations that guide the release of genetically modified plants and plant products derived from modern biotechnology into the environment.

Fourth, as declared by the Supreme Court, the writ of continuing mandamus is exclusively available in environmental cases. Thus, petitioners could only resort to this remedy through the Petition, which, as previously ruled, falls under the exception to the exhaustion of administrative remedies. The inaction of the BPI and the concerned agencies rendered the regulatory framework under the JDCs inoperative.

The Court clarified that it is not dictating the manner in which the BPI and concerned regulators perform their duties, as this remains discretionary. However, given the revelation that no independent and actual monitoring was being conducted, it is imperative under the current circumstances to compel them to fulfill their ministerial duty to properly enforce the monitoring provisions required by the issuances.

Expiration of BSPs for field trials, exception to mootness principle

The Court of Appeals clarified that exceptions to the general principle of mootness, particularly those involving exceptional character and paramount public interest, are applicable to this case.

As evidenced by the Petition, six (6) years after the Supreme Court's pronouncement in the 2016 Writ of Kalikasan Case, the BPI issued the Biosafety Permit (BSP) for Commercial Propagation of Bt Eggplant to UPLB on October 18, 2022. Clearly, the expiration of the BSP for the Field Trial of Bt Eggplant did not eliminate the perceived threat to the public, as this BSP was a precondition for the application and issuance of the BSP for Commercial Propagation of Bt Eggplant.

Similarly, for Golden Rice, the expiration of the BSP for Field Trial does not necessarily mean that the associated threats have been resolved. The aforementioned BSP is the basis for the issuance of the BSP for Commercial Propagation of Golden Rice, which currently has no expiration date. Therefore, the significance of including the BSP in the Field Trial in this Court's decision cannot be understated.

Moreover, the Court found that the reconstitution of the Institutional Biosafety Committee (IBC) of Isabela in 2019 to include a local elective official is non-compliant with Joint Department Circular No. 1-2016.

It is irrelevant whether the local elective official was part of the IBC at the time the actual field trial was conducted. This does not address the deficiency of not having a local elective official at the time of application and grant of the BSP for the Field Trial. With the improper composition of the IBC, the issuance of the BSP for Field Trial was invalid and is thus subject to revocation.

Given the improper issuance of the BSP for the Field Trial, it logically follows that the BSP for Commercial Propagation of Golden Rice, which requires a satisfactory and valid field trial as a prerequisite, should not have been issued.

Hence, the expiration of the BSP for the Field Trial of Golden Rice is not a valid reason to overlook its improper issuance. Consequently, the revocation of the BSP for the Commercial Propagation of Golden Rice is now in order.

Amended Decision dated August 15, 2024 [53]

Following the Court of Appeals' April 17, 2024 Decision, both MASIPAG et al. and the Secretary of the Department of Agriculture (DA) et al. filed motions for reconsideration. Petitioners filed a Motion for Partial Reconsideration, citing newly discovered evidence and requesting a modification to Item eight (8) of the dispositive portion of the April 17, 2024 Decision. They presented an online BusinessWorld article by Ramon L. Clarete, published on April 29, 2024, titled "How may the Philippines be affected by the Court of Appeals 2024 Writ of Kalikasan?" This article explained that the Philippines imports genetically modified organisms (GMOs) like yellow corn and soya meal, which are crucial ingredients in animal feeds. Since animal feeds constitute 60%-70% of the total cost of pork, poultry meat, and egg production, a ban on GMO importation, as directed by the Court, would severely and adversely impact the country's swine and poultry industries.

After a thorough re-examination of the records and careful scrutiny of the arguments presented by both parties, the Court of Appeals deemed it appropriate to modify the assailed Decision by deleting Item 8 of the dispositive portion, which had imposed a blanket prohibition on all GMO-related activities—including contained use, field testing, direct use, commercial propagation, and importation—pending the establishment of enhanced regulatory risk assessment protocols by the relevant government agencies. However, other aspects of the contested decision remain valid.

SECTION 4

Case Digest of GREENPEACE et al. v. DA et al. (2012) [54]

NATURE

These consolidated petitions seek to reverse the Court of Appeals' (CA) decision of May 17, 2013, and its resolution of September 20, 2013, in CA-G.R. SP No. 00013, which permanently enjoined field trials on genetically modified eggplants.

FACTS

This case originated from the field trials of "bioengineered eggplant" known as Bacillus thuringiensis eggplant (Bt talong), conducted under a Memorandum of Understanding (MOU) between the University of the Philippines Los Baños (UPLB), the International Service for the Acquisition of Agri-biotech Applications (ISAAA), and the UP Mindanao Foundation, Inc. (UPMFI).

UPLB, the implementing institution, conducted a contained experiment on Bt talong from 2007 to 2009 under the supervision of the National Committee on Biosafety of the Philippines (NCBP). After the experiment's completion, the NCBP issued a certificate confirming adherence to biosafety measures and the absence of unexpected incidents. Consequently, the Bureau of Plant Industry (BPI) issued two-year Biosafety Permits for Bt talong field testing, as UPLB's field test proposal satisfactorily completed the biosafety risk assessment pursuant to Department of Agriculture Administrative Order (DA AO) No. 8, series of 2002. The field tests were conducted at approved sites in North Cotabato, Pangasinan, Camarines Sur, Davao City, and Laguna.

On April 26, 2010, Greenpeace, Magsasaka at Siyentipiko sa Pagpapaunlad ng Agrikultura (MASIPAG), and individual respondents filed a Petition for the Writ of Continuing Mandamus and Writ of Kalikasan with Prayer for the Issuance of a Temporary Environmental Protection Order (TEPO) before the Supreme Court. The petition was filed against UPLB, the Environmental Management Bureau (EMB) of the Department of Environment and Natural Resources

FACTS

(DENR), the BPI, the Fertilizer and Pesticide Authority (FPA) of the DA, University of the Philippines Los Baños Foundation, Inc. (UPLBFI), ISAAA, and UPMFI. They alleged that the Bt talong field trials violated their constitutional right to health and a balanced ecology, specifically citing: (a) the absence of an Environmental Compliance Certificate (ECC) required by Presidential Decree (PD) 1151 prior to field testing; (b) the failure to conduct required public consultations pursuant to the Local Government Code (LGC); and (c) the classification of Bt talong as a "regulated article" under DAO 08-2002, implying its hazard to human health and the environment, with no independent peer-reviewed studies confirming its safety for human consumption and the environment.

They further argued for the application of the precautionary principle, contending that field testing should be enjoined because scientific evidence on Bt talong's safety remained insufficient or uncertain, and preliminary scientific assessments indicated reasonable cause for concern.

The Supreme Court subsequently issued a Writ of Kalikasan against UPLB, et al. In their verified returns, ISAAA, et al., argued that the issuance of a writ of kalikasan was improper because all environmental laws, including public consultations in affected communities, were complied with during the Bt talong project implementation, ensuring the protection and respect for the people's right to a balanced and healthful ecology.

Procedurally, ISAAA, et al., sought the dismissal of the petition for a writ of kalikasan on the grounds of: (i) non-observance of the rule on hierarchy of courts; (ii) Greenpeace, et al., lacking legal standing to file the petition for writ of kalikasan; (iii) the inapplicability of the precautionary principle; and (iv) non-exhaustion of administrative remedies.

Upon referral, the Court of Appeals (CA) ruled in favor of Greenpeace, et al., directing UPLB, et al., to permanently cease and desist from conducting the Bt talong field trials and to protect, preserve, rehabilitate, and restore the environment in accordance with the court's judgment. This led to the present consolidated petitions before the Supreme Court.

G.R. NO. 209271

ISAAA contended that the Court of Appeals erred in: (i) refusing to dismiss the petition for writs of continuing mandamus and kalikasan; (ii) refusing to dismiss the petition on the grounds that it raises political questions; (iii) refusing to dismiss the petition due to the respondents' failure to exhaust administrative remedies; (iv) refusing to dismiss the petition on the grounds that primary jurisdiction lies with regulatory agencies; (v) exhibiting bias, partiality, and prejudging the case in its decisions dated May 17, 2013, and Resolution dated September 20, 2013; (vi) granting the writ of kalikasan in favor of respondents; (vii) granting a writ of continuing mandamus against petitioner ISAAA; and (viii) issuing decisions and resolutions that affront academic and scientific progress.

G.R. NO. 209276

Petitioners EMB, BPI, and FPA, represented by the OSG, primarily contended that the i) granting of the petition for writ of kalikasan and writ of continuing mandamus lacked sufficient proof of the requisites for their issuance by Greenpeace, et al. (respondents), and ii) the application of the precautionary principle was misplaced.

GR. NO. 209301

Petitioner UPLBFI argued that: i) respondents failed to present sufficient evidence to prove actual or imminent injury to themselves or the environment, thus rendering the controversy unripe for judicial determination; ii) the petition for writ of kalikasan was mooted by the termination of the field trials on August 10, 2012; iii) the application of the precautionary principle was misplaced; and iv) the exercise of academic freedom by UP scientists and academicians was deprived without due process of law.

G.R. NO. 209430

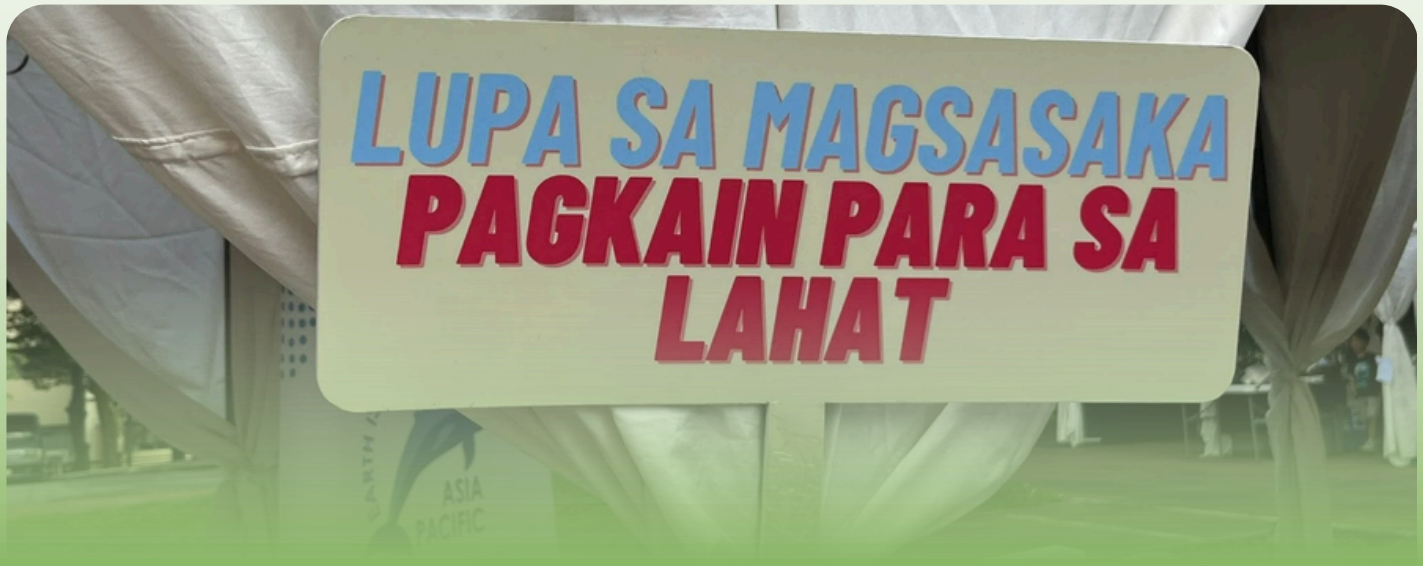
Petitioner UP reiterated UPLBFI's arguments that the Bt talong field testing was conducted in the exercise of UPLB's academic freedom, a constitutional right, and that the application of the precautionary principle is misplaced.

Respondents' Consolidated Comment

Respondents contend that *Bt talong* has been the subject of public outcry in our country due to serious safety concerns regarding the impact of *Bt talong* toxin on human and animal health, as well as the environment, through contamination during field trials. They highlight that the inherent and potential risks and adverse effects of GM crops are acknowledged by the Cartagena Protocol and our biosafety regulations (EO 514 and DAO 08-2002). Contamination, they argue, was inevitable when growing *Bt talong* in an open environment for field trials, occurring through pollination, consumption by insects and other animals, water and soil runoff, human error, mechanical accident, and even theft. Such contamination, they warn, may manifest even after many years and in locations far removed from the trial sites.

Contrary to the petitioners' assertion that they did not violate any law or regulation or commit any unlawful omission, respondents maintain that, in the face of scientific uncertainties regarding the safety and effects of *Bt talong*, the petitioners neglected their crucial duties. These duties included conducting environmental impact assessments (EIA), evaluating health impacts, securing the free, prior, and informed consent of the people in the host communities, and establishing remedial and liability processes during the approval of the biosafety permit and the conduct of field trials at its five sites across five provinces. These omissions, they assert, have exposed the people and the environment to serious and irreversible risks.

Later, CropLife Philippines, Inc. (Crop Life) and the Biotechnology Coalition of the Philippines (BCP) intervened in the petition.



Issues

1. Whether the respondents have legal standing?
2. Whether the case is already moot and academic?
3. Whether there is a violation of the doctrines of primary jurisdiction and exhaustion of administrative remedies?
4. Whether there is a proper application of the law on environmental impact statements/assessments on projects involving the introduction and propagation of GMOs in the country?
5. Whether there is evidence of damage or threat of damage to human health and the environment in two or more provinces, as a result of the Bt talong field trials?
6. Whether the public respondents committed a neglect of duty or unlawful omission in connection with the processing and evaluation of the applications for Bt talong field testing; and
7. Whether the Precautionary Principle applies?

HELD

The Supreme Court found in favor of the respondents, Greenpeace et al., on both procedural and substantive grounds. The substantive aspect is addressed as follows:

Legal Standing

In its decision, the Supreme Court defined locus standi as "a right of appearance in a court of justice on a given question," specifically referring to "a party's personal and substantial interest in a case where he has sustained or will sustain direct injury as a result of the act being challenged," and requiring "more than just a generalized grievance."

However, the Court clarified that the rule on standing is a procedural matter that can be relaxed for non-traditional litigants, such as ordinary citizens, taxpayers, and legislators, when public interest demands it, or when the matter is of "transcendental importance," "overreaching significance to society," or "paramount public interest." Consequently, the Court has consistently adopted a liberal policy on standing, allowing ordinary citizens and civic organizations to pursue actions challenging the constitutionality or validity of laws, acts, rulings, or orders of various government agencies or instrumentalities. This approach was exemplified in the landmark case of Oposa v. Factoran, Jr.

Since the Oposa ruling, the Court has emphasized that ordinary citizens not only possess legal standing to sue for the enforcement of environmental rights but can also do so on behalf of present and future generations.

The Court further stated that this liberalized rule on standing is now enshrined in the Rules of Procedure for Environmental Cases, which permits the filing of citizen suits in environmental matters. This provision on citizen suits "collapses the traditional rule on personal and direct interest, on the principle that humans are stewards of nature," and aims to "further encourage greater protection of the environment."

Ultimately, the Court found no dispute regarding the standing of the respondents to file their petition for the writ of kalikasan and writ of continuing mandamus.

Mootness

The court clarified that "an action is considered 'moot' when it no longer presents a justiciable controversy because the issues involved have become academic or dead, or when the matter in dispute has already been resolved and hence, one is not entitled to judicial intervention unless the issue is likely to be raised again between the parties."[55]

However, courts will decide cases, otherwise moot and academic, in the following situations:

1. **there is a grave violation of the Constitution;**

2. **the situation possesses an exceptional character and paramount public interest is involved;**

3. **the constitutional issue raised requires the formulation of controlling principles to guide the bench, the bar, and the public;**

4. **the case is capable of repetition yet evading review.**

The court found that its decision not to dismiss the case, despite the termination of Bt talong field trials, was justified by the presence of the second and fourth exceptions.

In support of these findings, the court stated that "while the project proponents of Bt talong have terminated the subject field trials, it is not certain if they have actually completed the field trial stage for the purpose of data gathering. At any rate, it is recorded that the proponents expect to proceed to the next phase of the project, the preparation for commercial propagation of the Bt eggplants. BPI will continue to issue biosafety permits for Bt talong or other GM crops. Therefore, this case not only falls under the 'capable of repetition yet evading review' exception to the mootness principle, but also raises the issue of the human and environmental health hazards posed by the introduction of a genetically modified plant, a very popular staple vegetable among Filipinos, which is an issue of paramount public interest." [56]

Primary Jurisdiction and Exhaustion of Administrative Remedies

Citing Republic v. Lacap, the court elucidated the doctrines of primary jurisdiction and exhaustion of administrative remedies:

The general rule mandates that a party must first exhaust all available administrative remedies before seeking judicial intervention. Issues within the purview of administrative agencies should not be summarily removed from their jurisdiction and presented to a court without allowing the agency an opportunity to deliberate and decide.

A corollary to the exhaustion of administrative remedies doctrine is the doctrine of primary jurisdiction. This dictates that courts will not adjudicate a dispute falling within an administrative tribunal's jurisdiction until that tribunal has rendered a decision. Direct judicial action is inappropriate when determining technical and complex factual questions requires the specialized knowledge, experience, and services of an administrative tribunal, necessitating a reasonable exercise of administrative discretion.

However, the principles of exhaustion of administrative remedies and primary jurisdiction, though rooted in sound public policy and practical considerations, are not absolute. Numerous exceptions exist, including situations where no other plain, speedy, and adequate remedy is available in the ordinary course of law. [57]

The Court further observed that the provisions of DAO 08-2002 did not offer a speedy or adequate remedy for the respondents to resolve the unique national and local issues raised concerning environmental protection laws and regulations. Consequently, the respondents were justified in seeking the high court's intervention. The Court even took judicial notice that genetically modified food is an intensely debated global issue, and despite the introduction of GMO crops (Bt corn) into the Philippines over the past decade, this is the first instance of a controversy reaching the courts regarding alleged damage or threats to human health and the environment from GMOs. [58]

Genetic Engineering

In its ruling, the court clarified that "genetic manipulation has long been practiced by conventional plant or animal breeders to fulfill specific purposes."[59]

Genetically engineered organisms are known as genetically modified organisms (GMOs). Since their creation in the 1970s, genes have been transferred between animal species, plant species, and even from animal to plant species. Some genes can accelerate growth or increase the size of animals or plants. For instance, genes producing antifreeze in halibut have been transplanted into salmon to enable their growth in cold climates. Many fish species have been genetically modified to boost growth rates, enhance meat quality, and increase resistance to cold and disease. In livestock like cows, genes can be introduced to reduce fat content in meat, increase milk production, and improve the quantity of excellent cheese protein in milk. Biotechnology has also enabled plants to produce their own pesticides, resist common diseases, and tolerate herbicide sprays that eliminate weeds.

However, the Court noted that "despite these promising innovations, there is considerable controversy surrounding bioengineered foods. Some scientists argue that genetic engineering dangerously interferes with the most basic natural components of life, deeming it scientifically unsound, and that transferring genes into a new organism can lead to unexpectedly dangerous outcomes. Nonetheless, no long-term studies have been conducted to determine the potential effects of GMO foods on human health."[60]

Genetically Modified Foods

The Court defined "GM food" as a crop created for human or animal consumption using modern molecular biology techniques. These plants are laboratory-modified to enhance desired traits, such as increased herbicide resistance or improved nutritional value, through a multi-stage genetic modification process.

BENEFITS OF GM FOODS

The Court further clarified issues surrounding GM foods, generally acknowledging that "biotechnology is recognized as having the potential to either help or hinder the reconciliation of the often opposing goals of meeting human needs for food, nutrition, fiber, timber, and other natural resources."[61] Biotech crops can yield more food per unit of land and water used for farming, thereby reducing the amount of land and water diverted to human uses. Increased crop yields and reduced land under cultivation will also diminish the area affected by soil erosion from agricultural activities, which in turn limits environmental impacts on water bodies and aquatic species and reduces the loss of carbon sinks and stores into the atmosphere.

ADVERSE HEALTH EFFECTS OF GMOS

The Court explained that "along with the much-heralded benefits of GM crops to human health and the environment, controversial issues concerning GM foods emerged." [62]

In 1999, it was discovered that genetically modified foods can have negative health effects. Scientific studies have shown that these foods can unleash new pathogens, contain allergens and toxins, and increase the risk of cancer, herbicide exposure, and harm to fetuses and infants. Independent studies have concluded that GM food and feed are "inherently hazardous to health." For instance, a GM soybean containing a Brazil nut gene was canceled after triggering severe allergic reactions, while animal trials by Dr. Arpad Pusztai showed that GM potatoes caused organ damage due to genetic disruptions from the insertion process itself. Beyond mutations and allergens, GM agriculture poses broader public health risks through gene transfers and chemical exposures. Scientists fear that antibiotic resistance marker (ARM) genes used in GMO tracking could transfer to gut bacteria, creating untreatable superbugs.[63]

Furthermore, consumption links to elevated cancer risks; cows treated with GM growth hormones produce milk with an 80% increase in IGF-1, a hormone tied to breast and gastrointestinal cancers. These biological hazards are compounded by glyphosate residues from herbicides used heavily on GM corn and soy, which disrupt bodily functions and correlate with rising chronic and developmental illnesses. [64]

ADVERSE EFFECTS OF GMOS ON THE ENVIRONMENT

The Court cited various studies, reports, and surveys from different countries in judging the issue, making clear the following points:

GMO crops affect the environment in a variety of ways, including contaminating non-GMO plants, creating superweeds and superpests, harming non-target species, altering microbial and biochemical properties, and threatening biodiversity. To this end, the Court highlighted it as a "well-accepted fact that genetically engineered plants can move beyond the field sites and cross with wild relatives." Because plants naturally cross-pollinate via wind and insects over vast distances, absolute containment is virtually impossible, leading to the direct genetic contamination of nearby non-GM and organic crops.

IThis risk is driven by insect resistance (Bt) and herbicide tolerance (HT) technologies. Bt crops contain a built-in toxin that accelerates pest resistance, threatening to render natural Bt sprays used by organic farmers against pests like the corn borer ineffective. Under this constant pressure, pests like cotton bollworms evolve into immune "superpests." Meanwhile, HT technology pairs a GM plant with broad-spectrum herbicides like glyphosate or glufosinate, which inhibit an essential enzyme to eliminate all weeds at once. Over-reliance on these chemicals triggers the emergence of herbicide-resistant "superweeds," forcing the use of stronger, more toxic options..

Evidence of Damage or Threat of Damage to Human Health and the Environment

Both petitioners and respondents presented documentary evidence to the court, including reports from scientific studies and articles. These documents supported their differing views on the benefits and risks associated with genetically modified (GM) plants.

Additionally, both sides presented their own expert witnesses who testified to the petition's claims that the Bt talong field trials in the Philippines had harmed or threatened human health and the environment.

The court found that the hot tub hearing failed to produce a consensus among expert witnesses regarding the safety of Bt talong for humans and the environment. This was apparently due to their opinions being based on conflicting conclusions from hundreds of scientific studies conducted since the introduction of Bt technology in crop farming. This divergence of opinion among local scientists reflects the ongoing international debate on GMOs and the varying degrees of acceptance of GM technology by states, particularly developed countries (USA, EU, Japan, China, Australia, etc.).

"The court found that the case highlighted the important role of scientists in providing relevant information for the effective regulation of GMOs. There is no dispute that because scientific advice plays a central role in GMO regulations, scientists have a responsibility to resolve uncertainty and communicate it to policymakers and the public."

GMOs: The Global Debate

The court then threw light upon the uncertainties generated by conflicting scientific findings or limited research is not diminished by extensive use at present of GM technology in agriculture. The global area of GM crops reached over 175 million hectares in 2013, more than a hundredfold increase from 1.7 million hectares in 1996. However, the worldwide debate on safety issues involving GM foods continues. Hence, it pointed out the following:

i. The controversy surrounding GMOs lies in the nature of the technology. The process of combining genes between species, called recombinant DNA technology, does not have the checks and balances that nature imposes in traditional breeding. This creates the risk of genetic instability. This means that no one can accurately predict the long-term effects of GMOs on humans and the environment. In this regard, extensive testing is expensive and impractical, and there is still much that scientists do not understand about the process.

ii. The basic concept for assessing the safety of GMO-derived foods was developed in close collaboration under the auspices of the Organisation for Economic Co-operation and Development (OECD), the World Health Organization (WHO) and the Food and Agriculture Organization (FAO). The OECD Panel on Biosafety recommended that the safety of GM foods be assessed on a case-by-case basis by comparison with conventional foods that have been used safely for a long time. The concept of substantial equivalence was thus developed and is widely used by national and international agencies, including the US Food and Drug Administration (FDA), WHO, OECD and FAO.

iii "Substantial equivalence embodies the concept that if a new food or food component is found to be substantially equivalent to a conventional food or food component, it can be treated in the same way with respect to safety (i.e., the food or food component is considered to be as safe as the conventional food or food component."[65] The safety assessment of a genetically modified food is based on a comparison of the genetically modified food with the conventional product. It follows a step-by-step process supported by a series of structured questions. The factors considered in the safety assessment include steps and multiple factors.

Bt Brinjal Controversy in India

The court observed that brinjal (eggplant) is a staple crop and a popular dietary ingredient in India, also holding significant value in Ayurvedic medicine for treating diabetes and liver problems. However, attempts to commercially propagate Bt brinjal have faced considerable hurdles and sparked intense controversy due to persistent resistance from local scientists, academics, and non-governmental organizations in India.

The court then drew a comparison to the situation in the Philippines. In India, cases were filed before the Supreme Court (Aruna Rodrigues and Ors, etc. vs. Union of India) to prevent the release of Bt brinjal into the environment. To address the matter, the court established a Technical Evaluation Committee (TEC), comprising experts nominated by the parties, to conduct a comprehensive assessment of the feasibility of allowing open field trials of Bt brinjal, among other issues.

The TEC recommended halting all field trials until specific conditions were met. A final report was subsequently submitted to the court, highlighting weaknesses in the conditions imposed by regulatory agencies for conducting field trials.

In response to widespread opposition to the introduction of Bt brinjal in India, then-environment minister Jairam Ramesh imposed an indefinite moratorium on commercial cultivation in 2010. This decision followed extensive discussions with scientists (both pro- and anti-GM crops), activists, and farmers across the country.

GMO Field Trials in the Philippines

As previously noted, the Bureau of Plant Industry (BPI) of the Department of Agriculture (DA) primarily governs field trials for genetically engineered (GE) plants and crops in the Philippines through DA Administrative Order (DAO) 08-2002.

DAO 08-2002 supplements existing guidelines for importing and releasing modern biotechnology products into the environment by formalizing operational agreements between the DA-BPI and the National Committee on Biosafety of the Philippines (NCBP). Since July 2003, the DA-BPI has been approving and processing field test applications, while the NCBP continues to supervise projects involving contained use. A mandatory risk assessment for genetically modified (GM) organisms is required before importing or releasing GM plants and plant products into the environment. Experiments are initially conducted under contained conditions, followed by field trials, before a product is considered for commercial release. Risk assessments adhere to the principles outlined in the Cartagena Protocol on Biosafety.

It is crucial to emphasize that DAO 08-2002 and related DA orders are not the sole legal bases for regulating GM plant and plant product field trials. Executive Order (EO) 514, which established the National Biosafety Framework (NBF), explicitly states its applicability to the development, adoption, and implementation of all biosafety policies, measures, and guidelines, as well as to biosafety decisions concerning the research, development, handling, use, transboundary movement, environmental release, and management of regulated articles.

Given the minimum requirements under the most comprehensive national biosafety regulation to date, the court concluded that the petitioners' compliance with DAO 08-2002 was insufficient. Specifically, Section 7 of the NBF mandates more transparent, meaningful, and participatory public consultation on field trials, extending beyond the posting and publication of notices and information sheets, consultations with some residents and government officials, and the submission of written comments as required by DAO 08-2002.

The court determined that petitioners merely followed the procedures in DAO 08-2002 and made no substantial efforts to apply the NBF principles in conducting Bt talong field testing. The failure of DAO 08-2002 to incorporate the NBF signifies that the DA lacks mechanisms to compel applicants to comply with international biosafety protocols. Data on the BPI website confirms Greenpeace's assertion that almost all applications for GMO field trials have been approved. For these reasons, the court declared DAO 08-2002 null and void.

EO 514 clearly directs relevant departments and agencies, specifically the Department of Environment and Natural Resources – Environmental Management Bureau (DENR-EMB), BPI, and the Fertilizer and Pesticide Authority (FPA), to determine whether the Environmental Impact Statement (EIS) system is required for the release of GMOs into the environment and to issue joint guidelines on this matter.

Even if EO 514 had not been issued, field testing of GMOs should have been considered for Environmental Impact Assessment (EIA) purposes under existing regulations of petitioner EMB concerning new and emerging technologies.

All government agencies, as well as private corporations, firms, and entities intending to undertake activities or projects that will affect environmental quality, are required to prepare a detailed EIS before commencing such development activities. Environmentally Critical Projects (ECPs) are defined by the EMB as "highly likely to have significant adverse impacts that are sensitive, irreversible and diverse" and which "involve activities that have significant environmental consequences." In this context, given the extensive global scientific attention on the potential hazards of GMOs to human health and the environment, their release into the environment through field testing would unequivocally fall under the ECP category.

Application of the Precautionary Principle

In resolving this issue, the court explained that the precautionary principle originated in Germany in the 1960s, conceptualized as a normative idea that obligates governments to "foresee and forestall" environmental harm.

In our jurisdiction, the precautionary principle is now embodied in the Rules of Procedure for Environmental Cases (RPEC).

The precautionary principle bridges the gap when scientific certainty cannot be achieved in factual findings. Applying this principle to the rules of evidence allows courts to address potential environmental issues before a firm scientific consensus emerges.

For evidentiary purposes, the precautionary principle should be considered a principle of last resort, to be applied when the ordinary Rules of Evidence would result in an inequitable outcome for the environmental plaintiff. This applies in settings where: (a) the risks of harm are uncertain; (b) harm might be irreversible and what is lost is irreplaceable; and (c) the harm that might result would be serious. The case for the precautionary principle is strongest when these three features—uncertainty, the possibility of irreversible harm, and the possibility of serious harm—coincide. In cases of doubt, the constitutional right to a balanced and healthful ecology should be upheld. Furthermore, it should be noted that judicial proceedings are one of the strongest fora in which the precautionary principle may apply.

Upon assessment of the evidence on record, along with the current state of GMO research worldwide, the court finds all three conditions—uncertainty, the possibility of irreversible harm, and the possibility of serious harm—present in this case.

Modified Decision dated July 26, 2016 [66]

The Supreme Court granted the petitioners' motion for reconsideration due to mootness. While this procedural dismissal legally set aside the 2015 decision as a binding precedent, the Court did not substantively overturn or disprove the serious biosafety and public health concerns originally highlighted in the records. Consequently, the substantive finding that Bt eggplant poses a hazard to human health and the environment was not expressly reversed.

SECTION 5

Legal Benchmarks of MASIPAG & Greenpeace Cases

The Philippines established regulations governing genetically modified organisms (GMOs) as early as the 1990s, anticipating potential hazards and risks associated with engineered organisms. The core purpose of these regulations was to protect Filipinos' rights to health and a balanced and healthful ecology.

Despite these established regulations, the favorable reception of Bt Eggplant and Golden Rice by some, including regulators, is perplexing, given the regulatory deficiencies highlighted by the courts in two high-profile cases.

The Greenpeace case, which reached the Supreme Court under the purview of EO 514 and DAO 08-2002, revealed concerning practices by regulators, notwithstanding the clear mandate of these regulations:

- Provisions under the National Biosafety Framework (NBF) as stipulated in EO 514 were disregarded. These provisions are crucial for the development, adoption, and implementation of biosafety policies, measures, and guidelines, and for making decisions concerning the research, development, handling, use, transboundary movement, environmental release, and management of regulated articles.
- DAO 08-2002 was applied in isolation. However, the Supreme Court found that this order:
  - It lacked mechanisms to mandate compliance with international biosafety protocols.
  - It failed to meet the transparency and public participation requirements under the NBF.
  - It relied on risk assessments conducted by an informal group, the Biosafety Advisory Team of the DA, composed of representatives from various government agencies (BPI, Bureau of Animal Industry, FPA, DENR, DOH, and DOST).
  - It lacked specific guidelines for conducting risk assessments, allowing the DA to consider expert advice and guidelines from international organizations and regulatory authorities in countries with significant experience.
  - Its scope was confined to the Department of Agriculture's (DAR) authority over the importation and environmental release of plants and plant products derived from modern biotechnology, leading to its declaration as null and void.

To highlight, the nullification of DAO 08-2002 was based on several critical deficiencies identified by the court, which have since become foundational benchmarks for future GMO policy.

- **Inadequate Public Participation:** The Supreme Court found that DAO 08-2002 failed to provide a mechanism for "transparent, meaningful, and participatory public consultation," as mandated by the National Biosafety Framework (NBF) and the Cartagena Protocol on Biosafety, an international agreement the Philippines is a party to. The court determined that simply posting and publishing notices was insufficient to meet these requirements, highlighting a casual approach to public feedback that left affected communities without an effective avenue to raise concerns or grievances. This finding underscored that public engagement must be a substantive, not merely a procedural, component of the biosafety review process.

- **Lack of Rigorous Oversight**: The court criticized DAO 08-2002 for its inherent weaknesses. It had no mechanism to ensure compliance with international biosafety protocols, and the risk assessment process was conducted by an "informal group" without specific guidelines. The DA was allowed to rely on advice from international organizations with "significant experience" but without a robust, independent process of its own. This lack of a standardized and rigorous framework was deemed a clear dereliction of the government's duty to protect its citizens and the environment.

- **The Precautionary Principle as a Judicial Standard:** The most significant and globally precedent-setting aspect of the ruling was the court's invocation and application of the Precautionary Principle. The court explained that this principle applies when there is a risk of "uncertain, serious and irreversible threat of environmental damage" from human activities that are not scientifically certain to be safe. The court found that due to the conflicting scientific views on the safety of Bt Eggplant, the constitutional right of Filipinos to a balanced and healthful ecology must be upheld. This landmark application of the Precautionary Principle marked the first time a Philippine court had used this standard in a GMO case and cemented it as a cornerstone of environmental jurisprudence in the country.

The ruling in Greenpeace v. DA was a pivotal moment. The judicial branch, in nullifying a major administrative order, sent a clear message that government agencies could not prioritize the interests of biotech proponents over the public's constitutional rights. The decision directly compelled the relevant government bodies to create a new, more comprehensive regulatory framework, leading to the enactment of the Joint Department Circular No. 1, Series of 2016 (JDC 1-2016).

However, despite the existence of the supposedly more robust JDC 1-2016 (and its successor JDC 1-2021), the government had failed to comply with its own rules in issuing the permits. Regulators continued to process and approve GMOs, seemingly in defiance of the strict mandates under JDC 01-2016 (now JDC 1-2021). The Court of Appeals noted the following practices:

- UPLB applied for Biosafety Permits (BSPs) at BPI for the field trial of Bt Eggplant after confined testing.
- BSPs for Golden Rice were issued without expiration dates.
- The constitution of Institutional Biosafety Committees (IBCs), including community representatives for the field trial of Golden Rice, occurred only after the BSP for Field Trial was issued, instead of during the application for and granting of BSPs for contained, confined, or field use.
- No independent and actual monitoring was conducted by the regulators.
- The monitoring mechanisms and risk assessment were not complied with by the regulators.
- Direct use as food and feed, processing, and commercial propagation of Golden Rice and Bt Eggplant, respectively, were approved without sufficient monitoring mechanisms in place.
- There was no genuine, exhaustive, independent, and active monitoring activity; instead, actions were reactive.
- Monitoring was limited to mere paper reviews.

As emphasis, the Court of Appeals' decision in the MASIPAG case built upon the legal foundation of the Greenpeace ruling, establishing new benchmarks for the implementation of GMO regulations.

- **Insufficient Monitoring:** The court's most significant finding was the complete breakdown of the monitoring system. It was revealed that the government's regulatory agencies were not conducting "genuine, exhaustive, independent, and proactive monitoring activities". The court found that the regulators' approach was merely "reactive," limited to "paper reviews" of reports submitted by the proponents, rather than actively verifying compliance on the ground. This failure was deemed a critical omission that significantly contributed to the uncertainty of the GMOs' impacts on society. The court stressed that proper on-the-ground monitoring is an essential part of risk assessment, enabling regulators to identify unforeseen consequences in real-world settings.

- **Inadequate Timelines and Lack of Labeling:** The court also raised concerns with specific provisions of JDC 1-2021. It criticized the shortened application process, which was reduced from 85 to 40 days, stating that such permits should not be "hastily issued for the sake of compliance with the shorter period prescribed by law," an implicit reference to the "Ease of Doing Business" law. Furthermore, the court flagged the absence of a mandatory labeling provision, which it deemed a violation of the consumer's right to be accurately informed about the food they consume.

- **The Writ of Continuing Mandamus:** The court issued a powerful and novel remedy in the form of a Writ of Continuing Mandamus. This writ compelled the government agencies to perform their ministerial duty to properly enforce the monitoring provisions under JDC 1-2021. This remedy serves as a legal sword of Damocles, keeping the case open and mandating court supervision until the government proves its full compliance. While the court's initial decision was later amended to clarify that it did not issue a blanket ban on all GMO imports, this was a precise jurisdictional correction rather than a dilution of the court's stance. Because those outside GMO products were never parties to the litigation, the amendment simply cured a due-process overreach while leaving the core findings and the strict mandate of the Writ of Continuing Mandamus fully intact for Golden Rice and Bt Eggplant. This surgical legal maneuver preserves trade stability for uninvolved sectors while maintaining absolute judicial pressure on the government's biosecurity oversight.

Table 1: Comparative Legal Benchmarks of the Landmark Cases

Case Name	Key Issues Challenged	Court's Primary Finding	Key Legal Principle Affirmed	Impact on Policy
Greenpeace et al. v. DA et al. (2012/2015)	Bt Eggplant field trials; deficiencies in DAO 08-2002.	DAO 08-2002 was null and void due to a flawed framework and lack of safeguards.	The Precautionary Principle; Constitutional right to a balanced and healthful ecology; right to public participation.	Led to the creation of Joint Department Circular No. 1, series of 2016 (JDC 1-2016) to establish a new regulatory framework.
MASIPAG et al. v. DA et al. (2022/2024)	Golden Rice and Bt Eggplant commercial propagation permits; non-compliance with JDC 1-2021.	Regulatory agencies failed to conduct genuine, active, and independent monitoring as required by law.	The Precautionary Principle; right to transparency and consumer choice; government's ministerial duty to enforce regulations.	Mandated the issuance of a Writ of Continuing Mandamus, compelling agencies to comply with monitoring requirements and halting propagation until compliance is proven.

The vetting of these cases before the courts clearly exposed infirmities in the existing GMO regulations. Therefore, there is a clear need to revisit, harmonize, and reform the various GMO regulations in the country, with due consideration for the explicit objectives of the NBF as established under EO 514.

On the basis of the decisions on the cases above, the following are recommended:

1. As an essential part of risk assessment, there must be clear, genuine, exhaustive, independent, and active monitoring activity being conducted by government agency regulators.
2. Include a provision on the labeling of GMOs so as to distinguish the same from non-genetically modified products because labels are necessary that consumers, who have the freedom to choose what to eat, be accurately informed as to the nature, quality, and quantity of the food products sold to them.
3. Adopt a more realistic time frame for processing BSP applications and must not simply rely on Republic Act No. 11032, also known as the Ease of Doing Business Law or the Anti-Red Tape Law, considering that GMO permits are of different nature from simple transactions.
4. Develop a complaint mechanism for effective public participation.
5. Include a clear provision on the manner of review by including the conduct of independent studies for risk assessment.
6. Adapt from JDC 1-2016 and maintain that the constitution of the Institutional Biosafety Committee must be done prior to the contained use, confined test, or field trial of a regulated article.
7. Adapt from JDC 1-2016, and maintain the qualifications of the community representatives as part of the Institutional Biosafety Committee.

Ultimately, the regulators are bound to uphold their respective mandate that springs from our fundamental law, specifically, the provisions on the rights of the Filipinos to health and a balanced and healthful ecology.

SECTION 6

Observations Regarding the Integrity of GMO Science for Regulatory Purposes

The integrity of biotechnology in the Philippines rests on the assumption that the Golden Rice and Bt Eggplant trials were conducted with the highest level of scientific rigor. However, the litigation in MASIPAG et al. v. DA et al. and Greenpeace et al. v. DA et al. ("MASIPAG and Greenpeace cases") unmasked significant ethical lapses that suggest a systemic prioritization of commercial deployment over biological safety. This section examines the specific instances of scientific misconduct—ranging from data suppression to institutional capture—that surfaced during these trials.

Definition of Research Misconduct

The internationally and federally accepted definition of "research misconduct" focuses narrowly on three specific, intentional acts, known collectively as FFP, and which stands for Fabrication, Falsification and Plagiarism.[67]

Fabrication is defined as the act of making up data or results entirely and then recording or reporting them as legitimate findings.[53] Plagiarism involves the appropriation of another person's ideas, processes, results, or words without providing appropriate credit.[69] The third category, Falsification, is highly relevant to biosafety trials. Falsification involves manipulating research materials, equipment, or processes, or, crucially, changing or omitting data or results such that the research record does not accurately represent the true findings.[70] Falsification, especially when involving the deliberate omission of negative, uncertain, or inconclusive data, poses a significant threat in regulatory science, as it can conceal genuine risks. Instances of FFP, particularly in publicly funded research, compromise the integrity of the research process, waste public funds, and can result in severe legal and professional consequences, including imprisonment.[71]

While FFP defines overt fraud, many integrity failures occur in a gray area known as Questionable Research Practices (QRPs). These practices are defined as actions that violate GRP but often fall outside the narrow, legally prosecutable FFP definition of misconduct.[72] QRPs are significantly more prevalent than FFP and often involve procedural deviations or ethical lapses that skew regulatory perception.[73]

Key QRPs pertinent to the GMO cases include failures during initial project conception or design, such as insufficient review of current literature or the deselection of appropriate methods.[74] During data analysis and publication, QRPs manifest as ignoring negative results, actively "cherry picking" data that supports a desired commercial or scientific outcome, or engaging in selective outcome reporting.[75] Accordingly, selective outcome reporting or SOR occurs when researchers choose to report only a subset of the outcomes and analyses originally measured, based on favorable results, thus biasing the overall findings presented to regulators and the public.[76] Other QRPs include inappropriate attribution of authorship and self-plagiarism.[77]

Regulatory Irregularities and Institutional Capture

In examining the regulatory landscape for GMOs, and based on factual revelations in the MASIPAG and Greenpeace cases, two concerning patterns emerge regarding the integrity of scientific research and oversight.

First, there have been documented cases where university-based researchers who receive funding from corporate interests subsequently assume regulatory roles within government agencies. This revolving door phenomenon raises significant conflict-of-interest concerns, as individuals may be incentivized—consciously or unconsciously—to favor the interests of their former or current funders when making regulatory decisions. Such situations undermine public trust in the independence and rigor of biosafety assessments.

Another critical issue is the apparent overreliance on studies and dossiers presented by GMO applicants, as well as on research conducted abroad. Instead of conducting their own, robust, and independent scientific inquiries, regulators often depend on the applicant's submissions and international studies, which may not reflect local environmental, agricultural, or public health realities. The lack of capacity—or willingness—to perform original research leaves regulatory decisions vulnerable to bias and incompleteness.

The Court of Appeals in its decision explicitly found that the government regulators did not conduct their own independent scientific inquiries. Instead, they relied almost entirely on the data and dossiers provided by the GMO applicants. The Court of Appeals described the risk assessment as a "**mere paper review**" or "**literature review**," noting that the regulators fell short of the thorough, original research required for such significant biosafety decisions.

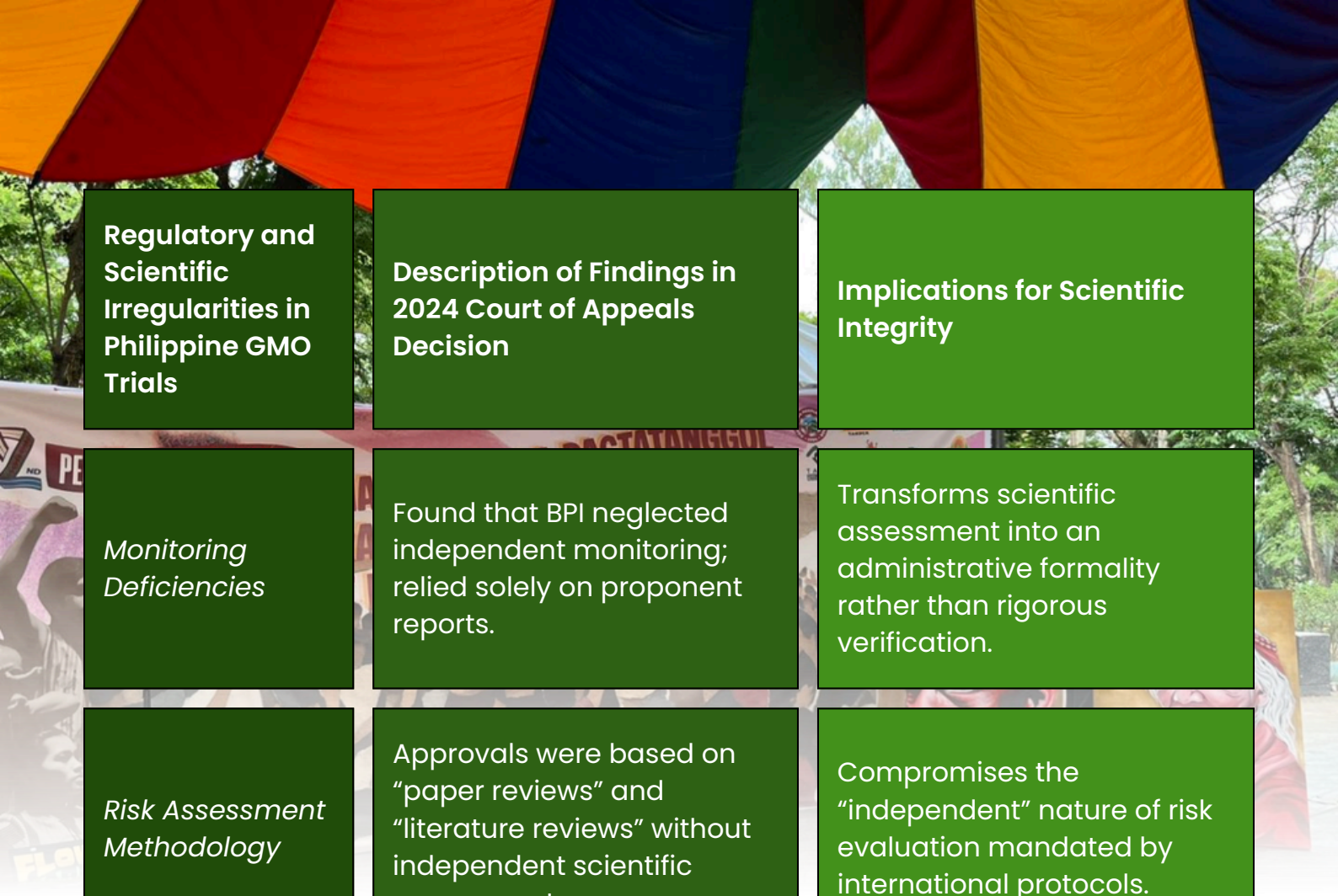
Compounding this concern is the use of mere questionnaires or checklist-based assessments in place of genuine, in-depth scientific review. Without real capacity for independent investigation, such approaches risk reducing biosafety evaluations to superficial exercises, insufficient for safeguarding the public interest. This practice represents a departure from the thorough, impartial, and science-driven process that the Constitution demands in protecting the rights to health and a balanced ecology.

Additionally, other forms of scientific misconduct have been observed, including the selective reporting of research outcomes, suppression of unfavorable data, inadequate disclosure of research funding sources, and closed selection of experts who comprise the experts review committees. These practices compromise the reliability of risk assessments and the scientific basis for regulatory approvals.

In fact, the "***hot-tubbing***" process exposed the lack of scientific consensus regarding the safety or harmful effects of Golden Rice and Bt Eggplant. The decision highlights that the Bureau of Plant Industry (BPI) and associated committees lacked the capacity or the initiative to perform independent investigations into the local environmental and health impacts of Golden Rice and Bt Eggplant. Witness testimonies confirmed that no original, independent laboratory or field testing was conducted by the state to verify the proponents' claims of safety. But then, despite this uncertainty, the regulators had already issued biosafety permits (BSPs) for commercial propagation, ignoring the Precautionary Principle which dictates that in the face of scientific doubt and the possibility of irreversible harm, the state must err on the side of caution. The court noted that the overall safety guarantee for these GMOs remained unknown, making the government's decision to permit widespread distribution a breach of its constitutional duty to protect the people's right to health and a balanced ecology.

Moreover, the court also specifically found that the Bureau of Plant Industry (BPI) and associated government agencies "**unlawfully neglected to perform their duty of conducting monitoring activities,**" which is a fundamental requirement of risk assessment under the National Biosafety Framework (NBF). Rather than acting as proactive guardians of public health and ecological balance, these agencies adopted a "reactive" posture, essentially waiting for information to be provided by the project proponents. This reliance on "paper reviews" or "literature reviews" rather than actual, on-the-ground, independent monitoring constitutes a significant procedural irregularity that undermines the integrity of the scientific process.

In the context of GMOs, where public health and ecological safety are paramount, these lapses have far-reaching consequences, not only for policy outcomes but also for the credibility of the entire research and regulatory system. Ensuring transparency, independence, and accountability in both research and oversight is therefore essential to uphold the rights to health and a balanced ecology, as mandated by the Constitution.



Regulatory and Scientific Irregularities in Philippine GMO Trials	Description of Findings in 2024 Court of Appeals Decision	Implications for Scientific Integrity
Monitoring Deficiencies	Found that BPI neglected independent monitoring; relied solely on proponent reports.	Transforms scientific assessment into an administrative formality rather than rigorous verification.
Risk Assessment Methodology	Approvals were based on "paper reviews" and "literature reviews" without independent scientific assessment.	Compromises the "independent" nature of risk evaluation mandated by international protocols.
Institutional Biosafety Committees (IBC)	IBCs were reconstituted to include local officials only after permits were issued, rather than during the application phase.	Procedural misconduct that bypasses mandatory local consultation requirements.
Lack of Scientific Consensus	Expert "hot-tubbing" proved significant divergence in safety data; proponents failed to submit definitive proof of safety.	Invalidates the claim of "settled science" often used by regulators to justify GMO rollout.
Data Integrity & Suppression	Failure to adequately address studies showing rapid degradation of beta-carotene and potential genetic contamination.	Suggests selective outcome reporting (SOR) and potential falsification through the omission of negative data.

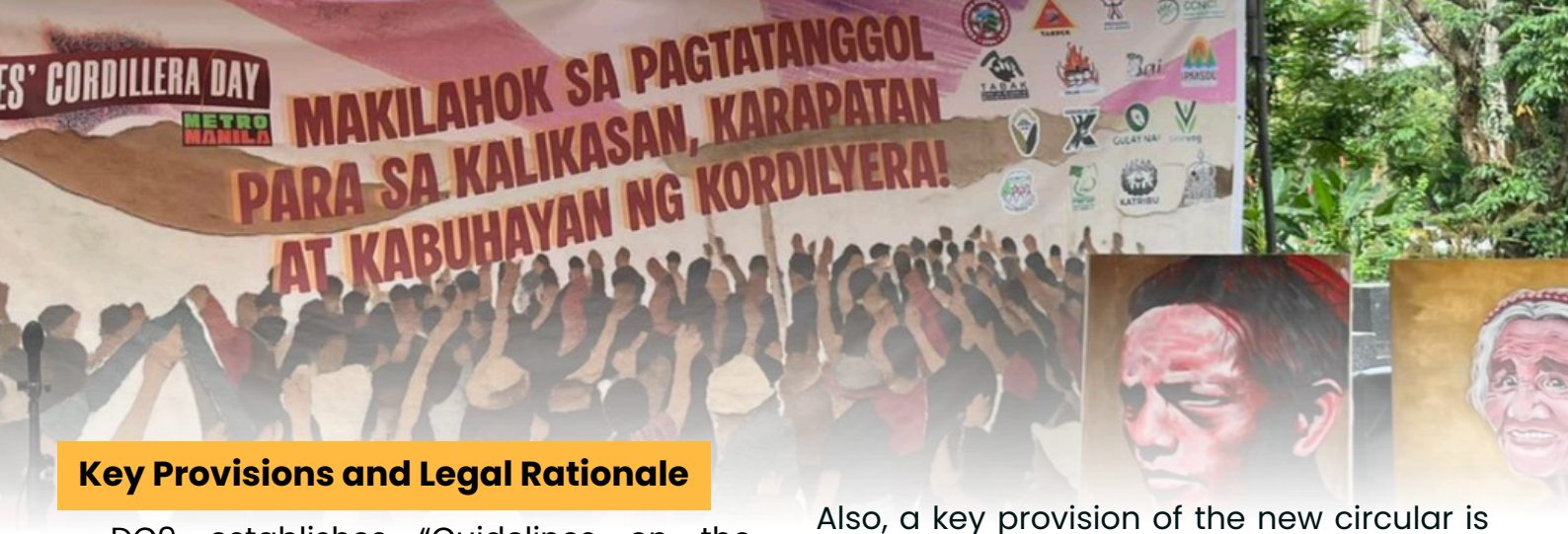
SECTION 7

The DA Circular Redefining Contamination

Despite the legal challenges against GMOs, the DA created another departmental circular that does not take into account the legal benchmarks of the MASIPAG and Greenpeace cases.

Department Circular No. 9, series of 2025 (DC9), published by the DA on May 19, 2025, outlines a new set of guidelines for the registration of crop varieties with the National Seed Industry Council (NSIC). The circular specifically targets varieties that have "developed resistance to various factors... resulting from natural cross-pollination with genetically modified crop varieties". This directive explicitly reverses a previous policy, Department Circular No. 18, series of 2020, which had restricted such applications.

This new policy appears to be a direct administrative maneuver to circumvent the strict biosafety review process demanded by the courts.



Key Provisions and Legal Rationale

DC9 establishes "Guidelines on the Registration of Varieties of Crops Propagated by Open Pollination that have Developed Resistance through Natural Cross-Pollination with Genetically Modified Varieties".[78] It creates a new category called "Developed Resistance" (DR) varieties, which are defined as crops that have acquired traits like pest or herbicide resistance through "natural cross-pollination" with GM varieties. This directive explicitly reverses a previous policy, Department Circular No. 18, series of 2020, which had restricted such applications. [79]

The circular argues that these "DR varieties" are not "essentially derived varieties" under the Philippine Plant Variety Protection Act (RA 9168) because they result from "unintentional" cross-pollination rather than intentional genetic engineering. According to DC9, these seeds can now be registered with the National Seed Industry Council (NSIC) and included in public procurement and seed subsidy programs without having to undergo the same rigorous biosafety review process as new GMOs under JDC 1-2021. This is a strategic move, leveraging a semantic loophole to create a new, deregulated pathway for GM traits to enter the food system. The circular's legal basis, as stated, is to promote a healthy seed industry and protect the country from unfair competition.

Also, a key provision of the new circular is its coverage of "transgenic event[s] with Freedom to Operate". The circular clarifies that this includes GM traits with "expired patents and those never patented in the Philippines". Intellectual property law dictates that patents, such as those for a novel genetic construct, are typically valid for 20 years, after which the technology enters the public domain and can be used by others, a concept known as "Freedom to Operate". This provision allows for the registration of varieties that have acquired traits from off-patent GM crops, provided the original transgenic event was approved for commercial propagation for at least ten years.

The circular's central premise to regulate varieties that gained GM-derived traits through "natural cross-pollination" is a significant departure from the established biosafety framework. The Philippines' biosafety system, governed by Joint Department Circular (JDC) No. 1, series of 2021, and other issuances, primarily regulates "living modified organisms (LMOs) resulting from modern biotechnology". By framing the gene transfer as "natural," the new circular draws a semantic and legal distinction that appears intended to classify this process as outside the scope of "modern biotechnology" and its attendant rigorous regulatory requirements.

This approach effectively bypasses the multi-agency oversight and robust scientific review that the framework was designed to achieve. Instead of requiring a full biosafety review from the NCBP and its constituent agencies, the circular channels these new varieties through a simplified registration process under the DA's National Seed Industry Council (NSIC). This action weakens the institutional checks and balances of the biosafety system, as a single agency can create a parallel, less stringent system for a subset of GMOs, which in effect fragments the comprehensive regulatory framework.

Furthermore, the focus on traits with "Freedom to Operate" opens a critical loophole. The original biosafety permit was granted for a specific GM crop under a controlled context, not for the trait itself to proliferate into new plant varieties through uncontrolled processes. Allowing the "natural" and unmonitored spread of that trait, and then registering the resulting new variety through a streamlined process, circumvents a crucial biosafety assessment for the new genetic combination. The expiration of a patent for a genetic trait does not, by itself, mitigate the environmental or public health risks associated with its introduction into new plant varieties or ecosystems. This regulatory shift could incentivize the uncontrolled proliferation of GM traits, raising concerns about the potential for "overuse" of these traits and the hastened development of pest resistance, which would undermine long-term agricultural sustainability.

HOW DC NO. 9 UNDERMINES BIOSAFETY

The issuance of DC9 represents a direct and profound challenge to the legal benchmarks established by the courts in the Greenpeace and MASIPAG cases. The judiciary repeatedly upheld the Precautionary Principle, requiring that in the face of scientific uncertainty, the government must err on the side of caution to protect public health and the environment. DC9, by creating a deregulated pathway for genetically contaminated crops, effectively legitimizes and facilitates "genetic contamination" without a full biosafety review.[80]

This circular operates outside the framework of JDC 1-2021, which the courts have already ruled is being inadequately implemented. It ignores the Court of Appeals' clear directive for a stronger biosafety regime and fails to address the core judicial findings regarding insufficient monitoring, lack of labeling, and the need for a precautionary approach. This policy is not an evolution of the biosafety framework but a calculated administrative sidestep, attempting to bypass judicial scrutiny by creating a new category of seeds that are essentially a product of modern biotechnology but are treated as conventional crops for regulatory purposes. As noted by civil society groups, this is a "blatant disregard for the court's decision".[81]

BYPASSING THE PRECAUTIONARY PRINCIPLE AND ROBUST RISK ASSESSMENT

The most significant conflict lies in the circular's subversion of the Precautionary Principle. The Supreme Court's decision was predicated on the finding that absent scientific consensus on the safety of GMOs, a cautious approach is necessary to protect ecosystems and public health. It invalidated DAO8 because the risk assessment was "not robust enough" and relied solely on data from the GMO proponents. In contrast, DC No. 9, s. 2025, essentially eliminates the need for any risk assessment or public consultation for the new plant variety itself. It presumes that because the original GM crop received a biosafety permit, any new variety that "naturally" acquires that trait is inherently safe. This presumption is scientifically unfounded and legally dangerous, as it disregards the possibility of new risks emerging from the trait's expression in a different genetic background or its uncontrolled spread into new environments.

Furthermore, the Supreme Court classified the release of a GMO for field testing as an "Environmentally Critical Project" requiring an Environmental Impact Assessment (EIA). DC No. 9, s. 2025, creates a pathway for the commercialization of crops that have acquired GM traits outside of a controlled, assessed environment, completely bypassing the need for an EIA for the resulting new variety. This constitutes a direct contradiction of a judicial precedent that sought to protect native crop biodiversity from genetic contamination.

Erosion of Regulatory Authority and Fragmentation of the Framework

The circular, issued by the DA alone, creates a parallel and separate system for regulating a subset of GM-derived crops, thereby eroding the unified, multi-agency structure of the National Biosafety Framework. The National Committee on Biosafety of the Philippines (NCBP) is the "lead body to coordinate and harmonize inter-agency and multi-sector efforts". The circular's unilateral action bypasses the oversight of the NCBP, the DOST Biosafety Committee (DOST-BC), and the multi-agency Joint Department Circular (JDC) No. 1, series of 2021, which governs "all aspects of genetically modified plant and plant products derived from modern biotechnology". This sets a dangerous precedent, allowing a single department to create regulatory loopholes that could lead to the fragmentation of the entire biosafety system and potentially result in regulatory capture. The multi-agency framework was established to prevent such concentrated authority and to ensure a broad, balanced review. The circular undermines this fundamental principle of shared governance.

Ignoring the Risks of Uncontrolled Genetic Contamination

The circular's premise of "natural cross-pollination" introduces a significant, unmitigated risk of genetic contamination. Open-pollination is a vital, but uncontrolled natural process. By allowing the registration of varieties that have acquired GM traits through this process, the DA is effectively sanctioning the free and unmonitored spread of these traits into other crops and wild relatives. This poses a direct threat to the biodiversity of native crops and could lead to the unintended creation of "superweeds" with herbicide resistance, or the dilution of local, non-GM varieties. The circular further assumes that once a trait is off-patent, the environmental and biosafety risks are neutralized, a dangerous and unscientific assumption that contradicts the Precautionary Principle.

The following table summarizes the key conflicts between the provisions of the new circular and the legal precedents established by the 2015 Supreme Court ruling.

Aspect of Biosafety Regulation	The 2015 Supreme Court Ruling Precedent	DA DC No. 9, Series of 2025 Provisions
Legal Foundation	Constitutional right to a "balanced and healthful environment" and the "Writ of Kalikasan".	Relies on the DA's authority under the Seed Act (RA 7308) for crop registration.
Core Scientific Principle	Application of the Precautionary Principle; err on the side of caution in the absence of scientific consensus.	Implies that "natural cross-pollination" and prior approval of the original GM crop neutralize the need for a precautionary approach.
Risk Assessment	Mandates a "robust" risk assessment that reviews all available evidence, not just that provided by proponents.	Omission of a new risk assessment, relying on the prior assessment of the original GM crop.
Public Participation	Requires a "transparent, meaningful and participatory public consultation" as per the Cartagena Protocol.	Does not explicitly require or outline a new public consultation for the new variety.
Environmental Impact	Classifies GMO releases as an "Environmentally Critical Project" requiring a full Environmental Impact Assessment (EIA).	The circular's streamlined registration process omits a mandatory EIA for the new variety.
Regulatory Authority	Acknowledges a multi-agency framework led by NCBP.	Unilaterally creates a new registration pathway under the DA, bypassing multi-agency oversight.

Broader Policy and Economic Implications

The DA's issuance of DC9 is not an isolated event but part of a broader, government-led agenda to modernize agriculture and address food security. However, the approach embodied by DC9 stands in direct opposition to the cautious stances taken by other nations. Countries like Mexico and Peru have imposed moratoriums to protect their native seed varieties and food sovereignty, an approach that DC9's policy of legitimizing genetic contamination directly contradicts. This divergence in policy direction demonstrates a significant ideological divide within the global community. Furthermore, the repeated legal challenges and the government's apparent attempts to circumvent judicial mandates through administrative circulars risk further eroding public trust in regulatory institutions. A regulatory framework that is seen as favoring industry over public welfare is inherently unstable and will continue to face legal and social resistance, creating a perpetual cycle of uncertainty for all stakeholders.[82]

Worsening an Existing Crisis and Entrenching Chemical-Dependent Farming:

The circular comes at a time when the unregulated spread of GM corn is already compromising community seed systems, particularly in Mindanao. Rather than addressing this problem, the government is formalizing what farmers have called "ukay-ukay" or smuggled GM seeds. The statement also points out the dangerous disregard for public health, as GM corn approved only for animal feed is widely consumed by Filipinos.

It also reinforces the use of chemical-dependent farming as all GM corn traits authorized in the Philippines are either herbicide-tolerant or insect-resistant. This move effectively nullifies any commitment to ecological agriculture and agroecology.

Legitimizing Genetic Contamination

Critics argue that DC 9 not only normalizes, but also legitimizes, the unintentional spread of genetic material from GMOs to conventional and native crops. This process, known as genetic contamination or gene flow, can lead to the loss of genetic purity in indigenous varieties and endangers biodiversity. Instead of implementing measures to prevent or manage this contamination, the circular seems to accept it as a given and provides a pathway for the contaminated varieties to enter the market.

Potential for Unintended Consequences

The streamlined process under DC9 may fail to adequately assess potential long-term risks. For example, a variety that acquires herbicide resistance from a GM crop could lead to increased reliance on specific herbicides, raising concerns about environmental impact and the potential for new “superweeds” that are also resistant to these chemicals. The lack of a thorough review means that these and other unforeseen ecological or health risks may not be properly evaluated before the crops are widely adopted.

The implementation of Department Circular No. 9, series of 2025 (DC9), carries significant and far-reaching implications for various stakeholders and the integrity of the nation's biosafety system. The potential consequences are a source of considerable concern for farmers, civil society organizations, and the scientific community.

For the agricultural sector, while the circular may appear to provide access to lower-cost seeds with valuable traits—especially those with expired patents—it exposes farmers to significant long-term risks. The uncontrolled proliferation of these traits could hasten the development of pest and weed resistance, a phenomenon that has already been observed in other contexts. This could lead to a reliance on increasingly potent and costly pesticides or herbicides, undermining the promised affordability. Furthermore, farmers could still face potential legal disputes related to patent infringement, as the legal landscape surrounding "Freedom to Operate" traits remains complex.

For civil society and advocacy groups like Greenpeace and MASIPAG, the circular is a direct affront to the victories won in the Supreme Court. It represents a clear attempt to circumvent the very legal and procedural requirements that these groups fought for and won. The circular may necessitate new legal challenges to uphold the integrity of the 2015 ruling and the principles of the Cartagena Protocol. For the scientific community, the circular undermines the scientific integrity of the biosafety review process by creating a pathway that is not based on a rigorous, evidence-based risk assessment of the new plant varieties. It relegates complex genetic and ecological questions to a simple administrative registration process.

SECTION 8

Policy Recommendations

To address these critical deficiencies and uphold the nation's commitment to a safe and sustainable agricultural future, the following policy recommendations are proposed:

1. **Immediate Suspension:** The Department of Agriculture should immediately suspend the implementation of DC No. 9, s. 2025, pending a comprehensive, multi-stakeholder review and development of a new, comprehensive legislative act.

2. **Mandatory EIA and Public Consultation:** Any application under the circular's guidelines before the suspension of DC No. 9 must be subject to a full Environmental Impact Assessment (EIA) and a transparent, participatory public consultation, as required by the NBF and EIA system, and their critical importance having been discussed in the MASIPAG and Greenpeace cases.

3. **Moratorium Pending Independent Scientific Review:** A moratorium must be in place while a multi-agency body conduct a new, independent scientific review of the potential environmental and health impacts of "naturally" cross-pollinated crops with GM-derived traits, ensuring all available evidence is considered.

4. **Establish Accountability Mechanism for Unintended Consequences:** A liability framework must be established to define clear remediation and compensation protocols for genetic contamination, biodiversity degradation, or health impacts. This mechanism must mandate that biotechnology proponents and corporations—rather than traditional farmers or consumers—bear the legal and financial burden for any documented adverse effects or unauthorized gene flow.

Moreover, based on the legal benchmarks and the identified policy contradictions, a fundamental reform of the Philippines' GMO regulatory framework is necessary to ensure long-term stability and public trust. The following recommendations provide a clear path forward that harmonizes the competing priorities of agricultural modernization and public welfare.

Immediate Administrative Actions to Strengthen Oversight

1. **Mandate Active, Independent Monitoring.** The Department of Agriculture (DA) and the Bureau of Plant Industry (BPI) must be compelled to cease passive "paper reviews" and initiate genuine, on-the-ground, and independent monitoring of all field trials and commercial propagation sites. Right now, GMO corn is widely propagated, and many GMO corn farms have been observed to lack healthy soil nutrients, harbor few beneficial insects, and are often susceptible to erosion and landslides due to poor soil structure. These degraded conditions not only threaten farm productivity but also increase environmental risks. This directly addresses the core finding of the Court of Appeals in the MASIPAG case and is essential for identifying potential environmental and health impacts that may not be apparent in scientific literature alone. Therefore, rigorous monitoring of GMO corn farms is necessary to assess and mitigate these adverse effects.

2. **Implement Mandatory Labeling for All GM and DR Varieties.** A clear and mandatory labeling system must be required for all products that contain GM-derived traits, including those under the new "Developed Resistance" category. This measure is crucial to uphold the constitutional right of consumers to be accurately informed and to exercise their freedom of choice.

3. **Establish a Robust Public Complaint Mechanism**. A clear and accessible administrative process must be developed for third-party appeals and grievances related to GMO permits and activities. This addresses the legal void identified by the Supreme Court in the Greenpeace case and provides a necessary administrative avenue for civil society and affected communities to raise concerns, potentially reducing the need for costly and protracted litigation.

Recommendations for Policy and Legislative Reform

1. **Revise Permit Timelines.** The short timelines for biosafety permit applications established under JDC 1-2021 must be re-evaluated and extended. The process should prioritize thorough scientific evaluation, comprehensive risk assessment, and meaningful public consultation over administrative speed, acknowledging that the "Ease of Doing Business" law is not an inappropriate benchmark for such complex and high-stakes decisions.

2. **Develop a New Comprehensive Legislative Act.** The government should initiate a legislative process to create a new law that consolidates, improves and supersedes existing GMO patchwork regulations (e.g., EO 430, EO 514, JDC 1-2021, and DC9) that are inconsistent with the legal precedents of the Masipag and Greenpeace cases. This new law must fully integrate the legal principles of precaution, transparency, public participation, and accountability as affirmed by the courts. Such legislation would need to establish clear and legally-sound criteria for regulating specific GMOs, including a mandatory, multi-agency risk assessment that reviews all available evidence and a transparent, participatory public consultation process for each case, and a liability framework for unintended consequences. By mandating these stringent requirements, a national law could differentiate between GMOs, allowing for the outright ban of those that fail to meet strict biosafety standards while permitting the use of others under a scientifically robust and transparent regulatory regime.

3. **Prohibit Revolving Door Practices Between Research, Industry, and Regulatory Bodies.** To address concerns over compromised scientific integrity, a strict policy must be adopted to prevent "revolving door" — where individuals move interchangeably between regulatory agencies, industry, and research institutions involved in GMO governance. This measure is vital to ensure that regulatory decisions remain independent, evidence-based, and free from undue influence or conflicts of interest. Establishing clear conflict-of-interest rules will strengthen the credibility of biosafety assessments and reinforce public trust in the regulatory process.

Strategic Recommendations for Stakeholder Engagement

1. **Foster a Multi-Sectoral Dialogue.** A formal, government-sanctioned platform for open and balanced dialogue must be created to bring together government agencies, scientists, civil society, and farmers. This acknowledges the deep scientific and political schism and can help to bridge the gap between opposing viewpoints, fostering a more inclusive and democratic policy-making process.

2. **Invest in Farmer-Led Agroecology.** The government should reallocate a significant portion of its resources toward supporting and scaling up farmer-led agroecological initiatives, as advocated by MASIPAG. This provides a viable, long-term, and people-centered alternative to industrial agriculture and can address the root issues of food security and farmer livelihood without relying solely on corporate-patented technology and the associated risks.

Recommendation	Rationale	Responsible Agency/Body
Active, Independent Monitoring	Addresses a core finding of the MASIPAG case, ensuring real-world verification of GM safety and preventing "paper reviews."	Department of Agriculture (DA), Bureau of Plant Industry (BPI), Department of Environment and Natural Resources (DENR), and Department of Health (DOH)
Mandatory Labeling	Upholds the constitutional right of consumers to be informed and to make independent choices about their food.	DA, Department of Health (DOH), Department of Trade and Industry (DTI)
Robust Complaint Mechanism	Provides a non-litigious avenue for public grievances, addressing the legal void found in the *Greenpeace* case.	DA, BPI, relevant government agencies, Congress
Establish Accountability Mechanism for Unintended Consequences	Defines a clear remediation and compensation protocols for genetic contamination, biodiversity degradation, or health impacts, and must mandate that biotechnology proponents and corporations—rather than traditional farmers or consumers—bear the legal and financial burden for any documented adverse effects or unauthorized gene flow.	DA, BPI, relevant government agencies, Congress
Revised Permit Timelines	Prioritizes thorough scientific and risk assessment over administrative speed, preventing the hasty approval of complex biosafety permits.	DA, National Committee on Biosafety of the Philippines (NCBP), relevant agencies

Recommendation	Rationale	Responsible Agency/Body
New Comprehensive Legislative Act	Creates a stable and enduring legal framework, moving beyond administrative circulars and integrating core findings and legal antecedents of Masipag and Greenpeace cases.	Congress, DA, DOST, DENR, DOH, DILG
Prohibit Revolving Door Practices Between Research, Industry, and Regulatory Bodies	To ensure that regulatory decisions remain independent, evidence-based, and free from undue influence or conflicts of interest.	Department of Education (DepEd), DA, NCBP, Professional Regulatory Commission (PRC), relevant agencies
Multi-Sectoral Dialogue	Fosters trust and bridges the deep divide between scientific, civil society, and government perspectives.	Office of the President, DA, various stakeholder groups
Investment in Agroecology	Provides a viable and sustainable alternative to industrial agriculture, addressing food security while empowering farmers.	DA, local government units (LGUs)

As long as the government continues to rely on a patchwork of administrative circulars that are subject to constant change and legal challenges, the country will remain locked in a perpetual cycle of litigation and policy instability. For the Philippines to move forward, it must not only address the specific flaws of DC9 but also fundamentally reform its regulatory approach. Only through a new, legislated, and genuinely precautionary framework—one that respects both scientific inquiry and the constitutional rights of its people—can the nation ensure both food security and the long-term well-being of its population and its environment

Endnotes:

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[3] CA-G.R. SP No. 00038, April 17, 2024.
[4] CA-G.R. SP No. 00038, April 17, 2024.
[5] Petition for Writ of Kalikasan and Continuing Mandamus, p. 2.
[6] Petition for Writ of Kalikasan and Continuing Mandamus, p. 2.
[7] Petition for Writ of Kalikasan and Continuing Mandamus, p. 2.
[8] Petition for Writ of Kalikasan and Continuing Mandamus, p. 2.
[9] Petition for Writ of Kalikasan and Continuing Mandamus, p. 3.
[10] Petition for Writ of Kalikasan and Continuing Mandamus, p. 4.
[11] Constitution of the Republic of Ecuador (Adopted by National Referendum on September 28, 2008). Article 401 states: "Ecuador is declared free of transgenic crops and seeds. Only by way of exception and in case of national interest, duly reasoned by the President of the Republic and passed by the National Assembly, will genetically modified seeds and crops be introduced into the country." Article 281, Section 4 further tasks the State with: "Prohibiting the development, production, ownership, marketing, import, transport, storage and use of genetically modified organisms that pose a threat to human health, food sovereignty or ecosystems.
[12] Petition for Writ of Kalikasan and Continuing Mandamus, p. 4.
[13] Petition for Writ of Kalikasan and Continuing Mandamus, p. 4.
[14] Countries that have banned GMO imports and cultivation, 360 Mozambique (2023), detailing the absolute prohibitions maintained by Algeria, Mozambique, and Zimbabwe to protect local agro-ecosystems and local seed varieties.
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[22] Petition for Writ of Kalikasan and Continuing Mandamus, p. 4.
[23] Petition for Writ of Kalikasan and Continuing Mandamus, p. 5.
[24] Petition for Writ of Kalikasan and Continuing Mandamus, p. 5.
[25] Petition for Writ of Kalikasan and Continuing Mandamus, p. 5.
[26]Please see [https://gmo.uconn.edu/topics/gmos-and-human-health/] (Last accessed December 12, 2024).
[27] CA-G.R. SP No. 00038, April 17, 2024, p. 112.
[28] Section 4 (a) Executive Order No. 430.
[29] G.R. No. 209271, G.R. No. 209276, G.R. No. 209301, G.R. No. 209430, December 8, 2015.
[30] G.R. No. 209271, *G.R. No. 209276, G.R. No. 209301, G.R. No. 209430,* December 8, 2015.
[31] G.R. No. 209271, *G.R. No. 209276, G.R. No. 209301, G.R. No. 209430,* December 8, 2015.
[32] Please see [https://www.biosecuritycentral.org/resource/policies-and-legislation/cartagena-protocol/#:~:text=The%20Cartagena%20Protocol%20on%20Biosafety,informed%20decisions%20about%20importing%20GMOs.] (Last accessed December 11, 2024).
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[38] Sections 6 and 7, Executive Order No. 514.
[39] Section 5, Executive Order No. 514.
[40] Section 4, Executive Order No. 514.
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[42] A collection of guidelines, standards, and codes of practice for food that are used worldwide to ensure food safety and quality.
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[47] VI, DA, DOST, DENR, DOH and DILG Joint Department Circular No. 1, series of 2016.
[48] VII, DA, DOST, DENR, DOH and DILG Joint Department Circular No. 1, series of 2016.
[49] G.R. No. 209271, G.R. No. 209276, G.R. No. 209301, G.R. No. 209430, July 26, 2016.
[50] CA-G.R. SP No. 00038, April 17, 2024.

[51] The writ is a remedy available to a natural or juridical person, entity authorized by law, people's organization, non-governmental organization, or any public interest group accredited by or registered with any government agency, on behalf of persons whose constitutional right to a balanced and healthful ecology is violated, or threatened with violation by an unlawful act or omission of a public official or employee, or private individual or entity, involving environmental damage of such magnitude as to prejudice the life, health or property of inhabitants in two or more cities or provinces.
[52] When any agency or instrumentality of the government or officer thereof unlawfully neglects the performance of an act which the law specifically enjoins as a duty resulting from an office, trust or station in connection with the enforcement or violation of an environmental law rule or regulation or a right therein, or unlawfully excludes another from the use or enjoyment of such right and there is no other plain, speedy and adequate remedy in the ordinary course of law, the person aggrieved thereby may file a verified petition in the proper court, alleging the facts with certainty, attaching thereto supporting evidence, specifying that the petition concerns an environmental law, rule or regulation, and praying that judgment be rendered commanding the respondent to do an act or series of acts until the judgment is fully satisfied, and to pay damages sustained by the petitioner by reason of the malicious neglect to perform the duties of the respondent, under the law, rules or regulations. The petition shall also contain a sworn certification of non-forum shopping.
[53] CA-G.R. SP No. 00038, August 15, 2024.
[54] G.R. No. 209271, G.R. No. 209276, G.R. No. 209301, G.R. No. 209430, December 08, 2015.
[55] p. 23., G.R. No. 209271, December 08, 2015, G.R. No. 209276, G.R. No. 209301, G.R. No. 209430, under Mootness section (SC E-Library) citing Santiago v. Court of Appeals, 348 Phil. 792, 800 (1998).
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[59] G.R. No. 209271, December 08, 2015, G.R. No. 209276, G.R. No. 209301, G.R. No. 209430, under Genetic Engineering section (SC E-Library version).
[60] Ibid.
[61] Ibid.
[62]Ibid.
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