

## THE LEGAL PERSPECTIVE ON CONSUMER PROTECTION OF GENETICALLY ENGINEERED FOOD PRODUCTS IN INDONESIA

Tami Rusli

Faculty of Law, Universitas Bandar Lampung, Indonesia

[tami.rusli@ubl.ac.id](mailto:tami.rusli@ubl.ac.id)

Tandaditrya Ariefandra A

Politeknik Negeri Lampung, Indonesia

[tandaditya@polinela.ac.id](mailto:tandaditya@polinela.ac.id)

Zainab Ompu Jainah

Faculty of Law, Universitas Bandar Lampung, Indonesia

[zainab@ubl.ac.id](mailto:zainab@ubl.ac.id)

### **Abstract**

*The development of science and technology has triggered the use of genetic engineering. Genetic engineering is the transplantation of genes into other genes, both between genes and across genes, to produce valuable products for living creatures. Genetically engineered food products, due to the development of modern biotechnology in the field of genetic engineering technology, have given rise to new legal problems because of the possibility of posing a risk to human health. This research uses a normative juridical approach with an emphasis on secondary data. This research uses doctrinal research methods. The research specifications used are analytical descriptive. The research results show that there is no special legal protection for consumers of genetically engineered food products, because it still refers to consumer protection contained in the UUPK. It should be noted that genetic effects resulting from human genetic engineering need legal protection. Protection and intellectual property rights, where everyone, individually or collectively, must be a consumer of goods and services, so the parties need equal legal protection. Therefore, the responsibility of producers of genetically engineered food products for consumer losses must be able to fulfill the principle of justice because the economic position of producers is higher than that of consumers. By implementing the principle of absolute responsibility, the producer responsibility law will foster an attitude of caution for producers of genetically engineered food products to maintain the quality of their products.*

**Keywords:** Consumers; Food; Genetically; Products; Protection.

### **A. INTRODUCTION**

The protection of consumers is considered as material and formal more important, due to the increasing pace of science and technology which is the driving quality for the productivity and efficiency of producers of

goods and services produced<sup>1</sup>. Along with the development of science and technology as well as the improvement and equalisation of educational opportunities in society, consumers also experience an increase in critical power in choosing goods and services to fulfil their needs. In such new conditions, business actors can no longer stick to their old business strategies with the risk that the goods or services they offer will not sell in the market, but must change their business strategies towards meeting the needs of market tastes and purchasing power. (*market oriented/market-in policy*). At this time, the producer must be vigilant (*caveat venditor*) in fulfilling goods and services for consumers.<sup>2</sup>

Fulfilment of goods and services, especially food as a basic human need, is the basic right of every Indonesian to always be sufficiently available at all times, safe, quality, nutritious and diverse at prices that are affordable by the purchasing power of the community. To achieve this, it is necessary to organize a food system that provides protection for both those who produce and those who consume food.<sup>3</sup>

The activities or processes of producing food for distribution or trading must fulfil the provisions on food sanitation, food additives, contaminant residues, and food packaging. Furthermore, every person who produces food should pay attention to the use of certain methods in food production activities or processes that may pose risks that may harm or endanger human health, such as genetic engineering. Therefore, food as a trading commodity requires the support of an honest and responsible food trading system so that food is available within the purchasing power of the community and contributes to the improvement of national economic growth.<sup>4</sup>

As a developing country, Indonesia needs to develop modern biotechnology that is safe for human health, as one of the options.<sup>5</sup> On one side, with more than 250 million people, Indonesia must continue to pursue various food procurement alternatives in order to fulfill food needs. On the other hand, the population has created new problems in the form of food procurement compliance. To overcome the various food shortage problems faced by the world's population that cannot be solved conventionally.<sup>6</sup> In another case, Indonesia's geographical situation as the largest archipelago and strategically located between two continents and two oceans makes the territory of Indonesia very vulnerable to food trade traffic in genetically modified products.

- 
- 1 Niru Anita Sinaga dan Wiwik Sulisruditin., Pelaksanaan Perlindungan Konsumen Di Indonesia, *Jurnal Hukum Dirgantara FH-Universitas Surya Darma Jakarta*, Vol. 5, No. 2, 2015, page. 72
  - 2 Johannes Gunawan., Tanggung Jawab Pelaku Usaha Menurut Undang-Undang Nomor 8 Tahun 1999 Tentang Perlindungan Konsumen, *Jurnal Hukum Bisnis*, Vol. 8, 1999, page. 44 – 53.
  - 3 Penjelasan Undang-Undang Nomor 7 Tahun 1996 Tentang Pangan, (n.d.).
  - 4 Diktum Pertimbangan Dalam Undang-Undang Republik Indonesia Nomor 7 Tahun 1996 Tentang Pangan, (n.d.).
  - 5 Putu Suwardike., Quo Vadis Pangan Produk Rekayasa Genetika Di Indonesia, *Ejurnal Unipas*, Vol. 2, No. 1, 2019, page. 58
  - 6 Mahsus., Kontroversi Produk Rekayasa Genetika Yang Di Konsumsi Masyarakat, *Jurnal Biologi Tropis*, Vol. 14, No. 2, 2014, page. 109

The development of genetic engineering is increasingly expanding into various fields of human life, one of which is the food sector, including the production of corn, soybeans, potatoes, rice, tomatoes, meat, milk, eggs, fish, etc.<sup>7</sup> So wide is the scope of human life touched by genetic engineering for the promise of improving human life and increasing food production. In addition to the positive impacts of genetic engineering, negative impacts are also found in the form of public concern (*public anxiety*) that have emerged as challenges to be considered in the dissemination of genetically modified products.<sup>8</sup>

Genetically engineered food is still unfamiliar and makes consumers concerned about the safety of its food for consumption. Meanwhile, genetically modified food has entered and circulated in Indonesia without fulfilling the food safety requirements for genetically modified food as stipulated in the legislation. In an effort to meet the food needs of more than 250 million people, Indonesia, as an agricultural country, is unable to fulfill self-sufficiency and is still dependent on imports for food commodities such as rice, soybean, corn, sugar and wheat. In 2007, rice imports amounted to 1.3 million tonnes, soybeans to 1.08 million tonnes, corn to 0.652 million tonnes, sugar to 0.92 million tonnes, and wheat to 3.6 million tonnes, which came from the following countries: Vietnam, Thailand, India, Taiwan, Maldives, USA, Argentina, Singapore, Malaysia, Canada, China, Thailand, Korea, United Arab Emirates, Australia, Russia.<sup>9</sup>

Food trading in genetically modified products has become a new legal phenomenon in society.<sup>10</sup> In addition to food safety issues for consumers, these foods are also linked to the responsibility of their producers. Consumers of genetically modified food often do not think long when deciding to buy food containing genetic engineering or food that does not contain genetic engineering when conducting buying and selling activities. In addition, considering the cross-border trade of genetically engineered food products, it is important to have legal protection for consumers as well as legal responsibility of food producers of genetically engineered products.

In the era of the globalisation and free trade supported by advances in telecommunications and informatics technology, the space for the flow of goods and services transactions across the territorial boundaries of a country is increasingly fast and widespread, so that the goods offered vary, both from abroad and within the country, of course with various adverse and beneficial risks. In detail, genetic engineering is an alternative technique to modify the genetic material in a living being.<sup>11</sup> It is believed that the need for food, which is increasing along with the population growth rate, can be met by providing food produced through genetic engineering.

---

7 Ibid.

8 Mangku Sitepoe., *Rekayasa Genetika*, Jakarta, PT. Gramedia Widiasarana Indonesia, 2020.

9 Ironi Impor Negeri Tahu Tempe, *Majalah Berita Mingguan GATRA*, 2018.

10 Hetami Kamila., *Pelabelan Produk Pangan Yang Mengandung Bahan Rekayasa Genetika Sebagai Wujud Asas Keterbukaan Informasi*, Semarang, Universitas Diponegoro, 2009.

11 Suwanto A., *Genecally Modifial Organisme Keragaman Genetik Dan Preferensi Manusia, Genetical*, 2016, <https://adoc.pub/genetically-modified-organisms-gmos-keragaman-genetik-dan-pr.html>.

On the other hand, the use of genetically modified foods for human consumption is seen as a risk to human health and the environment.<sup>12</sup> Therefore, the concept of food safety, as stipulated in Law No. 7/1996 on Food, is needed to provide protection for consumers of genetically modified food products in Indonesia in response to the widespread circulation of genetically modified food products in the community.

Consumer concerns about the circulation of genetically modified food products are violations of consumer rights, including the right to comfort, security, and safety in consuming goods in Law Number 36 of 2009 concerning health states that every person and or legal entity that produces, processes and distributes food and beverages resulting from genetic engineering technology must guarantee that it is safe for humans and the environment. Meanwhile, to choose and obtain goods in accordance with the exchange rate and the promised conditions and guarantees; the right to correct, clear and honest information about the conditions and guarantees of goods as specified in Article 4 of Law Number 8 Year 1999 on Consumer Protection mentions 9 consumer rights. In the circulation of genetically modified food products, these rights are ignored by the producers.

In fact, the regulation on the handling of genetically modified food in Indonesia has been regulated, among others, in Food Law Number 7 Year 1966 on Food, where Article 13 paragraph (1) states that "every person who produces food or uses raw materials, food additives, and/or other auxiliary materials in the activities or production process of food resulting from the process of genetic engineering must first check the safety of food for human health before circulation". This means that all genetically engineered foods are required to be tested before circulation, but genetically engineered foods that have been circulating in Indonesia do not go through the testing procedure as mentioned above.

Genetically modified foods that have been circulating in the community should be recalled as long as laboratory testing to assess their safety has not been conducted. The failure to implement regulations related to genetically modified products shows that the government is unable to protect consumers by allowing genetically modified food to enter and circulate in Indonesia without food safety procedures..

The consequence of the absence of food safety procedures means that the government has no mechanism to protect its own people from the initial point of entry of genetically modified foods. In addition, the government needs an independent research mechanism to test the impact of genetically modified foods. This is necessary to protect consumers from information on new proteins, allergenicity, acute and chronic toxicity, mutagenicity, immunotoxicity, neurotoxicity, the possibility of anti-nutritional substances, and the possibility of toxic accumulative properties in the body as a result of consuming genetically modified food.<sup>13</sup>

---

12 Hesty Widayanti., *Bioteknologi: Imperialisme Modal & Kejahatan Globalisasi*, ed. Ika N. Krishnayanti, Yogyakarta, Insist Press, 2023.

13 Mangku Sitepoe, *Rekayasa Genetika*.

In addition to the government's neglect of the right to food safety, consumers' rights to protect themselves and the right to information are also ignored by allowing the entry of genetically modified food products without identification or labelling. The government's incompetence becomes more prominent when the fulfilment of the ever-increasing need for food is carried out by importing staple foods from foreign countries.

Further problems arise when genetically modified food products circulating in the community are not produced in Indonesia, but are produced and imported from outside the territory of Indonesia. (*transboundary movement*). The Cartagena Protocol ensures an adequate level of protection in the case of cross-border movements (*transboundary*) genetically modified foods, and the utilisation of modified organisms (OHMs) that may have a negative impact on the preservation and sustainable use of biodiversity, taking into account the risks to human health.<sup>14</sup> Negative impacts that must continue to be studied, monitored and acted upon for food safety, both in humans and livestock, are toxicity and allergenicity for some users.<sup>15</sup> However, the next problem that arises is the readiness of hardware, in the form of testing laboratories, and software, in the form of implementing regulations of the Cartagena Protocol to be studied further. The safety assessment of Indonesian Engineering Products is regulated in the Cartagena Protocol which Indonesia ratified on 24 May 2000. Following up on the Cartagena Protocol, Indonesia made Law Number 21 of 2004 in conjunction with Government Regulation Number 21 of 2005 concerning ratifying the Biosafety Convention on Biosafety.<sup>16</sup>

Based on the above background, the author is interested in researching the problem of What is meant by genetically modified food? How is legal protection for consumers of genetically modified food products in Indonesia? The aim of this research is to find out how developments in science and technology have triggered the use of genetic engineering and legal protection for consumers.

## B. RESEARCH METHODS

This research uses a normative juridical approach with an emphasis on secondary data. This research uses doctrinal research methods. The research specifications used are analytical descriptive. The research results show that there is no special legal protection for consumers of genetically engineered food products, because it still refers to consumer protection contained in the UUPK.

---

14 Indonesia telah meratifikasi Protocol Cartagena melalui Undang-Undang Nomor 21 Tahun 2004 Tentang Pengesahan Cartagena Protocol on Biosafety to the Convention on Biological Diversity (Protokol Cartagena Tentang Keamanan Hayati atas Konvensi Tentang Keanekaragaman hayati).

15 Oekan S. Abdoelah; et. al., *Rekayasa Genetika: Tantangan Dan Harapan*, Badung, Unpad Press, 2022.

16 Tri Agus Siswoyo., *Keamanan Pangan Produk Rekayasa Genetika*, *Repository Unej*, 2007

## C. RESULTS AND DISCUSSION

### 1. Genetically Modified Food

In the development of genetically engineered products, in addition to having advantages, there are also risks that must be considered.<sup>17</sup> Food as a basic human need whose fulfilment is the human right of every Indonesian must always be sufficiently available at all times, safe, quality, nutritious and diverse at a price that is affordable by the purchasing power of the community. To achieve this, it is necessary to organise a food system that provides protection, both for those who produce and consume food, and does not conflict with the beliefs of the community.

Qualified human resources are not only the most important element that needs to be prioritised in development, but also one of the factors that determine the success of development. Improving the quality of human resources is determined, among other things, by the quality of the food they consume.

Food production activities or processes for distribution or trade must fulfil provisions on food sanitation, food additives, contaminant residues, and food packaging. Another thing that should be considered by everyone who produces food is the use of certain methods in food production activities or processes that have the possibility of causing risks that can harm or endanger human health, such as genetic engineering of food,<sup>18</sup> Article 35 of Government Regulation No. 69/1999 formulates that the label for genetically modified food must include the words genetically modified food as a form of preventive legal protection that must be carried out based on certain requirements.<sup>19</sup>

Tempe and tofu are arguably the everyday foods of most Indonesians. Both types of food are almost every day on the dining table. However, when these two foods are consumed, people never think the soya used as raw material comes from genetically modified products. Agricultural products that are produced from genetically modified crops and then become raw materials or food additives intended for food or beverages are genetically modified foods.

Genetically modified foods are already widely distributed in the international market, including 60 percent of soybeans, 23 percent of corn, 11 percent of cotton and 6 percent of canola. This means that 60 percent of soybeans on the international market are genetically modified. Food is a general term used for all materials that can be used as food. Until now, no in-depth research has been conducted in Indonesia on the impact of genetically modified food on human health.<sup>20</sup> The government

---

17 Ibid.

18 Food genetic engineering is a process that involves transferring genes (carriers of traits) from one biological type to another different or similar biological type to obtain a new type that is capable of producing superior food products, Vol. 1, No. 12 of Law Number 18 of 2012 concerning Food).

19 Ray Pratama., Teori Perlindungan Hukum, *Blogspot*, 2023, <https://raypratama.blogspot.com/2015/04/teori-perlindungan-hukum.html>.

20 Tri Agus Siswoyo., Keamanan Pangan Produk Rekayasa Genetika

has indeed ratified the Cartagena Protocol, which contains the precautionary principle in the cross-border movement of genetically modified products. "Genetically engineered food has had its DNA, RNA, or proteins manipulated by intentional human intervention."<sup>21</sup>

The government has also issued a government regulation, Government Regulation No. 21/2005 on Biosafety of Genetically Engineered Products. However, until now, there has been no field implementation, so all imported GMO products enter Indonesia practically without safeguards. Since there is no field guidance, consumers' right to obtain information about the food they choose through labelling has also not been implemented. Food sold in modern retailers should be labelled. Meanwhile, tempeh or tofu makers should be coached so that they can provide information to consumers about their raw materials.

GE food is regulated differently around the world. There are some international standards, such as the Codex Alimentarius Commission's guidelines, that address assessments of GE crops and foods that contain them<sup>22</sup>. "However, no single international authority oversees the food production process"<sup>23</sup>. According to Dwi Andreas Santosa, a lecturer at the Department of Soil Science and Land Resources, Faculty of Agriculture, IPB, who studies genetic engineering, genetically modified foodstuffs that will be commercialised must go through a study called a food safety assessment. This food safety assessment is carried out to test whether the material is safe for human consumption or not. Likewise, if the food will be used as animal feed, as stipulated in Government Regulation No. 21/2005 on Biosafety.

Food safety studies also require that gene products inserted into plants be assessed to see if they can cause allergies, poisoning or other negative impacts. If the results of the study turn out to be negative, then the material can be declared safe for consumption. As long as the food has gone through the entire process of scientifically and internationally recognised tests, then there is no hesitation to consume. However, some scientists argue that *substantial equivalent* cannot be used as a criterion to declare whether a genetically modified food is safe for consumption or not. The reason is that genetically modified food and non-genetically modified food are clearly different. In addition, the food safety studies conducted are insufficient because they are only tested on animals. Meanwhile, the effect of foreign gene/DNA insertion on the composition of other compounds, apart from the main compound, is not studied further. Likewise, consumption patterns vary between communities.

In developed countries, genetically modified foods are usually further processed before consumption. Consumption is also in small

---

21 Sydney E. Scott; et.all., An Overview of Attitudes Toward Genetically Engineered Food, *Annual Review of Nutrition*, Vol. 38, 2018, page. 459–79.

22 Paarlberg RL., The Global Food Fight, *Foreign Aff* 79, 2000, page. 24–38.

23 Busch L., Food Standards: The Cacophony of Governance, *Journal of Experimental Botany*, Vol. 62, 2011, page. 3247–3250.

quantities. For example, potatoes are made into chips. Meanwhile, in developing countries, genetically modified foods undergo short processing, such as tofu, tempeh, or corn as staple foods. Until now, the risks of these short-processed foods when consumed over a long period of time are unknown.

In Indonesia, the possibility of genetically modified foods that have not been authorised by the government is high as there is no segregation in exporting countries. Genetically modified foods have entered Indonesia despite the lack of information and weak regulations. This is evident from three tests conducted by the Indonesian Consumers Foundation (YLKI), which showed that several soybean, corn, and potato-derived products tested positive for genetic engineering<sup>24</sup>.

The existence of genetically modified food products has violated consumer rights, namely the right to safety, the right to information (no labeling on product packaging), the right to choose, and the right to compensation. The naked eye cannot distinguish genetically modified food products from natural products. The only way this can be done is through laboratory testing.

Genetically modified food is produced or using raw materials, additives, and/or other materials resulting from genetic engineering processes. Products are generally defined as *tangible goods*, both movable and immovable. However, in relation to *product liability issues*, products are not only tangible goods but also include intangibles such as electricity, natural products (e.g., pet food with other types of animals), writings (e.g., mass-produced flight maps), or fixed fixtures in real estate (e.g., houses).

Most genetically modified crops are engineered to resist weedkillers (e.g., Monsanto's GM soya), insect pests (e.g., Novartis' GM maize) or other crop diseases, and offer farmers the easiest way to get the best yield. Some products, such as genetically modified tomatoes, do not rot quickly after harvest. Pineapples with long-lasting freshness, slow-ripening bananas, and other crops are now being prepared to stay fresh on store shelves..

People are also promised healthier 'nutraceuticals' for our bodies, such as potatoes with more starch (so the chips absorb less fat when cooked) and low caffeine, super-flavourful coffee beans. Fruits can also be produced without seeds and plans to modify strawberries to make them taste sweeter.

But it's not just plants that have been engineered. Research is also focused on animals. More than 20 species of fish, including rainbow trout, salmon and carp have now been genetically engineered in the lab to make them grow faster or bigger, although it will take several more years to perfect the technique.

Farm animal research, including that on pigs, cattle, sheep and poultry is concentrated on making them grow faster, be more resistant to disease or produce better quality meat. "Dolly", the world's first

---

24 Mahsus., *Kontroversi Produk Rekayasa Genetika Yang Di Konsumsi Masyarakat*.



genetically cloned sheep became a media star in 1997 and raised the possibility of producing a pool of identical genetically modified animals or clones in the future<sup>25</sup>. Meanwhile, cows are encouraged to produce milk through injections of growth hormones made with genetic engineering techniques, known as *bovine somatotropim* (BST).<sup>26</sup>

Food is just a small part of the biotechnology revolution. In addition to the development of genetic engineering for medical purposes to identify diseases, pharmaceutical and chemical companies are also investing in technologies that blur the lines between medicine and animal husbandry. The term "pharming" is used to describe the profit potential and development of this biotechnology. Genetically modified plants and animals, dubbed "bioreactors", are being developed to produce medicinal products. Milk produced by sheep, goat and cow hybrids can contain human proteins, which can then be extracted and used in the pharmaceutical industry to cure diseases. Sheep have started to produce milk containing proteins used to cure emphysema lung disease, and goats produce milk containing human antibodies useful in cancer therapy.

Cow's milk has been genetically engineered to produce milk that is lower in lactose and easier to digest, and some cows have been hybridised with human genes so that their milk resembles breast milk. Researchers are also looking into the possibility of genetically engineering animal organs (known as xenotrasplants) designed for human transplantation, by inserting human DNA into animals to produce human blood plasma.

"However, in contrast to climate change and evolution, beliefs about GE food are not linked to political (e.g., liberal-to-conservative) commitments. Representative surveys consistently show that in the United States, attitudes toward GE food have nonsignificant, minimal correlations with political ideology.<sup>27</sup>" Even more revolutionary are edible vaccines to create immunity against diseases such as cholera, diarrhoea and hepatitis B. Scientists are beginning to experiment with bananas and potatoes as carriers for these vaccines, which could eliminate the medical world's search for cheaper, more suitable and highly effective products.

Genetically modified foods offer a number of advantages to consumers. Vegetarians can now more easily choose vegetarian cheese thanks to genetically engineered enzymes that can replace the renne derived from cow stomachs, while tomato paste is sold at a lower price than the regular version. It is also possible that we will find genetically modified foods that are low in fat or high in vitamins, although insiders estimate that it will be many years before the first genetically modified

---

25 Teknologi: Pro-Kontra Metode Kloning., Dari 'Domba Dolly, Anjing Peliharaan, Hingga Upaya Membangkitkan Gajah Mamut Dari Kepunahan, *BBC*, 2022, <https://www.bbc.com/indonesia/vert-fut-61140190>.

26 Oktaviani Syah Putri., Hormon Bovine Somatotropin, *Academia*, n.d., [https://www.academia.edu/25326907/Hormon\\_Bovine\\_Somatotropin](https://www.academia.edu/25326907/Hormon_Bovine_Somatotropin).

27 Kahan DM; et.al., Cultural Cognition of Scientific Consensus, *Journal Risk Res*, Vol. 14, 2011, page. 147–174.

foods hit the shelves in the marketplace.

One of the promoted benefits of genetically modified crops is that they can feed the world. Since the world's human population has doubled in the last 50 years, this claim sounds very attractive. Crops genetically engineered to be resistant to drought or disease could mean fewer losses and a possible solution to the constant threat of famine that looms over many parts of the world. But world hunger is not that simple, as food shortages can occur due to complex political, social, and economic factors.

Actually, the main goal of traditional breeding techniques and modern biotechnology is the same, namely how to insert a gene or several genes from a donor organism that carries or has the desired good traits into an organism that does not have these traits (strain). In obtaining major advances in agriculture through biotechnology, humans should be grateful to a gene that can be borrowed from a bacterium commonly found in farmlands known as *Bacillus thuringiensis*, often abbreviated as Bt only. The Bt gene is capable of encoding the production of a toxin that is considered safe for humans, but is highly effective at killing certain types of insects, including the European corn borer, a type of insect that is capable of tunnelling by drilling through stems, corn cobs leaves, and seeds, causing a lot of losses to corn farmers.

BT was so effective for organic farmers who have used it as a natural insecticide for decades. When the caterpillars of the corn borer bug bite and eat the leaves, stems, and kernels of BT maize, the toxin it produces attacks the caterpillar's digestive tract, and the caterpillar dies after a few days. BT maize is also resistant to corn rootworm, a corn pest that typically costs billions of US dollars annually and accounts for half of all insecticides used<sup>28</sup>. Compared to regular maize, Bt maize has dense roots, while regular maize has sparse, thin roots.

The development of biotechnology in obtaining new food products has the potential to replace stainless steel bioreactors or fermenters with plants capable of producing various types of medicines, vitamins and even vaccines. If the dream is realised, biotechnology can transfer the processes that occur in these stainless steel vessels to plantations that produce various types of bio active *components of natural processes back to nature*.

## **2. The Legal Protection for Food Consumers of Genetically Engineered Products in Indonesia**

There are two main duties that are the responsibility of the state. First, the state is obliged to provide security from all threats of any kind for all its citizens. Second, the state must also encourage and create economic prosperity for all citizens. Security is usually the main pillar for the realization of prosperity. An unstable situation, both socially and

---

28 Zat-Zat Yang Digunakan Untuk Pengelolaan Biopest., *Echo Community*, n.d., <https://www.echocommunity.org/id/resources/931b7428-29c6-4527-a244-d7aeef34dbfb>.

politically, will make it difficult to realize prosperity. However, security stability will also be difficult to realize if people's welfare is not guaranteed.<sup>29</sup>

According to Nicholas Barr, economic development carried out by a welfare state must be correlated with the benefit and prosperity of the people. This principle is the main task that must be realized in a welfare state. There are two things that are directly related to economic development efforts: first, economic development efforts must make people more prosperous, not the other way around; second, the goal of realizing a welfare state is not only for *reasons of equality*, but also for the sake of efficiency in *the economic process*. Ideally, the reasons for equality or equity do not conflict with the goal of efficiency in the economy. Both of these are the objectives of the welfare state.<sup>30</sup>

Within the context of legal protection for consumers of genetically modified food products, it is necessary to review their relationship with human rights<sup>31</sup>. After the development of the first, second, and third generations of human rights, a new understanding of human rights of the fourth generation was obtained, namely the conception of human rights seen in a horizontal perspective. Both the first-generation, second-generation and third-generation conceptions of human rights see human rights from the perspective of vertical power relations between *The People Versus The Ruler, The Ruler Versus The Ruled, And The People Versus The State*.<sup>32</sup> The conception of human rights of the first three generations equally negates (negates) the factors of horizontal oppression between groups of people, and even by producers against consumers whose patterns of power relations are not vertical and hierarchical.

If horizontal conflicts arise, the state is still to blame, because the perspective is absolutely vertical. In reality, it is not enough to state that the state has failed to provide protection and is therefore responsible for failing to guarantee human rights in action. Such a black-and-white approach only simplifies the complexities of horizontal relations between pluralistic groups. On the other hand, today the business world has grown to have a very dominant influence in the life of society and the state. Global capitalism continues to encourage the development of so many multinational companies that are very dominant in influence throughout the world. In fact, the influence of these multinational companies is far greater than that of state units, let alone countries that are relatively small in size, both in terms of population and in terms of

---

29 Tim Peneliti PSIK., *Negara Kesejahteraan & Globalisasi: Pengembangan Kebijakan Dan Perbandingan Pengalaman*, Jakarta, Pusat Studi Islam dan Kenegaran Universitas Paramadina, 2018

30 Nicholas Barr., *The Economic of the Welfare State*, California, Stanford University Press, 2018.

31 Yuliati Yuliati., *Perlindungan Hukum Bagi Konsumen Terkait Perbedaan Pangan Hasil Rekayasa Genetika Di Indonesia*, *Arena Hukum*, Vol. 11, No. 3, 2018, page. 5.

32 Saifudin Anwar., *HAM Dan Kewarganearaan*, *Academia*, n.d., [https://www.academia.edu/15503078/HAM\\_dan\\_Kewarganearaan](https://www.academia.edu/15503078/HAM_dan_Kewarganearaan).

their influence on the world economy.

The time has arrived for scholars to consider a new conception of human rights, a conception of human rights based on oppressive structural imbalances beyond the understanding that has arisen from the vertical relationship between the state and its people. This new conception can be referred to as the fourth generation of human rights, or even referred to as the second generation with the assumption that the first three generations both understand human rights in a vertical perspective, while this new generation sees the conception of human rights in a horizontal perspective.

Among these fourth-generation human rights can be considered, for example, the rights of consumers vis-à-vis producers who have a dominant influence in market life. Similarly, all types of human rights from the first to the third generation also apply to various dominant groups in society. Although the state remains the responsible actor, dominant groups in society must also be seen as actors who must ensure respect and protection of human rights.

This new perspective is very important to introduce and promote considering that the actors who determine the idealized balance of collective life today are not only the state (state), but also the players in the market (market), and the actors in civil society. The state actors are called state organs, the actors in the market are called entrepreneurs or business institutions, and the actors in civil society are groups, community organizations and non-governmental organizations. All three must be strengthened equally, and must also be expressly prohibited from oppressing each other, between groups or within groups<sup>33</sup>.

Through Law No. 11/2005 on the Ratification of the International Covenant on Economic, Social and Agricultural Rights, the government ratified the International Covenant on Economic, Social and Cultural Rights. This covenant contains, among other things, the responsibilities of the state in respecting, protecting and fulfilling the right to food for its people. In other words, food is a human right whose fulfillment is the responsibility of the state. The consequence of the ratification is that the government must amend all laws that are not in line with the provisions of the Covenant on ESCR, including on food.<sup>34</sup>

There are at least four reasons why changes to food laws must be made immediately, namely:

- a. The protection of people's rights to food by the state, and legal protection of people as consumers is an essential obligation;
- b. Laws can guarantee the fulfillment of government responsibilities, the purpose of which is to improve the welfare of the people through sustainable food supply;
- c. The food crisis that has hit the world has become a valuable lesson in the importance of a nation's ability to meet its food needs. So that

---

33 Jimly Asshiddiqie., *Pokok-Pokok Hukum Tata Negara Indonesia Pasca Reformasi*, Jakarta, PT. Bhuana Ilmu Populer, 2017

34 Irham., *Konvenan Ekosob Dan Soal Pangan*, *Harian Umum Kompas*, 2018.

the Government can guarantee that its citizens are provided with food; And

- d. Economic development can be sustainable if people's fundamental right to food is fulfilled. If the Government provides food for the community, development of other sectors can be carried out more quickly.

Indonesia already has a Food Law, namely Law No. 7 of 1996 and Law No. 18 of 2012. Still, the content of the Food Law, in addition to not being in accordance with the provisions of the ESC Covenant, has also not touched on the four aspects mentioned above. Indeed, the Food Law was enacted to anticipate the era of globalization, where world trade in food commodities is considered both an opportunity and a threat to the nation's economy. Opportunities for food commodities that have high competitiveness, but threats for low quality food commodities.<sup>35</sup> This condition is created due to the strictness of developed countries in determining the requirements, quality and safety of food in the global trade system.

The existence of the Food Law is also an effort to encourage the Indonesian food industry to become a modern industry and able to compete in the international market. The Food Law is expected to create an Indonesian food industry that can meet the demands of the international market, has high efficiency and productivity, applies modern technology and management, and has high added value.

In addition, the Food Law was also made in order to protect the public from the dangers of chemicals present in food products, both those produced abroad and domestically. This is done as a preventive measure considering the increasing possibility of circulation of food products that do not meet health and safety requirements for the public. Last but not least, the Food Law is a response to the food distribution and procurement system that does not guarantee sufficient availability for the Indonesian population. This is evident from the trend of increasing difficulty in meeting the availability of sufficient food for the community.

The Food Law removes the "obligations and responsibilities of the state in the fulfillment of the right to food", by passing on some of the burden to the community (Article 45). What needs to be criticized is the delegation of responsibility for food availability to the community. If the community must also be responsible for food sufficiency, the question is, what about the 16.8 percent of poor people, according to 2020 data who are unable to provide for themselves.

The government in the Food Law should be further emphasized, whether it is the central government or local governments (Article 60). This assertion is necessary considering that in the context of regional

---

35 Agriani Hermita Sadeli dan Hesty Nurul Utami., Sikap Konsumen Terhadap Atribut Produk Untuk Mengukur Daya Saing Produk Jeruk, *Economic Journal Trikonomika*, Vol. 12, No. 1, 2014.

autonomy, it is the regional governments that have a more central role in fulfilling food availability. On the contrary, from Article 60, it seems that the duties of regional governments in food affairs are only when necessary. Clarity on the role of local governments will also emphasize the need for commitment of local governments together with the central government to ensure adequate food for all levels of society.

Regulation of food as a trade commodity as regulated in the Food Law is essential in increasing the competitiveness of national food products<sup>36</sup>. However, food regulation in the context of "fulfilling the livelihood needs of many people" is a fundamental issue that should not be ignored. Economic development requires harmony between government and regions, and this harmony must be reflected in the new Food Law. However, it should also be noted that the policy of developing modern biotechnology for legal protection for consumers of genetically engineered food products requires a careful balance. On the one hand, the government needs to guarantee the level of food safety of genetically engineered products and ensure the implementation of the precautionary principle, on the other hand, the government also needs to support the progress of science and technology and develop food potential.<sup>37</sup>

#### **D. CONCLUSION**

There is no special legal protection for consumers of genetically engineered food products because it still refers to the consumer protection contained in the GCPL Law. Apart from that, repressive protection is final protection in the form of fines, imprisonment and additional penalties if violations occur. Genetic engineering has enormous potential, especially in overcoming food shortages, although it still causes consumer controversy. Economic development requires harmony between government and regions, and this harmony must be reflected in the new Food Law. However, it should also be noted that the policy of developing modern biotechnology for legal protection for consumers of genetically engineered food products requires a careful balance. Modern biotechnology is one of the tools that can be used to ensure food security. For this reason, good cooperation and effective consultation are needed between stakeholders related to food safety issues, namely the government, industry working in food genetic engineering, non-governmental organizations, and academics.

---

36 Fauzin., Pengaturan Impor Pangan Negara Indonesia Berbasis Pada Kedaulatan Pangan, *Jurnal Pamator*, Vol. 14, No. 1, 2021, page. 1–9.

37 Sinta Dewi, *Hukum Dan Perkembangan Masyarakat: Suatu Tinjauan Kritis Atas Perkembangan Hukum Di Indonesia*, ed. Achmad Gusman Catur Siswandi, Bandung, Tim Editor Kumpulan Karya Ilmiah Para Ahli Hukum Dalam Rangka Purna Bakti di Unpad, 2008.

## BIBLIOGRAPHY

### Journals:

- Agriani Hermita Sadeli dan Hesty Nurul Utami., Sikap Konsumen Terhadap Atribut Produk Untuk Mengukur Daya Saing Produk Jeruk, *Economic Journal Trikonomika*, Vol. 12, No. 1, 2014;
- Busch L., Food Standards: The Cacophony of Governance, *Journal of Experimental Botany*, Vol. 62, 2011;
- Fauzin., Pengaturan Impor Pangan Negara Indonesia Berbasis Pada Kedaulatan Pangan, *Jurnal Pamator*, Vol. 14, No. 1, 2021;
- Gunawan, Johannes., Tanggung Jawab Pelaku Usaha Menurut Undang-Undang Nomor 8 Tahun 1999 Tentang Perlindungan Konsumen, *Jurnal Hukum Bisnis*, Vol. 8, 1999;
- Kahan DM; et.all., Cultural Cognition of Scientific Consensus, *Journal Risk Res*, Vol. 14, 2011;
- Mahsus., Kontroversi Produk Rekayasa Genetika Yang Di Konsumsi Masyarakat, *Jurnal Biologi Tropis*, Vol. 14, No. 2, 2014;
- Niru Anita Sinaga dan Wiwik Sulisruditin., Pelaksanaan Perlindungan Konsumen Di Indonesia, *Jurnal Hukum Dirgantara FH-Universitas Surya Darma Jakarta*, Vol. 5, No. 2, 2015;
- Paarlberg RL., The Global Food Fight, *Foreign Aff*, Vol. 79, 2000;
- Suwardike, Putu., Quo Vadis Pangan Produk Rekayasa Genetika Di Indonesia, *Ejurnal Unipas*, Vol. 2, No. 1, 2019;
- Sydney E. Scott; et.all., An Overview of Attitudes Toward Genetically Engineered Food, *Annual Review of Nutrition*, Vol. 38, 2018;
- Yuliati, Yuliati., Perlindungan Hukum Bagi Konsumen Terkait Perbedaan Pangan Hasil Rekayasa Genetika Di Indonesia, *Arena Hukum*, Vol. 11, No. 3, 2018;

### Books:

- Asshiddiqie, Jimly., 2017, *Pokok-Pokok Hukum Tata Negara Indonesia Pasca Reformasi*, PT. Bhuana Ilmu Populer, Jakarta;
- Dewi, Sinta., 2008, *Hukum Dan Perkembangan Masyarakat: Suatu Tinjauan Kritis Atas Perkembangan Hukum Di Indonesia*. Edited by Achmad Gusman Catur Siswandi, Tim Editor Kumpulan Karya Ilmiah Para Ahli Hukum Dalam Rangka Purna Bakti di Unpad, Bandung;
- Hetami Kamila., 2009, *Pelabelan Produk Pangan Yang Mengandung Bahan Rekayasa Genetika Sebagai Wujud Asas Keterbukaan Informasi*, Universitas Diponegoro, Semarang;
- Irham., 2018, *Konvenan Ekosob Dan Soal Pangan*, *Harian Umum Kompas*;
- Majalah Berita Mingguan GATRA., 2018, *Ironi Impor Negeri Tahu Tempe*;

- Mangu Sitepoe., 2020, *Rekayasa Genetika*, PT. Gramedia Widiasarana Indonesia, Jakarta;
- Nicholas Barr., 2018, *The Economic of the Welfare State*. Stanford University Press, California;
- Oekan S. Abdoelah; et. al., 2022, *Rekayasa Genetika: Tantangan Dan Harapan*. Unpad Press, Badung;
- Tim Peneliti PSIK., 2018, *Negara Kesejahteraan & Globalisasi: Pengembangan Kebijakan Dan Perbandingan Pengalaman*, Pusat Studi Islam dan Kenegaran Universitas Paramadina, Jakarta;
- Widayanti, Hesty., 2023, *Bioteknologi: Imperialisme Modal & Kejahatan Globalisasi*. Edited by Ika N. Krishnayanti, Insist Press, Yogyakarta;

### **Regulations:**

Diktum Pertimbangan dalam Undang-Undang Republik Indonesia Nomor 7 Tahun 1996 Tentang Pangan (n.d.).

Penjelasan Undang-Undang Nomor 7 Tahun 1996 Tentang Pangan (n.d.).

### **Websites:**

- Pratama, Ray., Teori Perlindungan Hukum, *Blogspot*, 2023, <https://raypratama.blogspot.com/2015/04/teori-perlindungan-hukum.html>;
- Putri, Oktaviani Syah., Hormon Bovine Somatotropin, *Academia*, n.d., [https://www.academia.edu/25326907/Hormon\\_Bovine\\_Somatotropin](https://www.academia.edu/25326907/Hormon_Bovine_Somatotropin);
- Saifudin Anwar., HAM Dan Kewarganearaan, *Academia*, n.d., [https://www.academia.edu/15503078/HAM\\_dan\\_Kewarganearaan](https://www.academia.edu/15503078/HAM_dan_Kewarganearaan);
- Suwanto A., Genecally Modifial Organisme Keragaman Genetik Dan Preferensi Manusia, *Genetica*, 2016, <https://adoc.pub/genetically-modified-organisms-gmos-keragaman-genetik-dan-pr.html>;
- BBC., Teknologi: Pro-Kontra Metode Kloning, Dari `Domba Dolly, Anjing Peliharaan, Hingga Upaya Membangkitkan Gajah Mamut Dari Kepunahan, 2022, <https://www.bbc.com/indonesia/vert-fut-61140190>;
- Tri Agus Siswoyo., Keamanan Pangan Produk Rekayasa Genetika, *Repository Unej*, 2007, <https://repository.unej.ac.id/handle/123456789/57929>;
- Echo CommunityZ., at-Zat Yang Digunakan Untuk Pengelolaan Biopest, n.d. <https://www.echocommunity.org/id/resources/931b7428-29c6-4527-a244-d7aeef34dbfb>.