1. "Frankenfoods" or Rice Bowl for the World: The U.S.–EU Dispute over Trade in Genetically Modified Organisms

This simulation is designed to develop skills in cross-cultural negotiations with an emphasis on multi-stakeholder dialogue and exchange.

Synopsis

On August 18, 2003, members of the World Trade Organization (WTO) met in Geneva to hear a U.S. request for a full-blown dispute-settlement proceeding regarding European Union (EU) restrictions on the import and sale of goods produced with or containing genetically modified organisms (GMOs). In late 1996, Monsanto exported the first genetically modified soybeans to Europe, assuming that consumers would accept them as Americans had. The timing was not good, however, as the GMO issue became linked in the minds of Europeans with "mad cow" disease, an outbreak that was first thought limited to animals but eventually killed several humans. Neither GMO companies nor European authorities were prepared for the reaction, as public sentiment immediately turned against the technology. Britain's *Daily Mirror* ran a front-page headline in 1998 warning against "Frankenfood." In 1998, five European countries said they wouldn't process any more applications for genetically modified crops, and the EU upheld this decision.[1]

In May 2003, the United States filed a complaint with the WTO in hopes of getting the ban lifted. In response, in the summer of 2003, the European Parliament passed groundbreaking legislation that would require detailed labeling of all food products containing as little as 0.9 percent of genetically modified ingredients, and would require origin tracing in order to gain approval. Although these steps were designed to move toward lifting the moratorium, many in the United States charged that these rules would be unworkable, would be discriminatory toward imports, and would violate WTO sanitary and phytosanitary (SPS) agreements.[2]

Paradoxically, both sides claimed to be concerned about public health and environmental safety. The U.S. government and industry argued that the EU was in violation of WTO provisions requiring nondiscriminatory treatment of like or similar goods. The Americans contended that uninformed Europeans were spreading unfounded fears about GMOs.[3] In addition, the U.S. government argued that requiring labels for GMO products would result in segregating GMO foods from non-GMO foods and, in so doing, limit their consumer appeal. Furthermore, the threshold of 0.9 percent was far too restrictive, according to U.S. officials.

Description of Exercise

This exercise provides an interactive case simulation in which you will be assigned to a group that will assume the role of one of several stakeholder groups in the actual dispute between the United States and the EU over trade in GMOs. In this case, the U.S. government, on behalf of U.S. farmers and the biotech industry, argued that the EU is in violation of global trading rules. Europe responded that it has the right to protect the health and safety of its population and domestic crops, given the uncertainties over the effects of GMOs on humans, animals, and plants.

This simulation assumes that the United States and the EU proceed through the WTO dispute-settlement procedures, and it places participants in the roles of the various disputants: the U.S. government, the European Union, a consortium of GMO companies, a group of interested developing countries, a group of NGOs, and a WTO Dispute Settlement Panel.

Genetically Modified Food

According to some estimates, over half the world's soy, a key ingredient in products ranging from candy bars to animal feed, comes from genetically modified strains. In 2005, about 8.5 million farmers in 21 countries were planting genetically altered seeds.[4] The global market value of genetically modified crops in 2006 was $6.15 billion. Yet genetically modified food has quickly become as controversial as cloning. The central feature of a GMO is human alteration of the DNA of an organism through the use of biotechnology. Proponents and opponents in the genetic-modification debate have been eager to weigh in on the benefits and risks associated with using GMOs. Each side has identified a number of key arguments to support its position:

Benefits

- Increased yields.
- Herbicide-tolerant crops encourage less tilling/soil erosion.
- Insecticidal crops encourage less use of harmful pesticides.
- Virus-resistant crops.
- Development of drought-resistant crops.

Risks

- Possible allergic or other health responses in humans/livestock.
- Creating new or more vigorous pests and pathogens.

- Harm to "nontarget" beneficial species.
- Unwanted gene flow.
- Irreparable changes in species diversity and in genetic diversity within a species.

Genetically engineered products are not new. Insulin used in medicine is an example of genetic engineering. The insulin gene from the intestines of pigs is inserted into bacteria.[5] The bacteria grow and produce insulin, which is then purified and used for medical purposes. Other genetically engineered products include the chemical compound aspartame, used as a sugar substitute, and the hepatitis B vaccine.

A large barrier to the acceptance of GMOs worldwide is the fuzzy international law regulating GMO trade. The Agreement on Sanitary and Phytosanitary Measures (SPS Agreement), part of the 1994 agreement that established the World Trade Organization, requires that food safety regulations be based on scientific risk assessments.[6] Most studies to date seem to point to the conclusion that foods containing GMOs are safe for human consumption. But the fact that a majority of these studies were conducted by or for U.S. biotech firms independent of any third-party overseers suggests to some that the findings are suspect. In 1997, the United States won a complaint with the WTO against the EU concerning an EU ban on hormone-treated beef, but the EU continued to enforce the broader ban on approval of newly introduced GMO products because a large majority of Europeans are steadfastly against the use of GMOs.

The United States, along with Canada and Argentina, filed another complaint with the WTO in 2003, claiming that the EU's ban on genetically modified products violates international trade rules. In 2006 the WTO ruled in favor of the United States, claiming that the EU had indeed violated recognized trade rules. Now the EU is seeking to limit GMO sales through tougher approval processes.

The U.S. Position

In the United States, 86 percent of soy and more than 40 percent of corn are genetically modified. The U.S. government argues that the EU ban on genetically modified food not only is hurting U.S. commerce but also is discouraging developing countries from growing genetically modified crops for export.

The U.S. government believes that genetically modified products could reduce hunger and poverty in the world's poorest nations, and that by restricting the use of GMOs, the EU is aggravating starvation in the developing world.[7] Biotechnology, according to U.S. policy makers and biotech executives, offers the prospect of crops that are more resilient, require less water, and give higher yields. Thus, the EU ban on genetically modified foods indirectly contributes to starvation by denying access to more efficient agricultural techniques.[8] Furthermore, according to Robert B. Zoellick, the U.S. trade representative, uninformed European attitudes continue to spread unfounded fears in developing countries, where the need for the increased yields offered by genetically modified foods is greatest.[9] In addition, according to the U.S. government, GMO technologies would help developing countries dramatically increase export earnings. The U.S. government is not only concerned that Europe will prevent the use of GMOs, but also that the EU model could serve as a blueprint for other countries, including those in the developing world, that plan to regulate GMOs.

In its recent WTO dispute with the EU, the United States argued that the EU's ban on GMOs violated international trade rules. In February 2006, the WTO dispute panel ruled in favor of the United States, Canada, and Argentina, deciding that the EU and six member states had broken trade rules by banning the import of genetically modified foods. The ban caused "undue delays" in the approval of GMO products, thereby violating the SPS Agreement.[10]

Along with continued criticism from Europe, the GMO cause has experienced some setbacks in the United States as well. For example, Aventis CropScience, developer of StarLink corn, was forced to pay $10 million to Iowa farmers and grain elevators in premiums and compensation for losses tied to growing and handling genetically modified grain that contaminated the grain supply. Although the government had approved StarLink for use in livestock feed, it was not cleared for human consumption after possibly allergic reactions were reported in people who consumed the protein that StarLink produces. Hundreds of food products were recalled in 2001 after testing showed residues of the StarLink protein in taco shells and other food. Some estimates suggest costs could eventually exceed $200 million.[11] Anti-GMO activists in the United States continue to make progress. In 2007, rice producers in California called for a moratorium on transgenic rice in the state, and a USDA ruling could stop the production of genetically modified alfalfa throughout the United States.[12]

The EU Position

For most Europeans, the debate over genetically modified foods is closely intertwined with cultural, environmental, and health issues. Earlier surveys suggested that nearly 80 percent of Europeans do not want to consume products with GMOs,[13] although European opinion about GMOs seems to be getting more optimistic. A 2006 Eurobarometer survey reported that, of those with a decided opinion on "green" biotechnology, only 58 percent discouraged it. This brings European opinion on GMOs close to that of Canada.[14]

At the heart of the debate over genetically modified products is the growing disagreement between the United States and Europe over what steps are necessary to protect

public health and the environment.[15] A major obstruction to settling this argument is deeply embedded in European culture. Food and culture are closely linked in Europe's historical and contemporary life. Many European regions celebrate their unique food traditions and local produce. Unlike Americans, whose food choices are driven by accessibility and convenience, Europeans try to limit the influence of corporate food companies on their food choices. Respecting their preferences, global food companies such as McDonald's, Burger King, and Coca-Cola have pledged to keep all products for sale in Europe free of GMOs.[16]

Another obstacle to the use of GMOs is the fact that, in recent years, Europe experienced several health crises—notably the outbreak of bovine spongiform encephalopathy (BSE), commonly known as "mad cow" disease—that alerted people to the possible dangers lurking in the food supply. Experts agreed that beef from cows with the disease was perfectly safe; then dozens of people died. Biotech firms will have difficulty convincing Europeans to consume GMOs in the absence of long-term statistical evidence from third parties supporting their safety claims.

Exacerbating the issue is the persistent view in Europe that the United States continues to engage in a unilateral—some would say imperial—foreign policy. Regardless of the ongoing battle over GMOs, many people in Europe support challenging U.S. positions as a matter of principle—as a demonstration of European strength and cultural unity. These strong views will continue to influence European consumer choices no matter the outcome of the current dispute. Resistance by European customers to all U.S. foods could overshadow any GMO benefits to the U.S. economy if, for example, the labeling provision is not upheld. The EU also argues that U.S. corporations are squeezing farmers around the world through their control of exporting and processing activities with the goal of developing a lower-cost, vertically integrated global supply chain.

European and North American protesters have been seen with banners calling genetically modified products "Frankenfoods," a label that deliberately associates them with frightening and unpredictable risks. Europe formally adopted a "precautionary principle" (described below) that takes a cautious approach to the approval of new bioengineered food, assuming that there may be unforeseen effects unless proven otherwise.

The EU argues the United States is motivated exclusively by economic considerations and that the U.S. government is responding only to the agribusiness and biotech firms that stand to gain financially if current restrictions are lifted. For example, in 2003, ten agricultural conglomerates, many of which are active in GMOs, owned almost 40 percent of the world's seed market.[17] According to Martin Rocholl, director of Friends of the Earth Europe, "The U.S. Administration, funded by the likes of GMO giant Monsanto, is using the undemocratic and secretive WTO to force-feed the world foods containing GMOs. Decisions about the food we eat should be made in Europe and not in the White House, the WTO or Monsanto's HQ. We welcome the European Commission's commitment to fight this aggressive U.S. policy and ensure that Europe's wildlife and people are protected from the threats of GM crops."[18]

Since the WTO's 2006 decision, which ruled the EU's ban on genetically modified products illegal, the EU has fought to control the presence of GMOs on its own turf. Under the SPS Agreement, the EU originally banned all genetically modified products on the grounds that they could not be proven "safe." However, the WTO decision claimed that enough evidence is now available to perform adequate risk assessments of genetically modified products and, furthermore, that most existing risk assessments do not provide enough of a reason for banning such products.[19] The EU's new authorization process will likely be the stage for new disputes regarding the international sale of genetically modified products.

GMOs are starting to become more prevalent in Europe, with GMO crop area expected to increase over the next decade. "It will be slow but within 10 years GMOs will have reached the point of no return," said Jean-Michel Duhamel, Monsanto's director for southern Europe.[20] But common anti-GMO sentiment is still strong. Some European companies, such as Unilever, produce genetically modified products, but they don't sell those products in Europe because of consumer opposition. Germany's Metro AG chain, like other major European grocery stores, doesn't allow bioengineered ingredients in its store brands.[21] Labeling rules proposed to replace the ban have generated heated responses from European GMO opponents. Greenpeace promised to marshal thousands of volunteers throughout Europe to police grocery stores in the weeks that follow the launch of labeling. "If consumers start buying it and get used to it, we will lose," says Dan Hindsgaul, the head of Greenpeace's effort. In 2006, Greenpeace sent a petition, calling all EU member states to alter their GMO-labeling rules to include products such as meat, eggs, and milk, which come from animals that are fed with genetically modified products. According to Greenpeace, the typical diet of a farm animal in Europe consists of up to 30 percent GMOs.[22]

Substantial Equivalence and the Precautionary Principle

The issue of scientific proof has been a major point of contention. At the heart of the debate are the concepts of substantial equivalence and the precautionary principle. The term *substantial equivalence* was first mentioned in a 1993 Organization for Economic Cooperation and Development (OECD) report on the safety of biotechnology. Members of the OECD agreed that the most practical

approach to determining the safety of foods derived by biotechnology is to consider whether they represent a "substantial equivalent" to analogous traditional products. The term *substantial equivalence* was borrowed from the U.S. Food and Drug Administration's (FDA) definition of a class of new medical devices that do not differ materially from their predecessors and thus do not raise new regulatory concerns. However, after considering the possible unseen effects of foods that contain GMOs, the EU argues that it is difficult to directly apply the FDA definition of *substantial equivalence* in this case. The concept of substantial equivalence was applied for the first time to a GMO in the safety assessment of the Flavr Savr tomato before it went to market in 1994. Data collected revealed that the modified tomato was equivalent to the nonmodified parent plant, and genetically modified tomatoes were accepted under FDA rules.

The EU adopted an approach to health and safety risks known as the "precautionary principle." In common parlance, this approach may be summed up as, "Better safe than sorry." Under this policy, new products are not assumed to be safe unless scientifically shown to be so. According to some in the EU, there is little scientific, third-party evidence that shows foods containing GMOs are safe for consumption. The precautionary principle thus provides justification for restricting GMOs unless they can be shown to be safe in all respects.

Biotech and Agricultural Firms

Because of their international reach, several large U.S. firms, including Monsanto and Du Pont, that support biotech and use biotech crops in their products have pressed the U.S. government to take a strong stand on the issue. The United States is the largest agricultural exporter in the world, and U.S. officials argue that trade restrictions of any kind will only undermine an already sluggish global economy. At stake for large biotech multinationals is a substantial amount of future commerce. These firms have claimed huge losses since the EU ban was put into effect in 1998, projecting that the ban has cost them close to $300 million annually. U.S. government policy has been supportive of biotech firms and a strong advocate of their ability to help alleviate famine in developing countries by producing more abundant yields in areas notorious for infertile soil and a lack of other resources.

The reluctance of key foreign trading partners—the EU, Japan, and other nations—to import genetically modified products has become a significant problem for American farmers as they compete in the international marketplace. (In 2003, Australia joined the United States as a third-party supporter in the WTO dispute against the EU over the ban on GMO products. Australia is a minor producer of GMO crops, including cotton and carnations.[23] Support for GMOs in Australia primarily comes from the national government, while state governments and public opinion tend to oppose GMOs.) In the United States, genetically modified crops, including corn and soybeans, are now planted on millions of acres of farmland. If current restrictions on genetically modified foods aren't lifted, American farmers will lose millions of dollars from unusable crops. In March 2004, the American Soybean Association (ASA) stepped forward to take a lead role in preparing the WTO challenge of the EU's labeling ban. In addition, the ASA claims the labeling threshold of 0.9 percent is too stringent and lacks statistical backing. Also worsening the farmers' plight is the fact that worldwide commodity prices have dropped over the past decade.[24]

Developing Countries

In developing countries, farmers have been resisting pressure to grow bioengineered crops—even if they could improve their productivity and reduce hunger—for fear of losing their European market.

GMO supporters believe that the modified organisms can resist certain viruses and extreme temperatures, enabling crops to survive with less energy than is normally required with nonmodified seeds. This ability could be very useful in regions that don't have much fertile soil and lack other usable resources. More abundant yields would help feed the large population in most developing countries. For example, yields could be increased by growing insect-resistant crops in regions where bugs have seriously restricted outputs. Proponents believe that foods containing GMOs will be able to alleviate starvation and hunger in needy places. The United States insists that GMOs do not pose a risk to developing nations because the seeds are destined for consumption, not planting.[25] GMO crops are also considered by some to be better for regions such as Africa where lack of education and training in the use of fertilizers and other modern farming techniques hampers agricultural development. Transgenic crops make up for this lack of education because the technology to control insects is already packaged in the seeds and farmers just have to plant them.

Skeptics argue that the skewed food distribution system, not lack of access to GMOs, is responsible for food shortages in developing countries. According to this view, developing countries are underfed because most of the food that they generate is sold in the export market to the wealthy developed nations. Furthermore, they question how poor developing countries will be able to afford the genetically modified seeds. U.S. agricultural firms own the patents, and the suspicion is widespread that U.S. companies will limit the availability of nonmodified seeds in order to support the sale of modified ones. Also, many people in the developing world remain skeptical about the health effects. In late June 2002, Zambia's minister of commerce, trade, and industry, Dipak Patel, proclaimed that African nations would not accept genetically modified food until it has been proved safe for human consumption.[26]

South Africa, one of only a few African nations that allow the planting of genetically modified crops, is expected to test a strain of genetically modified maize in late 2007. The prospects for GMOs in Africa, especially maize, could be on the rise since the 2006 maize streak virus, which destroyed anywhere between 5 and 100 percent of African farmers' crops.[27]

In Brazil, controversy surrounded President Lula da Silva's Provisionary Measure 131, which authorized the commercialization of genetically modified soy. Opponents of GMOs in Brazil suggested that the governing administration, notorious for bribery and scandals, was influenced by its relationship with Monsanto, which owns the patent on the most popular genetically modified soy. Brazilian legislators agreed and proposed that genetically modified soy in Brazil be burned and replaced with conventional crops beginning in February 2004. Later, under pressure from some farming interests, the legislators reversed position, and genetically modified crops and seeds are now permitted.

The UN Cartagena Protocol, an agreement intended to educate emerging-market countries about the benefits and risks of genetically modified products, was activated in June 2003 when the Republic of Palau became the 50th country to ratify the bill. The agreement is designed to help educate emerging-market countries about the risks of proliferated GMOs.

Simulation Instructions

You will be assigned to one of six groups:

1. The U.S. government.
2. The European Union.
3. A consortium of companies that manufacture or use GMO products, including Monsanto and Cargill.
4. A group of interested developing countries.
5. A group of nongovernmental organizations (NGOs) opposed to the exchange of GMO products.
6. A WTO Dispute Settlement Panel.

Participants should spend 20 to 30 minutes reviewing the case and formulating arguments that advance the agenda of their group. Refer to the "GATT/WTO Principles" section below and to the background material above for information. After the initial session, groups whose interests may be similar may consult with each other for an additional 10 to 15 minutes to coordinate presentations and minimize duplication. For example, the consortium of GMO companies might consult with the U.S. government. The WTO Dispute Settlement Panel is composed of "judges" and should be treated respectfully. Each group should make an opening presentation of no more than 10 minutes to the WTO panel. The presentation should summarize the main points of the argument and urge a particular decision by the panel. Panel members may then ask questions of the groups for an additional 15 minutes. After each group presents its argument, the WTO panel will deliberate for 20 minutes and present its findings.

The issue for decision by the WTO Dispute Settlement Panel is whether the EU prohibition on imports of genetically modified products is consistent with WTO principles. Depending on the ruling in this matter, the WTO panel may offer specific remedies for how the ruling should be implemented. Further, the panel may wish to consider whether the proposed labeling and origin requirements (which in theory would allow the resumption of imports of genetically modified products) would or would not resolve the dispute, and whether this ban itself would be consistent with WTO principles.

GATT/WTO Principles: General Obligations

The General Agreement on Tariffs and Trade (now the World Trade Organization) was founded after World War II to establish rules for international trade practices and to resolve disputes among nations. Two fundamental principles govern most GATT/WTO provisions: most-favored-nation treatment and national treatment. *National treatment* refers to the obligations of the contracting parties to treat the nationals of foreign countries no less favorably than they treat the nationals of their own country. A more common term for this obligation is "nondiscrimination." The GATT/WTO also requires that the parties extend *most-favored-nation treatment* to other parties, so that some countries are not treated more favorably than others. Dispute settlement resolution (when one or more countries accuse another contracting party of violating GATT/WTO rules) is carried out by three- to five-member panels that render reports (decisions).

Exceptions

The GATT/WTO provides for limited exceptions to the above-mentioned obligations. For example, preferential trade agreements such as the EU and NAFTA are permitted to extend better than most-favored-nation treatment to their members under certain conditions. There are also "general" exemptions, which excuse otherwise illegal actions if they are designed to protect public morals, preserve national heritage, and limit commerce in goods made with prison labor. Although the word *environment* is never mentioned, the GATT/WTO does offer a basis for deviating from GATT/WTO principles in support of environmental protection. Specifically, Article XX holds that the GATT/WTO does not prevent contracting parties from taking actions (1) necessary to the protection of human, animal, or plant life or health and (2) relating to the conservation of exhaustible natural resources—provided trade measures affecting international commerce are joined by restrictions on domestic production or consumption.

The Uruguay Round agreement established agreements on the application of sanitary and phytosanitary (SPS) measures and technical barriers to trade (TBT). SPS measures are those necessary to safeguard human, animal, and plant health. Typically, when applied by an individual country, they are designed to safeguard its citizens, animal and plant industries, and environment against the risks posed by exotic pests and diseases, and against general threats to health entering from outside, and to control the incidence and spread of pests and diseases already present.

These agreements established the basis for reducing or eliminating nontariff regulatory barriers unless they respect scientifically substantiated and internationally recognized standards and conformance procedures and technical and labeling regulations. As applied to international trade, SPS protocols include a range of control measures—for example, import requirements; methods of treatment, manufacture, handling and packaging, and storage; inspection and certification requirements; and in some cases outright import bans on some products from certain areas. The major areas covered are plant quarantine measures, animal quarantine measures, and food safety standards. Thus, governments may restrict imports of products that have been found to pose health or safety risks, based on sound, scientific evidence. Specifically, SPS measures must be designed to accomplish one or more of the following objectives:

1. To protect animal or plant life or health within the territory of the member from risks arising from the entry, establishment, or spread of pests, diseases, disease-carrying organisms, or disease-causing organisms.
2. To protect human or animal life within the territory of the member from risks arising from additives, contaminants, toxins, or disease-carrying organisms in food, beverages, or feedstuffs.
3. To protect human life or health within the territory of the member from risks arising from diseases carried by animals, plants, or products thereof, or from the entry, establishment, or spread of pests.
4. To prevent or limit other damage within the territory of the member from the entry, establishment, or spread of pests.

Questions for Discussion After Conclusion of Simulation

1. How does your solution compare to your expectation of the likely actual outcome? What is different or similar in the two approaches?
2. How would you characterize the cultures of Europe (France and Germany) and the United States in terms of Hofstede's scheme? In what ways are the cultures similar, and in what ways do they differ? How might the differences influence approaches to disputes like this one?
3. Why would an approach emphasizing "substantial equivalence" result in an outcome different from the outcome of a policy driven by the "precautionary principle"?
4. How might the United States and EU resolve differences such as this in the future?

Notes

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