



NAGOYA – KUALA LUMPUR SUPPLEMENTARY PROTOCOL ON LIABILITY AND REDRESS TO THE CARTAGENA PROTOCOL ON BIOSAFETY

Hypothetical case studies for group exercises

Case No. 1

Cocoaland is a major cocoa producing country in the world. About 70 percent of its population depends for their living on the cultivation and selling of cocoa. Cocoaland earns, on average, \$2 billion, one-third of its annual gross domestic product, from the export of cocoa every year. Almost 80 percent of the annual export of cocoa ends in Checolatia, a major cocoa importing country that controls a large share of the chocolate production and marketing of the world.

Five years ago, a private agri-business company in Checolatia developed a genetically engineered plant that produces the flavour and other properties that are essential to manufacturing chocolate. The GE plant was approved by Checolatia two years ago for cultivation and commercialization. Last year, Checolatia's cocoa import from Cocoaland dropped by 90 percent. Cocoa farmers in Cocoaland suffered a huge economic loss, as a result. Cocoa farmers were told that there were no buyers of their cocoa any more. Cocoa plantations were abandoned. Farmers left their farm lands. They were forced to migrate to nearby towns. Some families even needed food aid.

Discuss whether Cocoaland and its farmers have suffered any damage as defined in the Supplementary Protocol. Do you see any liability case here? Why?

Case No. 2

The Republic of Apples is known to be one of the countries of origin for different varieties of apples. Wild apple trees are everywhere in the mountain areas of the Republic. Apple export is a major source of revenue.

The Republic of Apples suffers from frequent drought that often results in the decline of apple harvest and, therefore, loss of much needed export revenue. In order to overcome the situation and prevent drought-related consequences, the government of the Republic decided to introduce a drought-resistant genetically modified apple variety. The genetically modified drought-resistant variety was developed by the Agricultural Research Institute of the country.

The genetically modified apple variety was distributed to farmers. Since then apple yields in the country has remained steady even during severe drought seasons. A few years later since the cultivation of the genetically modified drought-resistant variety started, a well-known environmental non-governmental organization (NGO), known as Apple Peace, reported that the new variety had risks to human health. The

NGO claimed that according to information it received from a local hospital about a dozen people fell ill after eating the new apples. No laboratory test results were presented in the report. The hospital confirmed that there was no laboratory data supporting the claim except the allegations by the patients themselves.

Immediately after the publication of the report, several countries banned all imports of apples coming from the Republic of Apples. Such trade disruption began to cost the country enormously. The economic damage has been well over 30 percent of the GDP, the first year only, and it is expected to be so as long as the import ban by the apple importing countries remains in place.

Discuss whether this case falls under the scope of the Supplementary Protocol. Do you think the Republic of Apples has suffered any damage as defined in the Supplementary Protocol? Do you see any liability case here? Why?

Case No. 3

The Democratic Republic of Butterflies is rich in different species of butterflies that are not found elsewhere in the world. Thousands of tourists flock to the country every year to watch the butterflies. Butterfly tourism is a major source of revenue for the Republic. The country is also a well-known destination for Lepidopterists, scientists who study butterflies.

The number and variety of butterflies has been declining over the past ten years. Studies indicated that the decline coincided with the introduction of a pest-resistant genetically modified rose flower in large parts of the neighbouring country, Flower-Coast. Flower Coast is famous for vastly growing a variety of flowers.

The genetically modified rose flowers were introduced into Flower Coast by a local company known as Ultimate Rose. The company imported the seedlings from Rose-tech, a transnational florist company based in the country known as Yugostan.

After years of studies and trials, it was confirmed that the genetically modified roses grown in Flower Coast have cross-bred, through natural gene flow, with the rose flowers grown in the neighbouring country, the Republic of Butterflies. The pest resistant trait of the genetically modified roses introduced and grown by Flower Coast has passed to the flowers in the Republic of Butterflies. It was found out that the trait has targeted the larvae of the butterflies in the Republic of Butterflies and as a result the population of butterflies has declined dramatically and certain endemic species were also lost forever.

Discuss whether the Democratic Republic of Butterflies has suffered any damage as defined in the Supplementary Protocol. Do you see any liability case here? Why? What response measures do you envisage? Who do you think is the operator that the competent authority in the Republic of Butterflies may require to take the response measures?

Case No. 4

Mr. Bean is a coffee farmer in Bunnakia, a country known for its organic coffee export at the international market. Mr. Bean was looking for an improved variety of coffee seeds that could withstand a perennial disease that has been attacking his coffee plants. He finally came across information that a genetically modified coffee variety that is resistant to the disease was available in Nicotine Republic, a country known for its specialization in developing different varieties of coffee seeds.

Mr. Bean obtained an import permit from the Ministry of Trade of Bunnakia. He bought the coffee seeds online through 'Amazon.com' and the seeds were delivered to him immediately. There is a label on the seed boxes indicating that the seeds were developed by Coffee-tech, a biotech company registered in the Nicotine Republic.

Mr. Bean's coffee plantation is located in the coffee growing region of Bunnakia where almost all coffee harvest comes from coffee plants growing in the wild. Mr. Bean started cultivating the imported seeds on his plantation. After few years, neighbouring farmers started complaining that their coffee plants are no more producing the normal size of beans they used to harvest. The coffee beans that they are currently harvesting are smaller in size. Scientific researchers eventually found that the wild varieties of the coffee plants in the vicinity of Mr. Bean's plantation contained transgenes. Further studies were conducted to determine the possible source of the transgenes and the causes of shrinking of the size of the coffee beans. The studies confirmed that there has been gene flow from the genetically modified varieties grown by Mr. Bean to the natural varieties and also attributed the reduction in size of beans to the change in the genetic makeup of the indigenous coffee plants growing in the area. The incident was so extensive that it affected large areas and all the traditional coffee farming communities.

As soon as the studies were released and reported on the media, the demand for coffee beans harvested from the wild species of Bunnakia started to decline. Traditional farmers in the community whose income and livelihood used to depend on the sale of the indigenous coffee harvested from the wild had to look for alternative sources of income. They began to cut trees and clear the forest which once supported their wild varieties of coffee in order to make charcoal and firewood for sale to the nearby towns. Land and forest resources are public property in Bunnakia.

Discuss whether any damage has occurred as defined in the Supplementary Protocol. Do you see any liability case? Who do you think is the operator, if there is any liability case? Why? If you were the ministry of environment of Bunnakia, what steps would you take?

Case No. 5

Gellyland is a country with one of the largest lakes in the world, Lake Kirar. A 1980 study shows that Lake Kirar has abundant fishery resources. The study confirmed also that the lake is home for one rare fish species known as Jack Jelly.

In 1992, the Ministry of Environment and Fisheries of Gellyland issued, for the first time, fishing licences for five fishing companies with exclusive fishing rights on Lake Kirar for the next 20 years. Subsistence fishing by traditional fishermen was, however, still allowed.

In 2010, the Ministry started taking stock of the fishery in Lake Kirar as part of its preparation to issue or reissue the next licences. The experts of the Ministry learned that the fishery stock in the lake has dropped significantly. In fact, they found out that the population of Jack Jelly, the rare species, has collapsed reaching a critically endangered status and may soon become extinct

The Ministry issued moratorium on all fishing activities and launched a massive study into the causes of the significant decline of the fishery in Lake Kirar and in particular the extinction of Jack Jelly. The study was completed in 2011 and the report came out with disturbing findings.

The study revealed that the lake was contaminated with infectious bacteria that disrupted any breeding in the fish stocks. The bacteria contain a gene modified through genetic engineering. Every fish sample

taken from the lake was tested positive to the bacteria containing the modified gene. All the fishing companies and traditional fishermen were investigated how the modified bacteria had been introduced into the lake. All of them confirmed that they have no activity involving any genetically modified organism. The experts expanded their investigation into the nearby settlements and operations. They identified a laboratory, known as Greylab, which has been conducting research on genetically modified microorganisms since 1985.

Greylab has no permit for its laboratory research activities involving GM microorganisms despite the requirement under the 1996 GMO Act of Gellyland. The laboratory was inspected and DNA traces of the same strain of fish-infecting bacteria and the modified gene were found. The manager of Greylab has also admitted that the laboratory had been dumping its waste, without any safety management aiming at destroying the GM microorganisms prior to disposal, into Lake Kirar until 1995.

The Environmental Protection Act of Gellyland was enacted in 1991. The Act prohibits, among other things, the discharge of any effluent into lakes and other water bodies of the country. The Act also has a provision on liability. The provision states that any person who causes damage to the environment shall be liable for the payment of compensation up to a maximum of \$5 million.

The Ministry of Environment and Fisheries initiated, in January 2012, an administrative action against Greylab. Accordingly, it issued an order to Greylab to pay, as penalties and compensation,: (i) \$1 million for conducting GMO research without having the necessary permit in accordance with the 1996 GMO Act; (ii) \$2 million for discharging waste into Lake Kirar in violation of the 1991 Environmental Protection Act; and (iii) \$ 3 million for causing damage on the fisheries of Lake Kirar. Greylab has appealed to the High Court of Gellyland for review of the decision by the Ministry.

The High Court sustained the Ministry's decision. Gellyland is a Party to the Nagoya - Kuala Lumpur Supplementary Protocol. At the time of ratifying the Supplementary Protocol (assuming it entered into force in October 2010) the Government has reached the conclusion that its existing laws – the 1991 Environmental Protection Act and the 1996 GMO Act – fully address damage as defined in the Supplementary Protocol.

What possible legal and factual issues could arise in relation to this case? Discuss.

The issue of whether the Supplementary Protocol applies aside, do you think the payment of the penalties and/or the compensation addresses the damage that has occurred on Lake Kirar's fisheries in a way that meets the requirements of the Supplementary Protocol?