GENETICALLY MODIFIED ORGANISMS (GMO) AND THE EUROPEAN UNION - CASE STUDY-

OYARCE-YUZZELLI, Aarón*

SUMMARY: 1. Preface. – 2. Comment on an European Union Court of Justice Resolution. – 3. European Union (UE) legislation on GMOs. – 4. GMO doctrine. – 5. Biodiversity Convention. – 6. Environment and international commerce. – 7. Biodiversity in Peru and the key role of Native and Farmer's Communities. – 8. Andean Community Biological Diversity Protection. – 9. Conclusions.

1. Preface

The international community has realized that some measures have to be taken in order to provide adequate responses to the environmental problems appeared during the XX century. Due to the environmental situation some international agreements have been made; among the most relevant documents we can mention the Stockholm Declaration of the United Nations Conference on the Human Environment of 1972[1], the UN General Assembly Resolution 37/7 on a World Charter for Nature of 1982, the Rio Declaration on Environment and Development of 1992[2], the Vienna Convention for the Protection of the Ozone Layer of 1985[3], the Convention on Biological Diversity of 1992[4]. This legislation was created in order to have a more sustainable development and to ensure a better life for future generations.

The author will analyze a case brought to the European Union Court of Justice on GMOs commenting the application of the communitarian legislation, the GMOs doctrine as well as the Biodiversity Convention relating to this important new matter. The author will also analyze the Biodiversity protection in Peru and the role of native and farmers

* Professor of International Law and Comparative Law at *Universidad de San Martín de Porres*, Lima, Peru, LL.M. Master in European Private Law, *Università di Roma "La Sapienza*".

[1] See SANDS, Philippe, GALIZZI, Paolo, *Documents in International Environmental Law*, Cambridge, UK 2004. pp. 3-16. The UN Conference on the Human Environment was held in Stockholm from 5 to 16 June 1972. It was convened pursuant to UN General Assembly Resolution 2398 (XXIII) of December 1968, on a proposal from Sweden. Delegates from 113 States attended the Conference, representing most of the UN membership with the exception of USSR, Cuba and a number of other socialist countries. See also: CORDINI, Giovanni, FOIS Paolo, MARCHISIO, Sergio, *Diritto Ambientale Profili Internazionali Europei e Comparati*, Giappichelli Editore, Torino 2005, pp. 1-10

[2] The Rio Declaration on Environment and Development, adopted at the 1992 UN Conference on Environment and Development (UNCED), is intended to develop the principles adopted in the 1972 Stockholm Declaration. The Rio Declaration comprises twenty-Seven principles which set out the basis upon which states and people are to co-operate and further develop international law in the field of sustainable development.

[3] The Vienna Convention for the Protection of the Ozone Layer, was negotiated under the auspices of UNEP, is intended to protect humans and the environment from harmful effects of activities which modify the ozone layer.

[4] The Convention on Biological Diversity, was adopted under the auspices of UNEP. It is designed to protect the earth's biodiversity by promoting sustainable use. After this convention comes the Cartagena Protocol on Biosafety to the Convention on Biological Diversity, 29 January 2000, where the parties reaffirm the commitment to the precautionary approach contained in Principle 15 of the Rio Declaration.

communities, and the Andean Community legislation on biological diversity protection.

2. Comment about a Case of the European Union Court of Justice Resolution

Joined cases C-439/05 P and C-454/05 P appeal the Directive 2001/18/EC-Decision 2003/653/EC-Deliberate release into the environment of genetically modified organisms September 13, 2007

The case

This case concerns an attempt of the Austrian Government to introduce, with the intention to create a farming area free of genetically modified organisms (GMOs), a law imposing a general ban on the cultivation of genetically modified plants or seed, and the breading and release of transgenic animals, in particular for hunting and fishing purposes, in Upper Austria. The proposed national legislation was based on a report entitled "*GMO-Free agricultural areas: design and analysis of scenarios and implementation measures*[5]". Austria then notified[6] the European Commission of its intent in compliance with article 95 (5) [7] of the Treaty.

The Austrian government cited scientific factors in the report, explaining that the release of GM plants and animals to the environment would constitute a threat to the biodiversity and environment of the Upper Austria. The report made reference to possible effects to human health in terms of allergenicity of pollen from both conventional and genetically modified plants.

In consequence, the European Commission requested scientific opinion from the European Food Safety Authority[8] (EFSA) to investigate whether the information in the report contained any new scientific evidence in terms of risks to human health and the environment that would justify such prohibition of GM seeds, propagating material and transgenic animals.

The conclusion of the scientific investigation revealed that there was no scientific

---

[5] See: HOPPICHLER Joseph, *Concepts of GMO-Free Environmentally Sensitive Areas*, Federal Institute for Less-Favored and Mountainous Areas, Vienna. This paper summarizes a two-part study dealing with concepts of GMO-Free environmentally sensitive areas conducted on behalf of the Austrian Ministry of Women's Affairs and Consumers Protection, 1998, and the second part deals with the results of a survey of experts opinions about GMO-Free areas related to different problems around the deliberate release of GMOs and the natural or/and agricultural environment, 1998/1999.

[6] On March 13, 2003, the Republic of Austria notified the Commission of a draft law of the Land of Oberösterreich banning genetic engineering of 2002. That draft law was intended to prohibit the cultivation of seed and planting material composed of or containing GMOs and the breeding and release, for the purposes of hunting and fishing, of transgenetic animals. The notification intended to secure, on the basis of Article 95 (5) EC.

[7] 95 (5) CE "*Moreover, without prejudice to paragraph 4, if, after the adoption by the Council or by the Commission of a harmonization measure, a Member State deems it necessary to introduce national provisions based on new scientific evidence relating to the protection of the environment or the working environment on the grounds of a problem specific to that Member State arising after the adoption of the harmonization measure, it shall notify the Commission of the envisaged provisions as well as the grounds for introducing them*".

[8] (EFSA) is the European Food Safety Authority, is the keystone of European Unions (UE) risk assessment regarding food and feed safety. In close collaboration with national authorities and in open consultation with stake holders, EFSA provides independent scientific advice and clear communication on existing emerging risks. See: http://www.efsa.europa.eu/EFSA/efsa_locale-1178620753812_home.htp

evidence, in terms of risk to human health and the environment to justify the prohibition, and no scientific evidence was presented to indicate that this area of the Upper Austria had unusual or unique ecosystems that require a separate risk assessment from those carried out for other similar areas in Europe[9].

With the report from EFSA the Commission made a decision: "*the Republic of Austria has failed to provide new scientific evidence or to demonstrate that a specific problem in the Land Oberösterreich had arisen following the adoption of Directive 2001/18 which made it necessary to introduce the notified measure. Rejecting Republic's of Austria request for derogation*".

Court of First Instance Decision

On November 3, 2003, the Land Oberösterreich brought action seeking the annulment of the contested decision; days after the Republic of Austria brought an action based in four pleas in law:

a) *First plea*: infringement of the right to be heard based on art. 95 (4) EC[10].

b) *Second plea*: the breach of the obligation to state reasons by the Court[11] .

c) *Third plea*: the infringement of art. 95 (5) EC. The small size of farms is a common characteristic in all Member States[12]. Unique ecosystems (Small farms and the importance of organic production in the Land Oberösterreich).

d) *Fourth plea*: the breach of precautionary principle[13].

---

[9] See: *Opinion of the Scientific Panel on Genetically Modified Organisms on a question from the Commission related to the Austrian notification on national legislation governing GMOs under article 95 (5) of the Treaty*, The EFSA Journal (2003) 1, 1-5. http://www.efsa.eu.int

[10] The Austrian government alleged that the Court wrongly dismissed the claim and the right to be heard was infringed because the Commission relied on the EFSA opinion but did not give the actors an opportunity to comment on it. Also the applicants' argument runs counter to the scheme of art. 95 (5) EC, because the fact that that provision relates to a national measure which is not yet in force does not diminish the interest in having the Commission rule quickly on the request for derogation which has been submitted to it. The authors of the EC Treaty intended that that procedure should be speedily concluded in order to safeguard the applicant Member's State interest in being certain of the applicable rules, and in the interest of the proper functioning of the internal market.

[11] The Court has set out its arguments in a detailed and comprehensive manner, enabling the actors to be aware of its factual and legal grounds and the Court to review the lawfulness of the decision. The Court based its decision in three factors: *a*) the Member State had failed to demonstrate that the notified measure was justified in the light of new scientific evidence concerning protection of the environment; *b*) the notified measure was not justified by a problem specific to the Republic of Austria; *c*) the Commission rejected the arguments of the Austrian authorities seeking to justify the national measures by recourse to the precautionary principle, signaling that it was too generic and lacked substance.

[12] The scientific evidence presented: no new or local scientific information on the environmental or human health impacts of existing or future GMOs crops or animals. No scientific evidence was presented which showed that this area of Austria had unusual or unique ecosystems that required separate risk assessment from those conducted for Austria as a whole or for other similar areas of Europe.

[13] *Precautionary principle*: precautionary approach is a response to uncertainty, in the face of risks to health or the environment. In general, it involves acting to avoid serious or irreversible harm, despite lack of scientific certainty as to the likelihood, magnitude, or causation of that harm. Precaution is an established principle of environmental governance, prominent in law, policy and management instruments at international, regional and domestic level, across such diverse areas as pollution, toxic chemicals, food and phytosanitary standards, fisheries management, species introduction and wildlife trade.

The Court considered irrelevant the appeal to the precautionary principle. About precautionary principle in France see: OURY, Jean-Paul, *La querelle des OGM*, Presses Universitaires de France, Paris 2006, p.86-98. The author makes a reference to Aristotle: "*On pourait spontanément associer la précaution á la*

The Court of First instance rejected the four pleas under the following grounds: on regards the first plea of law the Court said that procedures of art. 95 (4) [14] and (5) EC are initiated by the notifying Member State, and on interest of the notifying Member State and proper functioning of the internal market be, concluded rapidly. And the six months dead line laid down in art. 95 (6) [15] applies without distinction to requests for derogation concerning national measures in force (art. 95 (4) EC) and to requests concerning measures in draft form, to which art. 95 (5) EC is applicable. The fact that the Austrian law is in draft does not diminish the interest on the Commission to rule quickly.

In regards to the second plea in law on the breach of the obligation to state reasons, the Commission has ruled in a detailed and comprehensive way, making possible to the appellant to contest in the pre- established period.

About the third plea, on infringement of art. 95 (5) EC, the Court established in base to the AFSA report that there was no uniquely local scientific information on the environmental or human health impacts and that no scientific evidence was presented that could demonstrate that the Upper Austria had unusual or unique ecosystems that required separate risks assessments. The Court stated that the requisites in 95 (5) EC are cumulative and it is sufficient that only one of the conditions not be satisfied for the rejection of the derogation.

About the fourth plea on the breach of the precautionary principle the Court found that it was irrelevant to examine this plea, stating that the conditions for application on the provision 95 (5) were not met.

Court of Justice Decision

The Land Oberösterreich and the Republic of Austria raise two pleas for annulment alleging:

a) the infringement of the right to be heard[16] and

b) the infringement of article 95 (5) EC[17].

On regards to the infringement to the right to be heard the Court of Justice stated art. 95 EC provides that, following the adoption of measures for the approximation of legislation of Member States. Those States are required to notify national provisions which derogate from those measures to the Commission for its approval. Art. 95 (4) EC relates to

---

prudente aristotélicienne".

[14] 95 (4) EC "*If, after the adoption by the Council or by the Commission of a harmonization measure, a Member State deems it necessary to maintain national provisions on grounds of major needs referred to in art. 30, or relating to the protection of the environment or the working environment, it shall notify the Commission of these provisions as well as the grounds for maintaining them*".

[15] 95 (6) "*The Commission shall, within six months of the notification as referred in paragraphs 4 and 5, approve or reject the national provisions involved after having verified whether or not they are a means of arbitrary discrimination or a distinguish restriction on trade between Member States and whether or not they shall constitute an obstacle to the functioning of the internal market*". "*In absence of a decision by the Commission within the period the national provisions referred to in paragraphs 4 and 5 shall be deemed approved*". "*When justified by complexity of the matter and in the absence of danger to human health, the Commission may notify the Member State concerned that the period referred to in this paragraph may be extended for further period of up to six months*".

[16] Stating the difference between a national provision in respect of which a derogation has been requested (citing the case adopted by the Court of Justice in *Denmark v. Commission* in respect to art. 95 (4) and a national provision still in draft form (requested under art. 95(5) EC).

[17] The Court could extend the six-month dead line and allow an exchange of views to take place.

the maintenance of national measures which predate the harmonization measures and art. 95 (5) EC relates to derogating national measures that the member State wishes to introduce. The procedure starts with a Member State notifying derogating national provisions to the Commission, the Commission then will carry out an assessment of the information in the file to determine whether the requisite are fulfilled, ending the procedure with a decision approving or rejecting those national provisions[18]. Also in regards to the principle to be heard, the case law of the Court states that to the procedure on art. 95 (4), the principle of the right to be heard does not apply[19].

The Court also mentions the necessity for the introduction of new national provisions that must be based on new scientific evidence relating to the protection of the environment or the working environment by reason of a problem specific to that Member State arising after the adoption of the harmonization measure.

On the bases of the right to be heart the Court held that it applies not only to citizens but also to Member States. However from the structure of art. 95 (5) EC is not apparent that the Commission is required to hear the notifying Member State before the approval or rejection of the national provision in question. This article only lies down the conditions to be fulfilled in order to obtain a Commission decision and the period for it. For this consideration the Court rejected the plea alleging the infringement the right to be heard

On regards to the plea of infringement of article 95 (5) EC on the existence of a specific problem, the Court states that the lawfulness of national measures notified under art. 95 (5) EC is closely linked to the assessment of the scientific evidence consigned by the notifying Member State. It should be based on new scientific evidence relating to the protection of the environment or the working environment made necessary by reason of a problem specific to the Member State concerned arising after the adoption of the harmonization measure, and that the proposed provision as well as the grounds for introducing them be notified to the Commission. The Court following the case law establishes that the conditions are cumulative in nature and must therefore all be satisfied if the derogating national measures are not to be rejected by the Commission[20].

The requisite of the cumulative nature was not contested by Austria. And also did not presented scientific evidence to rebut EFSA's conclusions that showed that Austria had failed to establish that the territory of the Land Oberösterreich contained unusual ecosystems that required separate risk assessments from those conducted by Austria as a whole or in other similar areas of Europe.

The Court of Justice dismissed the appeals and ordered the Land Oberösterrich and the Republic of Austria to pay the costs. It is important to mention that the Opinion of the Advocate General[21] (Sharpston) was based in the same grounds as the Court Judgment.

3. UE legislation on OGM

The EU legislation on genetically modified organisms is composed by: *a*) Directive 2001/18 on the deliberate release into the environment of genetically modified

[18] The Commission is not to reach a decision until it has verified that the national provision are not a means of arbitrary discrimination or a disguised restriction on trade between Member States. See: Case C-512/99 *Germany v. Commission*, 2003, ECR I-845, paragraph 44.

[19] See: *Denmark v. Commission*, paragraph 50.

[20] See: Case C-512/99 *Germany v. Commission*, paragraph 81.

[21] The Opinion of Advocate General Sharpston gave more depth to the arguments presented by the appellants; analyzing each one of the four pleas presented by the applicants.

organisms[22]: *b*) Directive 98/81 on the contained use of genetically modified micro-organisms[23]; *c*) Regulation 258/97 on Novel Foods and Novel Food Ingredients governing the marketing of GM foods[24]; *d*) Regulation 1830/2003 concerning the traceability and labeling of genetically modified organisms as well as the traceability of food and feed products produced from genetically modified organisms[25]; e) Regulation 1829/2003 on genetically modified food and feed[26]; *f*) Regulation 1946/2003 on transboundary movements of genetically modified organisms[27]; *g*) Recommendation 2003/556/EC[28].

4. OGM doctrine

Genetic engineering emerged in the 1960s[29] as a revolutionary innovation in biotechnology[30] that some observers expected radically to transform industry and agriculture. As soon as the first genetically modified organisms (GMOs) were field-tested during the 1980s and commercialized in the 1990s. However, genetic engineering became engulfed in a global controversy. Its use in food production, in particular, has provoked

---

[22] Directive 2001 is the main legislation which governs experimental releases and placement on the market of GMOs. This Directive repealed the earlier Directive 90/220 which had been in place since the early 1990s. The permissions under this Directive are subject to a monitoring the impact of the organisms on the environment, providing a step by step approval process on a case by case assessment of the risk to human health and the environment. See: ADCOCK, Mike, *UE GMO Legislation*, February 2006. http://europa.eu.int/eur-lex/pri/en/oj/dat/2001/1_10620010417en00010038.pdf . Art. 1 "*its objective is to approximate the laws, regulations and administrative provisions of the Member States and to protect human health and environment, first, when the deliberate release into the environment of genetically modified organisms for any other purposes than placing on the market within the European Community is carried out and, second, when GMOs are placed on the market as or in products with in the Community*". The main goal of this Directive is to approximate national legislation and procedures in this field. The deliberate release or placing of a GMO is subject to an authorization regime.

[23] Directive 98/81 regulates the contained use of genetically modified microorganisms for research and industrial purposes. This Directive repealed the earlier Directive 90/219 put in place in the early 1990s. See: http://europa.eu.int/comm/environment/biotechnology/pdf/dir98_81.pdf

[24] Regulation 258/97 lays out the rules for authorization and labeling of novel foods including products containing, consisting or produced using GMOs. This Regulation requires mandatory labeling to indicate the presence of GMOs. After October 2002, Directive 2001/18 requires that Member States should ensure labeling of GMOs as or in products.

[25] Regulation 1830/2003 lays down procedures of traceability and labeling of GMOs and products produced from GMOs. The labeling legislation extends the labeling requirement to all food and food ingredients produced from GMOs regardless of the detectable presence of DNA or proteins with in the final food product. http://europa.eu.int/smartapi/cgi/sga_doc?smartapi¡celexplus.

[26] Regulation 1829/2003 covers the labeling provisions to all genetically modified food or feed which consist of, contain or are produced from GMOs.

[27] Regulation 1946/2003 transposes the Cartagena Protocol on Biosafety into EC law. Creating procedures for transboundary movement of GMOs, which should include the notification of parties of import, information to the BCH and identification and accompanying documentation standards.

[28] Recommendation 2003/556/EC are guidelines for the development of national strategies and best practices to ensure the coexistence of genetically modified crops with conventional and organic farming. See: ADCOCK, Mike, EU GMO Legislation.

[29] Some authors give the paternity of GMO to Stanley COHEN and Herbert BOYER, researchers from Stanford University, which discovered the "*enzimi di restrizione*", the base for the genetic engineering, where a genetic material from a living organism can be modified, in a non natural way, throughout the insertion of genetic material from other organisms, even from a different specie.

[30] About biotechnology and agricultural biotechnology see: SILVESTRINI, Bruno, *Biotecnologie e Ricerca*, in *Animali e Piante Trasgenici: Implicazioni*, CNR, Roma 2001. pp. 81-84. FONTE, Maria, *Organismi Geneticamente Modificati, Monopolio* e Diritti, FrancoAngelini, Milano 2004.

highly polarized reactions among producers, consumers, scientists and environmentalist worldwide. While some view it as an essentially beneficial technology that can increase agricultural productivity and help in the fight against malnutrition and poverty, others see potential harm to humans and the environment. Advocates of the technology urge governments and international organizations to promote its development and commercial adoption by reducing regulatory barriers, while critics demand precautionary regulation to safeguard against potential future harm[31].

The international rules on GMO safety or biosafety started in the mid-1990s and were expected to be completed in 1999, at a specially convened conference of the parties to the Convention on Biological Diversity (CBD). However, failure to reach an agreement at this meeting in Cartagena, Colombia, catapulted the biosafety talks into the limelight of the global trade-environment conflict. In January 2000 the Cartagena Protocol on Biosafety[32] was adopted. Even though a convention was signed division persisted between those countries that demanded strict international biosafety rules and those that feared that the biosafety treaty would impose unnecessary trade barriers and harm the growth prospects of the biotechnology sector. Summarizing we can mention two of the main characteristics of the GMO conflict: *a*) conflict between North and South, and *b*) North America and Europe[33].

There are a lot of risks derived from the emission of transgenetic plants on the environment[34], one of these risks is the uncontrolled flow of genetic material and another is the erosion of the biodiversity. The character introduced into the plant can be transferred out of the control of the human will, by the natural and spontaneous contact with the same specie or simile ones. For example the control of the transference of the modified characters is not easy, especially for plants like corn[35].

---

[31] About the International Politics of GMO see: FALKNER, Robert, *The International Politics of Genetically Modified Food, diplomacy*, Palgrave, Great Britain 2007. About the new proposal of the French legislation on GMOs see: *Projet de Loi relatif aux organismos génétiquement modifiés*, par BORLOO, Jean-Luis, ministre d'État, ministre de l'écologie, du développement et de l'aménagement durables, December 19, 2007. This Project can be sensitized in: Le projet de loi comporte un premier article fixant les principes encadrant l'expertise et la gestion des risques liés aux organismos génétiquement modifiés. Ensuite, six articles se répartissent entre trois chapitres successivement consacrés à la Haute autorité sur les organismes génétiquement modifiés (chapitre Ier), à la responsabilité (chapitre II) et à la transparence (chapitre III). Enfin cinq articles contiennent des dispositions d'adaptation au droit communautaire en matière d'utilisation confinée (chapitre IV), ainsi que des dispositions nécessaires à l'adaptation et à la mise en cohérence des dispositions du code de l'environnement, du code rural et du code de la santé publique avec les articles des chapitres précédents (chapitres V et VI).

[32] Between the adoption of the Cartagena Protocol in January 2000 and its entry into force in September 2003, an Intergovernmental Committee for the Cartagena Protocol (ICCP) met three times to prepare for the first Meeting of the Parties (COP/MOP-1). While the ICCP could not take binding decisions on the development of the protocol, it nevertheless helped to get the Biosafety Clearing House of the ground and made recommendations on a large list of outstanding issues.

[33] About the policy in Europe about GMOs see: BATTINI, Stefano, *Amministrazioni Nazionali e Controversia Globali*, Giuffrè, Milano 2007.

[34] NIEREMBERG, Danielle, HALWEIL, Brian, *Coltivare la sicurezza alimentare in State of the World*, World Watch Institute, Luchi, Italy 2005. p.113-136.

[35] FONTE, Maria, *Organismi Geneticamente Modificati, Monopolio* e Diritti, FrancoAngelini, Milano 2004. p. 38-52.

5. The Biodiversity Convention

In 1992 the international community gathered together in Rio di Janeiro to discuss global programs related to the environment and sustainable development. One or the results of this United Nations Conference on Environment and Development (UNCED) was the Convention on Biological Diversity[36]. The Rio Convention[37] is the most elaborated form of international legislation for the conservation of biological diversity. The Convention expresses and confirms all the fundamental principles of the modern environmental international law. These principles are: *cooperation*, *prevention*, *precaution*, *intergenerational responsibility*, *environmental impact assessment*, *sustainable development*, *differentiate common responsibility*, *information*, *education*, *participation*, and *responsibility for environmental damages*[38].

The contracting parties have the duty to implement mechanisms to identify and evaluate the biological resources in their territories, thought their conservation in situ and ex situ. It is the duty of the parties to take measures and strategies to protect the biodiversity.

The international agreements on biodiversity[39] are: the Ramsar Convention on Wetlands, important for the habitat of aquatic birds.[40] The Geneva Protocol concerning Mediterranean Specially Protected Areas[41], the Cartagena Protocol on Biosafety[42] adopted

---

[36] See SWANSON, Timothy, *Global Action for Biodiversity*, Earthscan, UK 1997, p. 1-19.

[37] The Convention on Biodiversity of June 5, 1992. See: G. GARAGUSO, e S. MARCHISIO, *Rio 1992: Vertice per la Terra*, Franco Angeli, Milano 1993. p. 201-230. After the adoption of the Convention there have been five other conferences: Nassau 1994; Jakarta 1995; Buenos Aires November 1996; Bratislava May 1998; Nairobi May 2000. See: V. DELLA FINA, *La Tutela della Biodiversità nell'Ordinamento Italiano*, nel *Codice delle Aree Protette* a cura di S. MARCHISIO, V. DELLA FINA, O. FERRAIOLO, G. SALBERINI, G. TAMBURELLI,Giuffrè, Milano 1999. p. 491-500.

[38] See G, TAMBURELLI, *Ambiente (Tutela dell') diritto internazionale*, Estratto dal Volume aggiornamento XII dell' *Enciclopedia Giuridica*, 2004, Roma.

[39] Among the most important conventions on biodiversity we can mention: *International Convention for the regulation of Whaling*, 2 December 1946; *Convention on Wetlands of International Importance Especially as Water flow Habitat*, 2 February 1971; *Convention Concerning the Protection of the World Cultural and National Heritage*, 16 November 1972; *Convention on International Trade in Endangered Species of Wild Fauna and Flora*, 3 March 1973; *Convention on the Conservation of Migratory Species of Wild Animals*, 23 June 1979; *Convention on Biological Diversity*, 5 June 1992; *Cartagena Protocol on Biosafety to the Convention on Biological Diversity*, 29 January 2000; Non-*Legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of All Types of Forests*, 13 June 1992; *United Nation Convention to Combat Desertification in Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa*, 17 June 1994. See: SANDS, Philippe and GALIZZI, Paolo, *Documents in International Environmental Law*, 2nd Edition, Cambridge 2004.

[40] About Ramsar Convention see: FERRAJOLO, *La tutela giuridica delle zone umide*, in *Codice delle aree protette*, cit., pp. 477-485.

[41] About the Geneve Protocol see: FERRAJOLO, *Le aree especialmente protette del mediterraneo,*in *Codice delle Aree Protette,*Giuffrè, Milano 1999, p. 451.

[42] BAIL, Christoph, FALKNER, Robert, MARQUARD, Helen, *The Cartagena Protocol on Biosafety*, Earthscan, London 2002. The Cartagena Protocol on Biosafety has been hailed as a significant step forward, a major millennial milestone that provides an international regulatory framework to reconcile the respective needs of trade on one hand and environmental protection on the other, with respect to one of the fastest growing industries – biotechnology. The protocol thus creates an enabling environment for the environmentally sound application of biotechnology. It makes possible for humanity to derive maximum benefit from the potential that biotechnology has to offer, while minimizing the possible risks to the environment and to human health.

in Montreal, January 29, 2000.

Agenda 21 is a political programmatic document but it is not a binding one. It has been approved but has no priority on its implementation, nor instruments, financial or technological instruments to be applied. The commitment of the industrialized countries is generic, in order to reach the 0.7% of the GDP to be dedicated to the public development[43]

6. The environment and international commerce

About the relation environment protection and freedom of commerce, it is widely established an open market system, full of equity and with no discrimination, that can be possible to promote the sustainable development and the conservation of the natural resources. In some internationals WTO[44] meetings, as in Doha and the UN meeting in Johannesburg, have been confirmed that globalization excludes possibilities improvement of life standards for developing countries. Giving this context it is imperative to trade related international measures and regulate international commerce. In accordance to this point we have to refer to Principle 12 of the Rio Declaration[45], which establishes that actions regarding the environmental measures about commerce have to be taken with the international approval.

Some questions about national measures have been presented, for example the

---

The Cartagena Protocol is the first international instrument mean to establish limits on the introduction and release in the environment of living modified organisms which might have adverse effects on biodiversity or might be dangerous for human health, See DELLA FINA, *Il Protocollo di Cartagena sulla biosicurezza*, in *Il sistema giuridico italiano delle aree protette*, cit., pp. 74-82, and RIGHINI, *Il Protocollo di Cartagena sulla biosicurezza e gli accordi sul commercio internazionale*, in Rivista di diritto internazionale, 2001, 3, p. 654 ss.

[43] GARAGUSO, Giulio e MARCHISIO, Sergio, *Da Stoccolma a Rio*, in Rio 1992: *Vertice per la Terra*, Franco Angeli, Milano 1993.

[44] The World Trade Organization (WTO) is an international trade body that seeks to promote liberalized trade throughout the world between its members. Its predecessor was the GATT. See HUGHES, JEWELL, LOWTHER, PARPWORTH, DE PREZ, *Environmental Law*, 4th ed. Butterworths, UK 2002, p. 71. See: Sands, PHILIPPE, GALIZZI, Paolo, *Documents in International Environmental Law*, Cambridge, UK 2004. p. 1001-1020. The General Agreement on Tariffs and Trade was originally adopted in 1947 as the main international arrangement to encourage trade between states. The GATT was drafted in response to the protectionist policies of the 1920s and 1930s, which were perceived as major causes of the Great Depression. In December 1993, after seven years of negotiation, the Trade Negotiation Committee of the Uruguay Round adopted by consensus the Final Act. The Final Act includes the Agreement establishing the World Trade Organization (WTO) and annexed agreements on *inter alia*: the General Agreement on Tariffs and Trade 1994 (GATT 1994), the General Agreement on Trade in Services (GATS), the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), and the Understanding on Rules and Procedures Governing Settlement of Disputes (DSU). About the WTO and the environment see also: MALJEAN-DUBOIS, Sandrine, *Droit de l´Organisation Mondiale du Commerce et Protection de l´Environment*, Bruylant, Bruxelles 2003. See also BATTINI, Stefano, *Amministrazioni Nazionali e Controversia Globali*, Giuffrè, Milano 2007. p. 29-59. MALJEAN-DUBOIS, Sandrine, *Droit de l´Organisation Mondiale du Comerce et protection de l'environnement*, Bruylant, Bruxelles 2003.

[45] Principle 12 of the Rio Declaration: "*States should cooperate to promote a supportive and open international economic system that would lead to economic growth and unsustainable development in all countries, to better address the problems of environmental degradation. Trade policy measures for environmental purposes should not constitute means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade. Unilateral actions to deal with environmental challenges outside the jurisdiction of the importing country should be avoided. Environmental measures addressing trasboundary or global environmental problems should, as far as possible, be based on an international consensus*".

problems with import restrictions[46]. The compatibility of these measures with the prohibition of quantitative restrictions, according to GATT Agreement (art. XI) have been evaluated according to the Agreement and some general exemptions have been made (art. XX). These regulations consent the adoption and application by the parties of determinate measures, except the principle of non discrimination. Are also admitted measures needed to protect life of the health of humans, animals and plants, also measures to protect non renewable natural resources.

7. Biodiversity Protection in Peru and the key role of Native and farmer's Communities

Native and farmers communities in Peru[47] have contributed largely to the Peruvian environment since the start of the Peruvian civilization. Potatoes, rubber, *quinua*, have nourished and healed numerous amounts of people around the world. Cultural diversity is considered to be part of Biological Diversity, and studying that these cultures use selectively natural resources reproducing some artificially. Even more, considering that most cultures have adapted to the environment where they are established. Native people possess important knowledge about the use and properties of several species, genetic resources and techniques for their conservation[48]. Moreover, we can mention that Peru has 14 linguistic families and 44 native cultures, 42 of them are located in the Amazon[49].

The protection of the native and farmers communities is established in a web of laws, starting from the main Peruvian law, the Political Constitution, art. 88[50] and art. 89[51];

---

[46] See: SCOVAZZI, Tulio, a cura di, *The Protection of the Environment in a Context of Regional Economic Integration. The Case of European Community, the MERCOSUR and the NAFTA*, Milano 2001.

[47] Peru is located in the central occidental side of South America, its coast face the pacific. The total area is 1,285,216 km2, where is present an impressive biological and cultural richness. An ample coastal and marine area, with northern currents and the Andes that runs parallel to the Pacific Ocean, determinates a variety of ecosystems, from mountains to the humid-tropical and the tundra. Arid and semi arid zones, can be distinguished also dry forests (Tumbes, Piura, Lambayeque), hills (along the coast), semi arid zones of the Andes and semi humid over the oriental area (San Martín). Resuming 55% of the territory has a tropical climate, 14% deserted climate, 9% humid, l8% boreal and 13% highlands or tundra. This unique scenario creates 84 environmental zones and 17 transitional areas (of the 104 existing in the world), eight geographic provinces and three hydrographical that holds 12.201 lakes, 1.007 rivers and 3.044 glaciers. See: Gobierno de Perú. *Biological Diversity in Peru. National Report*. Lima, December 1997; DELGADO-RAMOS, Gian Carlo. *Biodiversidad, Desarrollo Sustentable y Militarización*. Plaza y Valdés. México, 2004. See also: Peruvian National Strategy on Biodiversity. *Republic of Peru Environmental Sustainability: A Key to Poverty Reduction in Peru, Country Environmental Analysis*, World Bank, Report n. 40190-PE, 2007. p. 11. Peru is the third biggest country in Latin America, situated below the Ecuadorian Line down to 18° latitude south. The borders are: north: Ecuador and Colombia, east: Brazil and Bolivia and south: Chile. And west the Pacific Ocean. See also:
http://peru.gob.pe/frame.asp?dsc_url_web=http%3A//www.peru.info/s_ftogeneral.asp%3fpdr%3D844.

[48] See: *Estrategia sobre la Biodiversidad Peruana*.

[49] About the projects on environmental management of indigenous populations see: *Indigenous Management of Protected Areas in the Peruvian Amazon* (GEF) Project, World Bank Report n. ICR0000722, November 19, 2007.

[50] Peruvian Political Constitution art. 88: "*The Nation respects the cultural identity of the Native and Farmers Communities. The government guarantees the agricultural development as well as the right to property over their lands*".

[51] Peruvian Political Constitution, art. 89 defines: "*Native and farmers communities have legal existence and are recognized by law. Are autonomous in regards of their organization, group work, their uses and costumes, free disposition of their lands, and in economical and administrative matters in the limits of the law and the Constitution*".

recognizing these communities, respecting their organization, cultural identity, and promotes the agriculture though native communities[52]. Concerning international legislation, Peru has ratified the Declaration on the Rights of Indigenous People of 2007[53]**,** this Declaration it is a tool for peace and justice, based upon mutual recognition and mutual respect, recognizing that all civilizations and cultures contribute to the diversity.

Among the relevant Peruvian relevant legislation regarding native communities we can mention the law n. 26839 of the Conservation and Sustainable Use of Biodiversity. This law gives emphasis to the great value or the knowledge, innovations and procedures of the native communities on the conservation and sustainable use of the biodiversity[54]. The law n. 27811, *Law that establishes the protection regime of the knowledge of indigenous people related to biological resources*[55]. To arrest the problem of foreign private investors promoted by the Peruvian policy to attract capital, and have activities in national territories, and might create problem to the indigenous people, the Peruvian government have dictated the law about private investment and the development of economic activities on the national territory and on the lands of Native and Farmers Communities[56]**.** This law refers to

[52] The Peruvian Political Constitution of 1993. The *General Law of Native an Farmers Communities* law n. 24656, of April 1987, declared its integral development as national interest. Recognizing them as democratic institutions, autonomous in their organization, group work, land use, as well as in the administrative aspects, inside a constitutional framework.

The 1974 Constitution also made mention to the Native and Farmers Communities on Chapter VIII, art. 169 "*The Native and Farmers Communities, have legal existence. Are autonomous in their organization, common work, land use, as well as in their administrative and economic aspects, according to the national laws. The Country respects and protects their traditions, and promotes the cultural development of the members of the communities*". Art. 162. "*The Nation promotes the integral development of the communities, and promotes the creation of group companies and cooperatives*". Art. 163 "*The lands of the Native and Farmers Communities are inalienable, except if established in a specific law based on the communities interest and under the community's solicitation"*.

[53] Declarations on the Rights of Indigenous People of the United Nations of September 13, 2007. See also: *Republic of Peru Environmental Sustainability: a Key to Poverty Reduction in Peru, Country Environmental Analysis*, World Bank, June 2007.

[54] See art. 23 of the law n. 26839, *Native and Farmers Communities,* we recognize the value of the knowledge, innovation and practices of the native communities on the conservation and sustainable use of de biodiversity. It is recognized the necessity to protect their knowledge and establish measures to promote the use with informed consent of the community, guaranteeing the just and equal distribution of the benefits derived from its use.

[55] *Ley que establece el régimen de protección de los conocimientos colectivos de los pueblos indígenas vinculados a los recursos biológicos*, Law n. 27811. The most important aspects of this law are: the acknowledgement of the indigenous rights and their power to decide over their collective knowledge. Among the main objectives of the law we can mention *a*) to promote the respect, the protection, preservation, application and development of the indigenous collective knowledge; *b*) to promote the use of this knowledge in order to benefit indigenous population and the entire humanity; *c*) to promote the strengthen and the development of the capacity and the traditional mechanisms used by the indigenous populations; *d*) to avoid the authorization of patents and inventions from the knowledge of collective indigenous populations of Peru, without taking in to account the collective knowledge as a prerequisite while the examination the inventive and creative level.

The law also establishes the conditions to the access to the collective knowledge, such as the previous solicitation of the inform consent of the institution that represents the indigenous population that posses a scientific knowledge. The information given is limited to the biological resources that the knowledge refers.

[56] *Ley de la inversión privada en el desarrollo de las actividades económicas en las tierras del territorio nacional y de las comunidades campesinas y nativas;* Law n. 26505. The present law establishes the general principles to promote investment from privates to generate the economy in the national territory and

the registration of the collective knowledge of the Native and Farmers Communities; this Registry divided in three different ones: *a*) Public National Registry of the Indigenous People Knowledge[57] (run by INDECOPI[58]), *b*) National Confidential Registry of Common Knowledge of Indigenous People[59], *c*) Local Registries of Collective Knowledge of Indigenous Population[60] . In order to prevent risks from the use of biotechnology the law n. 27104 has approved in 1999, regulating the security on biotechnology according to art. 8, g and art. 19 inc. 3 and 4 of the Convention on Biological Diversity, approved by Legislative Resolution n. 26181, specially in the use of biotechnology to produce GMO[61].

About the Peruvian institutions encharged to protect the environment, we can comment that the Secretary of the Environment has been just created on May 2008 through Legislative Decree n. 1013. This Secretary has fusion the old institutions that use to deal with the environment care in Peru: INRENA[62], INDEPA[63], CONAM[64], SINANPE[65],

---

in the communities land. The regime of the agricultural lands is regulated by the Civil code and by this law.

The government guarantees to all persons, natural or juridical, the free access to the property of the lands. Art. 7, mentions that there has to be a previous agreement with the owner of the lands in order to establish the mining rights. In case a deposit is to be considered of national interest, it has to have an agreement of the Secretaries with a previous report from the Mining Secretariat, and the owner has to be compensated in advance from the holder of the right, with a market price. The coastal communities in order to sell their lands or any form of disposition, have the requirement of the vote of the members, the result have to be over 50% of the presents to session, with the respective quorum. For the Andean communities the percentage rises up to 66.6%.

Article 8 mentions that 10% of the net value of the sold products, before taxes, are derived to the Trust Fund for Indigenous Population Development. The parties can establish a bigger percentage, taking into consideration the degree of application in the final product. States also that collective knowledge are part of the cultural heritage of the indigenous populations, and these rights do not prescribe on time and can not be taken away.

[57] *Registro Nacional Público de Conocimientos Colectivos de los Pueblos Indígenas.*

[58] INDECOPI, *Instituto Nacional de la Competencia y de la Protección de la Propiedad Intelectual*(The National Market and Intellectual Property Protection Institute), *Oficina de Invenciones y Nuevas Tecnologías*.. Appellate level: *La Sala de Propiedad Intelectual del Tribunal de Defensa de la Competencia y de la Propieda Intelectual*.

All license's contracts have to be registered in the INDECOPI's Register. Other factor that need to be taken in to account is the additional information regarding the environmental impact assessment, when there is a case that will bring risk to the environmental balance in the indigenous populations territory. There has been established a trust fund for the development of the indigenous population. The Department of New Technologies and Inventions has the following functions: *a*) keep a register of the collective knowledge of the indigenous population; *b*) keep a license and use registry; *c*) evaluate the validity of the license contracts related to the collective knowledge of the indigenous population, analyzing the opinion of the competent authorities on the protection of indigenous knowledge. (art. 64). The National Council specialized on the protection of indigenous knowledge, is composed by 5 members, specialist in the sector, 3 nominated by the institutions that represent the indigenous populations, and 2 are nominated by the National Commission of the Andean, Amazonian and Afro Peruvian Populations; they with do this task *ad honorem*.

[59] *Registro Nacional Confidencial de Conocimientos Colectivos de los Pueblos Indígenas*.

[60] *Registros Locales de Conocimientos Colectivos de Los pueblos Indígenas.*

[61] About the objectives of the law n. 27104 see art. 2. This law doses not include the activities with human genes, all kinds of vaccines applicable to humans, about organisms that are modified through conventional techniques and traditional methods of: in vitro fertilization, transduction, transformation or any other natural process; polyploidy induction, mutagenesis, formation and use of somatic cells of animal ibrioma; this if is not include the manipulation of the molecules of the DNA or the use of GMO as vector organisms, receptors or parental.

[62] National Institute of Natural Resources (INRENA) is a public entity, previously belonged to the Secretary of Agriculture, created by *Decreto Ley* n. 25902 on November 27 1992. See art. 19 of the Law

SENAMHI, OEFA[66] and The Geophysical Institute of Peru.

8. Andean Community Biological Diversity Protection

The *Comunidad Andina*[67] presents the following legislation on environment and biodiversity: the Decision 182, on Andean System's agriculture, food security and environment of 1983[68], emphasizes the rights of the citizens to food in adequate conditions and in human dignity. Each country promotes its national system of food security[69]. The Decision 345 guarantees the common protection of the rights of the possessors of new vegetal varieties[70]. In order to regulate the access to the genetic resources the Andean

---

n. 25902 Frame Law of the Secretary of Agriculture, and Supreme Decree n. 002-2003-AG INRENA´s Bylaws. The main responsibility of INRENA was to promote the rational use and conservation of natural resources and the active participation of citizens.

[63] The National Institute for the Development of the Andean, Afro-Peruvian, and Amazon population (INDEPA) created by law n. 28495 on December 6, 2004. *Indepa* is the entity responsible to propose and supervise the normal compliance of national policies, as well as coordinate with local authorities the execution of projects directed to the promotion, defense, research and strengthen the rights and development, with the Andean, Afro-Peruvian and Amazon populations. It important to mention that this institution has not become part of the Secretary. INDEPA substitutes the preexisting National Commission of Andean, Afro-Peruvian and Amazon Populations (CONAPA).

[64] The National Commission on Environment (CONAM) was the national authority on the environment, and has the objective to plan, promote, coordinate, control and safeguard the environment and the cultural heritage of the Peru. *Conam* was created by law. 26410, published on December 22, 1994.

[65] National Service for Protected Areas.

[66] OEFA responsible about the supervision and control environmental damages and apply sanctions.

[67] The *Comunidad Andina de Naciones* (CAN) constitutes an integration area, economical and social of the sub region, created in 1969 (at that time named *Acuerdo de Cartagena* o *Pacto Andino*) conformed initially by Bolivia, Chile, Colombia, Ecuador, Peru and Venezuela. Chile renounces to the *Pacto Andino* and solicits the reentry in the year 2006, in this year Venezuela renounces to the Pact. See Web page of CAN.

Geographical Description: the five Countries of the Andean sub region covers an area of 4,7 million square kilometers, 25% of the Latin-American area and 3,5% of the world area (www.comunidadandina.org). Over this territory, can be found a great variety of natural resources that have been used in a unsustainable way, this situation limits the well being out the Countries of this sub region. Its geography is marked by the presence of the Andes that covers Venezuela, and goes across Ecuador, Colombia, Peru and Bolivia. The Andean geography presents many contrasts that manifest on the landscape from *llanuras* in Colombia and Venezuela to glaciers in Bolivia, Ecuador and Peru. The variety of the ecosystems in the Andean sub region comprehends the mountains to the virgin jungle in the Amazon. We can also find enormous savannas extensions, deserts of diverse characteristics that face the Pacific Ocean and the Caribbean Sea.

[68] *Decisión 182, Sistema andino sobre agricultura, seguridad alimentaria y medio ambiente, 1983, adopted on July 25* 1983, during the 5th. Meeting of the agricultural secretaries, due to the first Colombian agricultural expedition, directed by the naturist and genius José Celestino Mutis. The main objective of this decision is to harmonize the agricultural policies in order to preserve the environment. Creating the Andean Agricultural System Celestino Mutis to use rationally the natural resources. Among the main objective are: *a*) to increment agricultural productivity; *b*) to guarantee the offer of the basic products and guarantee the nutritional necessities of the citizens; *c*) improve the consumption patterns of every Party and the agricultural potential; *d*) stimulate and facilitate the food commerce inside the sub region; *e*) promote agro industrial development; *f*) interchange experience and information.

[69] See: art. 7 of the Decision 182.

[70] *Decisión 345, Régimen Común de Protección de los Derechos de los Obtentores de Nuevas Variedades Vegetales*, 1993. The objectives of this decision are: *a*) to recognize and guarantee the protection of the rights of the possessors of new vegetal species granting a certificate; *b*) to promote the research on the

Community has emanated the Decision 391[71]. This Decision reflects the will of the Community to recognize and valuate the rights of the indigenous and local communities[72]. In order to promote the balanced development based on equity through the integration process, the Decision 435 has been published and an Andean Committee of Environmental Authorities has been created [73]. The *Comunidad Andina* has also legislated about the regional strategy on the Biodiversity through the Decision 523[74] in order to promote the cooperation and the economical and social integration, and to promote life standards[75].

9. Conclusions

We may conclude that a Country may ban GMOs but in order to ban them it should be able to demonstrate that new scientific evidence relating to the protection of the environment or the working environment by reason of a problem specific to that Member State has arise in order to the Commission to approve the banning of the GMO and the Commission has to prove whether or not this banning are a means of arbitrary discrimination or a distinguish restriction on trade between Member States and whether or not they shall constitute an obstacle to the functioning of the internal market.

GMOs can be seen as essentially beneficial technology that can increase

---

Andean area; *c*) to promote the technological transfer inside the sub region and beyond. This decision applies to all botanical kinds and species, when its cultivation, crop, use are not prohibited due to harm to human or animal or vegetable health. Each country signs to create a registry.

[71] *Decisión 391, Régimen Común sobre un Régimen Común sobre Acceso a los Recursos Genéticos, 1996.*

[72] The access process is regulated by Chapters: III, IV, V, VI of the Decision 391 (CAN). Peru is a nation with a great biological and genetically wealth, they have to be preserved and used in a sustainable manner; and due to the necessity to recognize the historical contribution of the indigenous, Afro-American and local communities over the biodiversity, about its conservation and development and use of its elements, as well as its benefits that this contribution generates; and due to the interdependence of the indigenous communities with the biological resources. This decision is applicable to the genetic resources of the parties, to the derivate products, etc. Each Party will recognize and will study the rights and faculties to decide of the indigenous, Afro-American and local communities, about the knowledge, innovation and traditional practices associated to the genetic resources.

[73] Decisión 435, *Se crea el Comité Andino de Autoridades Ambientales*, June 11, 1998. The CAAAM, will give support and advise the Secretary General of CAN on environmental matters, as well as the application of the Decision and the environmental complementary laws. The main functions of the Committee are: *a*) to propose the sub regional strategy on sustainable development of natural resources, including poverty, and the participation of the citizens; *b*) support the Commission and the Secretary General designing the Environmental Plan according to the plan ratified in 1996 in Santa Cruz del la Sierra, and the Regional Action Plan on Environmental Actions ratified by the Forum of the Environmental Secretaries of Latin America and the Caribbean on the XI Meeting; *c*) promote cooperation mechanisms; etc.

[74] Decisión 523, *Estrategia Regional de Biodiversidad para los Países del Trópico Andino*, July 7, 2002.

[75] Given the reason that the CAN concentrates about 25% of the world biodiversity, the biodiversity is consider one of the basic resources of the Andean Sub region, and it is a source of development of the parties to the treaty. The regional strategy has three fronts: *a*) the promotion of biodiversity studies; *b*) group work to design and manage the projects and the policies; *c*) generate proposals about the opportunity and the responsibility to possess a quarter of the world's biodiversity. It is important to mention Decision 524, creates a work group on Indigenous Populations (as an answer to: *The Proposal of the Project to the Implementation of the Regional Strategy on Biological Diversity for the Andean Tropical Countries*). CAN-BID Project.

agricultural productivity and help in the fight against malnutrition and poverty, but all this technology should be tested by governments and specialized institution in order to safeguard against potential future harm to humans and the environment. There are a lot of risks derived from the emission of transgenetic plants on the environment, from risks of uncontrolled flow of genetic material to the erosion of the biodiversity. The gene introduced can be transferred out of the control of the human will, by the natural and spontaneous contact with the same specie or simile ones.

The conservation of the environment has to be one of the main issues of the world policy, especially in the countries that preserve the most amount of biodiversity, as is the case of the study, the Andean Community and specially Peru.

GENETICALLY MODIFIED ORGANISMS (GMO) AND THE EUROPEAN UNION - CASE STUDY-

BIBLIOGRAFÍA

PHILIPPE, GALIZZI, Paolo, *Documents in International Environmental Law*, Cambridge, UK 2004; SANDS, Philippe, GALIZZI, Paolo, *Documents in International Environmental Law*, Cambridge, UK 2004; CORDINI, Giovanni, FOIS Paolo, MARCHISIO, Sergio, *Diritto Ambientale Profili Internazionali Europei e Comparati*, Giappichelli Editore, Torino 2005; HOPPICHLER Joseph, *Concepts of GMO-Free Environmentally Sensitive Areas*, Federal Institute for Less-Favored and Mountainous Areas, Vienna 1998; OURY, Jean-Paul, *La querelle des OGM*, Presses Universitaires de France, Paris 2006; *Germany v. Commission,* 2003; ADCOCK, Mike, EU GMO Legislation; SILVESTRINI, Bruno, *Biotecnologie e Ricerca*, in *Animali e Piante Trasgenici: Implicazioni*, CNR, Roma 2001; FONTE, Maria, *Organismi Geneticamente Modificati, Monopolio* e Diritti, FrancoAngelini, Milano 2004; FALKNER, Robert, *The International Politics of Genetically Modified Food, diplomacy*, Palgrave, Great Britain 2007; *Projet de Loi relatif aux organismos génétiquement modifiés*, par BORLOO, Jean-Luis, ministre d'État, ministre de l'écologie, du développement et de l'aménagement durables, December 19, 2007; BATTINI, Stefano, *Amministrazioni Nazionali e Controversia Globali*, Giuffrè, Milano 2007; NIEREMBERG, Danielle, HALWEIL, Brian, *Coltivare la sicurezza alimentare in State of the World*, World Watch Institute, Luchi, Italy 2005; FONTE, Maria, *Organismi Geneticamente Modificati, Monopolio* e Diritti, FrancoAngelini, Milano 2004; SWANSON, Timothy, *Global Action for Biodiversity*, Earthscan, UK 1997; G. CARAGUSO, e S. MARCHISIO, *Rio 1992: Vertice per la Terra*, Franco Angeli, Milano 1993; V. DELLA FINA, *La Tutela della Biodiversità nell'Ordinamento Italiano*, nel *Codice delle Aree Protette* a cura di S. MARCHISIO, V. DELLA FINA, O. FERRAIOLO, G. SALBERINI, G. TAMBURELLI,Giuffrè, Milano 1999; TAMBURELLI, *Ambiente (Tutela dell') diritto internazionale*, Estratto dal Volume aggiornamento XII della *Enciclopedia Giuridica*, 2004; SANDS, Philippe and GALIZZI, Paolo, *Documents in International Environmental Law*, 2nd Edition, Cambridge 2004; FERRAJOLO, *Le aree especialmente protette del mediterraneo*,in *Codice delle Aree Protette*,Giuffrè, Milano 1999; BAIL, Christoph, FALKNER, Robert, MARQUARD, Helen, *The Cartagena Protocol on Biosafety*, Earthscan, London 2002; HUGHES, JEWELL, LOWTHER, PARPWORTH, DE PREZ, *Environmental Law*, 4th ed. Butterworths, UK 2002; MALJEAN-DUBOIS, Sandrine, *Droit de l´Organisation Mondiale du Comerce et protection de l'environnement*, Bruylant, Bruxelles 2003 ; SCOVAZZI, Tulio, a cura di, *The Protection of the Environment in a Context of Regional Economic Integration. The Case of European Community, the MERCOSUR and the NAFTA*, Milano 2001; DELGADO-RAMOS, Gian Carlo. *Biodiversidad, Desarrollo Sustentable y Militarización*. Plaza y Valdés. México, 2004; *A Key to Poverty Reduction in Peru, Country Environmental Analysis*, World Bank, Report n. 40190-PE, 2007; *Indigenous Management of Protected Areas in the Peruvian Amazon* (GEF) Project, World Bank Report n. ICR0000722, November 19, 2007; *The Proposal of the Project to the Implementation of the Regional Strategy on Biological Diversity for the Andean Tropical Countries*). CAN-BID Project.