



## The Southern Regional Model United Nations—SRMUN XVII



Dear Delegates,

I would like to welcome you to the 2006 Southern Regional Model United Nations (SRMUN) Conference and the simulation of the United Nations Environment Programme (UNEP). My name is Cardell Johnson, and it is a great honor for me to serve as your Director. This year's conference will mark my 8th year of participation in Model UN and my second year as Director with SRMUN. In April 2002, I received my undergraduate degree in political science from Alma College in Alma, Michigan. In May 2006, I received my Masters of Public Affairs (MPA) degree in Environmental Policy and Natural Resource Management as well as Policy Analysis from Indiana University School of Public and Environmental Affairs (SPEA). Our Assistant Director this year is Jessica Garner who recently graduated from Louisiana State University with a Bachelor of Arts in Political Science. She is currently pursuing a second degree from LSU in History. This will be Jessica's 5th year at SRMUN and second year on staff.

The 2006 SRMUN conference will simulate the United Nations Environment Programme (UNEP). The UNEP is the environmental conscience of the UN and works to develop policy guidelines for addressing major environmental issues such as land management, air pollution, and water scarcity. The agency provides support to national governments and encourages them to participate in international negotiations and to fulfill their obligations under international agreements such as the Kyoto Protocol and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

For the 2006 session, the United Nations Environment Programme will discuss the following topics:

- I. Making Trade and the Environment Mutually Supportive;
- II. Environmental Degradation and Natural Disasters;
- III. Water Resources: Development, Conservation and Access.

I should remind you that thorough preparation of each topic is expected from every delegate in order to ensure the success of our committee. You should be knowledgeable on your State policy and the policies of the region where your State is located. Jessica and I have prepared the background guide to aid you in your research. However, you will need to do preparation beyond the material presented in this guide. As delegates of the United Nations Environment Programme, you are each required to submit a position paper reflecting your countries' stance on the issues presented in the background guide. You can find format specifications at [www.srmun.org](http://www.srmun.org). **Your position papers should be submitted both to me and to the Deputy Director-General, Sarah Donnelly ([ddg@srmun.org](mailto:ddg@srmun.org)) no later than 11:59 pm EST, on October 30, 2006.** Please remember that not being well versed on the topics, as well as your State's policy, is both a disservice to you and to fellow delegates. For this simulation, the Committee will be writing resolutions.

We wish you all the best as you prepare for the 2006 SRMUN Conference. Jessica and I look forward to working with you as you research over the next few months. Should you have further questions, or concerns, please do not hesitate to contact either of us via the information provided below. We will be delighted to help you in whatever capacity we can. Good luck and we will see you in November!

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## History of the United Nations Environment Programme

In the late 1960s and early 1970s, the environmental movement was gaining strength internationally. There was widespread concern over the impact that human activity was having on the environment. Thus, in 1972, the United Nations held its first environmental conference: the United Nations *Convention on the Human Environment* (UNCHE), in Stockholm, Sweden.<sup>1</sup> At the conference, 113 nations and approximately 500 Non-Governmental Organizations (NGOs) focused on environmental issues, especially those relating to environmental degradation and "transboundary pollution."<sup>2</sup> As a result, 109 recommendations were made for improving the environment.<sup>3</sup> Furthermore, UNCHE produced a set of 26 core environmental principles, which have become known as the Stockholm Declaration.<sup>4</sup> Most importantly, the conference led to the founding of the United Nations Environment Programme (UNEP).

Established in 1973, UNEP is the environmental conscience of the United Nations. Its main function is to develop policy guidelines for addressing major environmental issues such as land management, air pollution and water scarcity.<sup>5</sup> The agency provides support to national governments and encourages them to participate in international negotiations and to fulfill their obligations under international agreements such as the Kyoto Protocol and Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).<sup>6</sup> In the environmental policy and advocacy process, UNEP strongly encourages public participation—especially from non-governmental organizations (NGOs) and underrepresented groups such as women and indigenous populations.<sup>7</sup>

UNEP's Governing Council (GC) serves as the main legislative and administration body of the organization. Elected by the General Assembly, the GC is composed of 58 members who serve a four-year term.<sup>8</sup> In this role, the GC reviews and approves UNEP's programs and agendas.<sup>9</sup> In turn, it reports progress on UNEP's action and policies to the General Assembly.<sup>10</sup> UNEP is divided into eight divisions working to promote and facilitate "sound environmental management for sustainable development."<sup>11</sup> These eight divisions are the core of UNEP and are responsible for implementing a specific function of the organization, which ultimately assists the agency in achieving its mission.

Since its existence, UNEP has actively participated in facilitating discussions on environmental management and sustainability - creating various programs to implement these principles. One of UNEP's biggest achievements was getting the international community to adopt the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).<sup>12</sup> CITES is an international agreement between governments that ensures the protection of wild animal and plants from international trade activities.<sup>13</sup> UNEP was also a major player in rallying the international community to discuss ozone protection, an issue UNEP has been addressing since 1977.<sup>14</sup> More recently, UNEP lobbied to include environmental sustainability as one of eight Millennium Development Goals (MDGs).<sup>15</sup> Other UNEP milestones include the establishment of the Intergovernmental Panel on Climate Change

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<sup>1</sup> "WTO History: Early years: emerging environment debate in GATT/WTO." World Trade Organization.  
[http://www.wto.org/english/thewto\\_e/whatis\\_e/tif\\_e/fact4\\_e.htm](http://www.wto.org/english/thewto_e/whatis_e/tif_e/fact4_e.htm)

<sup>2</sup> Ibid.

<sup>3</sup> Ibid.

<sup>4</sup> Ibid.

<sup>5</sup> Ibid.

<sup>6</sup> Ibid.

<sup>7</sup> Ibid.

<sup>8</sup> Ibid.

<sup>9</sup> "Resources for Government Officials." The United Nations Environment Programme.  
<http://www.unep.org/resources/gov/overview.asp>

<sup>10</sup> Ibid.

<sup>11</sup> "Functional Programmes." The United Nations Environment Programme.

<http://www.unep.org/Documents.Multilingual/Default.asp?DocumentID=43&ArticleID=215&l=en>

<sup>12</sup> Veena Jha, et al. *Reconciling Trade and the Environment: Lessons from Case Studies in Developing Countries*. Massachusetts: Edward Elgar Publishing. 1999.

<sup>13</sup> Ibid.

<sup>14</sup> "UNEP Milestones." The United Nations Environment Programme.

<http://www.unep.org/Documents.multilingual/Default.asp?DocumentID=287>

<sup>15</sup> Ibid.

(IPCC), which was established to assess information on the impact of human activity on climate change, as well as the ratification of the Convention on Biological Diversity (CBD).<sup>16</sup>

Current members of UNEP: ALGERIA, ANGOLA, ANTIGUA AND BARBUDA, ARGENTINA, AUSTRALIA, AUSTRIA, BAHAMAS, BANGLADESH, BELGIUM, BOTSWANA, BRAZIL, BULGARIA, BURKINA FASO, BURUNDI, CAMEROON, CANADA, CAPE VERDE, CHILE, PEOPLE'S REPUBLIC OF CHINA, COLOMBIA, COSTA RICA, CZECH REPUBLIC, DEMOCRATIC REPUBLIC OF THE CONGO, FRANCE, GERMANY, GHANA, HAITI, HUNGARY, INDIA, INDONESIA, ISLAMIC REPUBLIC OF IRAN, ISRAEL, JAPAN, KAZAKHSTAN, KENYA, KYRGYZSTAN, MEXICO, MONACO, MOROCCO, THE NETHERLANDS, PAKISTAN, POLAND, REPUBLIC OF KOREA, ROMANIA, RUSSIAN FEDERATION, SAUDI ARABIA, SENEGAL, SOMALIA, SOUTH AFRICA, SWEDEN, THAILAND, TURKEY, TUVALU, UGANDA, UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND, UNITED REPUBLIC OF TANZANIA, UNITED STATES OF AMERICA, URUGUAY.

## I. Making Trade and the Environment Mutually Supportive

*“An open and non-discriminatory multilateral trading system, and acting for the protection of the environment and the promotion of sustainable development can and must be mutually supportive.”<sup>17</sup>*

Trade and the environment are related “at the most basic level...because all economic activity is based on the environment. It is the basis for all basic inputs (metals and minerals, forest fisheries), and for the energy needed to process them. It also receives the waste products of economic activity.”<sup>18</sup> Trade can have both positive and negative effects on the environment, and protecting the environment from trading practices can have the same effect on trade. As discussion surrounding trade and the environment has increased, so have the multilateral environmental agreements. The most significant of these is the 1975 Convention on International Trade and Endangered Species (CITES), which ensures the protection of wild animals and plants from international trade activities. Since CITES, many environmentalists and proponents of trade liberalization have met and argued the importance of stimulating economic growth and preserving global resources.

The United Nations Environment Programme (UNEP) plays a major role in connecting trade and environment issues. UNEP has produced many reports and held numerous forums on the impacts of trade on biodiversity. UNEP, in conjunction with the World Conservation Union (IUCN), established the Species Survival Commission (SSC) programme, which serves to promote the conservation of wild species subject to trade by assessing the effect of trade on the status of species and generating appropriate recommendations and conservation strategies.<sup>19</sup> This is just one of many environmental trade programs that UNEP has committed itself to.

### *History of the International Trading System and the Environment*

As the international trading system expanded and grew in the late 20<sup>th</sup> century due to globalization, more discussions were initiated about the relationship between the environment and trade. In the early 1970s, when the environmental movement was gaining strength internationally, the members of the General Agreement on Tariffs and Trade (GATT) were invited to submit comments for consideration at the UN Convention on the Human Environment (UNCHE).<sup>20</sup> The Secretariat of GATT prepared the study *Industrial Pollution Control and International Trade* that examined the effects of environmental protection measures on international trade.<sup>21</sup> However, this study did not address the larger issue of the balance between economic development and environmental protection. Instead, the report reflected the concern of trade officials that environmental policies could become obstacles to trade,

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<sup>16</sup> Ibid.

<sup>17</sup> *Trade and Environment: Emerging Policy Issues*. United Nations Environment Programme. New York: UNEP. 2002.

<sup>18</sup> Ibid.

<sup>19</sup> “Species Survival Commission.” The World Conservation Union. <http://www.iucn.org/themes/ssc/programs/trade.htm>

<sup>20</sup> “WTO History: Early Years: Emerging Environment Debate in GATT/WTO.” The World Trade Organization. [http://www.wto.org/english/thewto\\_e/whatis\\_e/fact4\\_e.htm](http://www.wto.org/english/thewto_e/whatis_e/fact4_e.htm)

<sup>21</sup> Ibid.

constituting a new form of protectionism.<sup>22</sup> Before the UNCHE session began, the report was presented by GATT Director General Oliver Long to the “Contracting Parties” (members of GATT).<sup>23</sup> The document urged members of GATT to examine the implications of environmental policies on international trade. This resulted in the establishment of the Environmental Measures and International Trade Group (EMIT) in 1971.<sup>24</sup> Although, EMIT was given the task to examine the implications of the environment and trade more thoroughly, the GATT Council of Representatives ruled that EMIT could only convene at the request of GATT members.<sup>25</sup>

The EMIT group did not assemble until 1991 when members of the European Free Trade Association (EFTA) asked the group to investigate the exact inter-linkages between environmental policies and trade policies.<sup>26</sup> Furthermore, EFTA encouraged the EMIT group to make a contribution to the 1992 World Conference on Environment and Development which sought to link economic development and sustainability of natural resources.<sup>27</sup> After the EFTA request, the EMIT Group held two years of meetings to discuss the relationship between trade and the environment. At the conclusion of their discussions, the EMIT Group produced a report concluding that there was no inherent contradiction between environmental protection by individual countries or through multilateral treaties and the GATT trading system.<sup>28</sup> Furthermore, the report stated that GATT was not the appropriate forum to review national environmental laws or develop international environmental standards.

### ***The World Trade Organization’s Response to Trade and the Environment***

In 1994, the Marrakesh Agreement was signed by 104 nations.<sup>29</sup> This agreement replaced GATT and established the World Trade Organization (WTO), which works to help “exporters and importers conduct their business.”<sup>30</sup> Recently, there have been several discussions on how effective the WTO has been in discussing and resolving trade and environment issues. Many of these discussions have arisen from the first major environmental case that was brought before the WTO, the *Import Prohibition of Shrimp Case: Malaysia v the United States (1998)*.<sup>31</sup>

The United States had implemented a ban on shrimp from countries whose fishing fleets did not have special “turtle excluder devices” under its 1973 *Endangered Species Act (ESA)*.<sup>32</sup> India, Malaysia, Thailand, and Pakistan claimed the law was a disguised restriction on free trade and challenged the measure in the WTO’s dispute resolution process.<sup>33</sup> The United States argued that Article XX of the GATT, which states that “nothing in this agreement shall be construed to prevent the adoption or enforcement by any contracting party of measures necessary to protect human, animal, or plant life, or health; relating to the conservation of exhaustible natural resources.”<sup>34</sup> However, the dispute resolution panel of the WTO declared that the U.S. shrimp ban was not justified under the Article XX exceptions, because environmental protection measures could not be used to undermine the overall multilateral trading system.<sup>35</sup> After the WTO’s decision was rendered, the U.S. requested and was granted an appeal. The Appellate Body of the WTO also ruled against the United States stating that the shrimp ban was discriminatory and thus ordered the U.S. to end the ban.<sup>36</sup> This decision caused uproar among many environmentalists. Accordingly, environmentalists further pushed the WTO to review the inter-linkages of trade and the environment.<sup>37</sup> As a result the WTO has begun to incorporate environmental discussion into its trade agenda.

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<sup>22</sup> Ibid.

<sup>23</sup> Ibid.

<sup>24</sup> Ibid.

<sup>25</sup> Ibid.

<sup>26</sup> Ibid.

<sup>27</sup> Ibid.

<sup>28</sup> Ibid.

<sup>29</sup> Lori Wallach. *Whose Trade Organization: The Comprehensive Guide to the WTO*. New York: News Press. 2004, p. 11.

<sup>30</sup> “What is the WTO?” World Trade Organization. [http://www.wto.org/english/thewto\\_e/whatis\\_e/whatis\\_e.htm](http://www.wto.org/english/thewto_e/whatis_e/whatis_e.htm)

<sup>31</sup> Gary Sampson. *Trade, Environment, and the WTO: The Post Seattle Agenda*. Washington, D.C.: Overseas Development Council. 2000, p. 15.

<sup>32</sup> Ibid.

<sup>33</sup> Ibid.

<sup>34</sup> Brandee Chamber. *Trade, Environment, and the Millennium*. New York: United Nations Press 1999, p. 46.

<sup>35</sup> Ibid.

<sup>36</sup> Ibid.

<sup>37</sup> Adil Najam. “Trade and the Environment after Seattle: A Negotiation Agenda for the South.”

### ***Case Study: China and Trade Liberalization and the Environment***

China's exports have grown rapidly over the last 15 years due to a reform in its trade policies.<sup>38</sup> Since 1993, total trade, exports and imports in China increased by \$40 billion.<sup>39</sup> This reform process has had both positive and negative impacts on the environment. The significant contribution of trade liberalization from the reforms has been through the dissemination of technology and benefits accruing to the small and medium enterprises (SMEs) due to joint ventures.<sup>40</sup> A 9.5 percent increase in exports enabled the country to earn enough foreign exchange to import environmental friendly technology.<sup>41</sup> An example of the environment benefiting from increased exports is the Shengyang Organic Chemical Plant.<sup>42</sup> This chemical plant, where increased foreign exchange earnings occurred, permitted the firm to invest in pollution control devices.<sup>43</sup> As a result, the plant could recycle its acid and phenol waste water. At the same time, the plant's productivity increased and this resulted in increased profits.<sup>44</sup>

Another area where economic liberalization has been beneficial to the environment is in rural areas.<sup>45</sup> Many export enterprises, especially rural-based suppliers, have cooperated with manufacturing units to reduce pollution through the help of more efficient and environmental friendly technology. As a result, some rural areas benefited from the increased export activity. One example is when coordination between plants to set up production lines substantially reduced pollution while enhancing productivity.<sup>46</sup>

However, the detrimental effects of the increased trade liberalization appear to be more significant. Negative impacts on the environment have caused a loss of biodiversity and depletion of natural resources. According to the United Nations Development Programme (UNDP) and the United Nations Food and Agriculture Organization (FAO), trade liberalization and increased economic growth in China have caused forests to decrease by **five** thousand square kilometers per year in the last four decades.<sup>47</sup> The export of wild animals has affected biodiversity in China. For example, in the case of frog leg exportation, the increase in exports has led to a proliferation of insect pests threatening several key crops. In turn, this has required the extensive use of pesticide, causing a 41 percent increase in pesticide residues in products.<sup>48</sup> Similar effects have been found in the case of snake and weasel populations, which also are known natural pest controls. The export of wild plants has also had an impact on the environment in China. The "faci" plant, which grows on the border of deserts and has an important sand fixation role, aids in protecting land from desertification.<sup>49</sup> This plant has found a large export market in the trade liberalization era and the unchecked uprooting of this plant has led to serious desertification of over 200 kilometers around Erliahaote City in northern China.<sup>50</sup> China is only one of many case studies in which the impact of trade and the environment has been felt.

### ***The Future of Trade and the Environment***

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*Journal of Environment and Development.* December 2001, p. 26.

<sup>38</sup> Brandee Chamber. *Trade, Environment, and the Millennium.* New York: United Nations Press 1999, p. 46.

<sup>39</sup> Ibid.

<sup>40</sup> Ibid.

<sup>41</sup> Gregory Chow. *China's Economic Reform and Policies at the Beginning of the 21<sup>st</sup> Century.* Hong Kong: China International Fair for Investment and Trade Group. 2000, p. 12.

<sup>42</sup> Adil Najam. "Trade and the Environment after Seattle: A Negotiation Agenda for the South." *Journal of Environment and Development.* December 2001, p. 26.

<sup>43</sup> Ibid.

<sup>44</sup> Ibid.

<sup>45</sup> Ibid.

<sup>46</sup> Ibid.

<sup>47</sup> "The Economy and Agriculture in China, Part 1." The United Nations Food and Agriculture Committee. <http://www.fao.org/sd/EPdirect/EPan009.htm>

<sup>48</sup> "Trade and Environmental Issues." Amphibian Conservation Alliance. <http://www.frogs.org/news/article.asp?inforesourceID=1913>

<sup>49</sup> "The Economy and Agriculture in China, Part 1." The United Nations Food and Agriculture Committee. <http://www.fao.org/sd/EPdirect/EPan009.htm>

<sup>50</sup> Ibid.

With the GATT ruling in the *United States V. Mexico* (Tuna-Dolphin case) and the ruling against the U.S. in the *Malaysia v. the United States* (1998) Shrimp-Turtle case, many environmentalist have argued for the inclusion of environmental provisions in free trade agreements, such as the South Africa Free Trade Agreement (SAFTA), the Free Trade of the America's Agreement (FTAA) and the Central America Free Trade Agreement (CAFTA).<sup>51</sup> These free trade agreements would grant countries open access to markets within their regions, with increased economic activity as a result. Many free trade proponents conclude that environmental provisions should not be included in such agreements because they come with trade sanctions for states that do not follow the regulations and could hinder regional economic growth. Many environmentalists oppose these agreements because of their potential environmental threat. They fear that trade liberalization will undermine and challenge national and international laws and regulations protecting the environment, increase competition, and will promote unsustainable methods of agriculture.<sup>52</sup>

The undermining and challenging of national and international environmental laws is a major concern to environmentalists. According to the *Declaration of Principles* established at the first Summit of the Americas, "all FTAA provisions will remain consistent with the WTO and North American Free Trade Agreement (NAFTA) trade rules."<sup>53</sup> Therefore, environmentalists argue if the FTAA and other free trade policies follow similar rules and regulations as the WTO and NAFTA, then these agreements will allow the rules of the international trade system and multinational corporations to challenge pre-existing and future national and international environmental laws, thus violating the terms of this agreement.<sup>54</sup> Environmentalists further proclaim that multinational investment has already produced significant environmental impacts in the Americas.

Extensive privatization programs, market deregulation, and economic and regulatory incentives for investments have in some cases left trails of ecological destruction. For example, in India, trade liberalization in the form of tariff reduction and liberalization of foreign investment in the automobile sector helped increase automobile production by 136 percent.<sup>55</sup> This led to a doubling of urban air pollution levels in India between 1991 and 1997.<sup>56</sup> Another concrete example of the adverse impact of trade on the environment is in Argentina where trade liberalization and promotion of fishery exports led to a growth in fish catches from 1985 to 1995.<sup>57</sup> The profits that the fishing firms gained from trade liberalization are estimated at \$1.6 billion.<sup>58</sup> However, the resulting depletion in stocks has ultimately led to a net direct cost of approximately \$500 million to country in terms of damage to the stocks of most exploited species.<sup>59</sup> In this instance, trade liberalization led to an increase in the fishery sector at the expense of exploiting the resource.<sup>60</sup>

Environmentalists contend the FTAA's investment rules would not improve the environmental impact of investment in the Americas, yet it is likely to make it substantially worse.<sup>61</sup> The FTAA investment provisions are modeled after Chapter 11 of NAFTA.<sup>62</sup> Environmentalists assert that the FTAA investment rules will grant multinational investors far reaching rights to challenge domestic environmental laws and regulations before international tribunals.<sup>63</sup> The investment provisions will allow private foreign investors to sue governments for compensation for any profits lost due to governmental actions to protect the environment. An example of this is the case of *Metaclad Corporation vs. Mexico* (1996).<sup>64</sup> Metaclad Corporation, a U.S. waste disposal company, accused the Mexican government of violating Chapter 11 of NAFTA when the State of San Luis Potosi, Mexico refused the company permission to re-

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<sup>51</sup> Jeffery Scott. *Free Trade Agreements: Strategies and Priorities*. Washington D.C.: Institute for International Economics. 2004, p. 28.

<sup>52</sup> Herman Daly. *Problems with Free Trade*. Washington D.C.: Island Press. 1998, p. 147.

<sup>53</sup> *Ibid.*

<sup>54</sup> Jeffery Scott. *Free Trade Agreements: Strategies and Priorities*. Washington D.C.: Institute for International Economics. 2004, p. 28.

<sup>55</sup> *Ibid.*

<sup>56</sup> Herman Daly. *Problems with Free Trade*. Washington D.C.: Island Press. 1998, p. 147.

<sup>57</sup> *Ibid.*

<sup>58</sup> *Ibid.*

<sup>59</sup> *Ibid.*

<sup>60</sup> *Ibid.*

<sup>61</sup> *Ibid.*

<sup>62</sup> *Ibid.*

<sup>63</sup> *Ibid.*

<sup>64</sup> *Ibid.*



open a waste disposal facility there.<sup>65</sup> The state governor declared the site part of a 600 thousand-acre ecological zone.<sup>66</sup> In August of 2000, a NAFTA tribunal ruled in favor of the company and ordered the Mexican government to pay \$16.7 million in compensation.<sup>67</sup> Because of ruling like this, environmentalists conclude that if trade can challenge national and international environmental laws then surely they can be protected by including environmental provisions in the free trade agreements and other trade policies.

### ***The Role of the United Nations in Balancing Trade and the Environment***

The United Nations System has done a great deal to foster and facilitate discussion on the linkages between trade and the environment. The UNEP has done much to foster and facilitate discussions on the interlinking between trade and the environment. The Economic and Trade Branch of the UNEP (UNEP-ETB) works to “conserve the environment, reduce poverty and promote sustainable development by enhancing the capacity of governments and businesses to integrate environmental considerations into economic, trade and financial policies.”<sup>68</sup> In 2003, the UNEP-ETB established the Network of Institutions for Sustainable Development (NISD), which brings together regional and national research and training institutions worldwide to promote the integration of environmental, and sustainable development issues into economic and trade policies.<sup>69</sup>

Another initiative developed by UNEP is the Fishery Subsidy Reform and Management Programme (FSRMP).<sup>70</sup> This program was developed in 2004 to promote sustainable management of the fishery sector in developing countries.<sup>71</sup> The project aims to encourage the development of national practices and new WTO rules that support sustainable fisheries and fishing industries in developing countries.<sup>72</sup>

In addition to UNEP, the United Nations Conference on Trade and Development (UNCTAD) is the focal point within the United Nations for integrated treatment of trade and development issues.<sup>73</sup> UNCTAD also acts as a forum for intergovernmental discussions and deliberations on trade and development issues. Further, UNCTAD works in co-operation with other organizations to provide technical assistance to developing countries to help them link trade and the environment.<sup>74</sup> For example, in 1999 UNCTAD established the Carbon Market Programme, which focuses on exploring the economic, trade and investment impacts of climate change. It also works to promote their effective global carbon market.<sup>75</sup>

Another major initiative UNCTAD developed is the BIOTRADE Initiative (BTI), which was launched in 1996 during the third Conference of Parties (COP) of the Convention on Biological Diversity (CBD).<sup>76</sup> The object of BTI is to stimulate trade and investment in biological resources to further sustainable development in line with the objectives of the CBD which are to “conserve biological diversity; sustain use of its components; promote fair and equitable sharing of the benefits arising from utilization of generic resources.”<sup>77</sup>

### ***The Role of Non-Governmental Organizations (NGOs)***

In addition to the UN agencies, many NGOs are involved in the issues of trade and environment. For example, the World Conservation Union (IUCN) and the World Resources Institute (WRI) along with UNEP founded the Global Biodiversity Forum (GBF) in 1993.<sup>78</sup> The GBF encourages analysis, dialogue and partnership on key ecological,

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<sup>65</sup> Ibid.

<sup>66</sup> Ibid.

<sup>67</sup> Ibid.

<sup>68</sup> “About UNEP Economic and Trade Branch.” The United Nations Environment Programme.

<http://www.unep.ch/etb/about/index.php>

<sup>69</sup> Ibid.

<sup>70</sup> Ibid.

<sup>71</sup> Ibid.

<sup>72</sup> Ibid.

<sup>73</sup> “About UNCTAD.” United Nations Conference on Trade and Development. <http://www.unctad.org>

<sup>74</sup> Ibid.

<sup>75</sup> Ibid.

<sup>76</sup> Ibid.

<sup>77</sup> Ibid.

<sup>78</sup> “The Global Biodiversity Forum.” Global Biodiversity Forum. <http://www.gbif.ch>

economic, social and institutional issues related to biodiversity, such as trade.<sup>79</sup> In addition to the GBF, the IUCN also established the Working Group on Environment, Trade and Investment (GETI).<sup>80</sup> This is a forum for countries, NGOs, and inter-governmental organizations (IGOs) to continue dialogue on enhancing the mutual supportiveness between the trading system and the environment.<sup>81</sup>

Another example of NGO contributions to issues of trade is the South Asia Watch on Trade, Economics and Environment (SAWTEE) which established the Farmers Rights Programme (FRP) in 2001.<sup>82</sup> The FRP is being implemented in six south Asian countries: Bangladesh, India, Nepal, Pakistan, Sri Lanka and Laos.<sup>83</sup> The goal of FRP is to promote farmers rights in the context on trade liberalization, globalization, and the WTO agreements, mitigating the adverse impacts on livelihoods and mountain resources.<sup>84</sup>

NGOs can play a vital role in assisting countries in implementing environmentally friendly programs through technical assistance and capacity building. At the same time, they have the capacity to act as moderators between inter-governmental organizations and States. NGOs have had a strong presence in the creation of many current multinational agreements such as CITES, the TRIPPS agreement, and the CBD.

### *Committee Directive*

Trade and the environment is a very complicated topic. There have been many debates throughout the international community on how to make them mutually supportive. As you further research this topic, you will need to think about the impacts of stricter environmental regulations in developing countries and economies in transition and its impact on their exports and imports. What impacts, if any, result from differences in environmental standards between richer and poorer countries? Are programs instituted on a voluntary basis in developed countries, such as the eco-labeling program, having a detrimental impact on the exports of the developing countries, or are they offering new market opportunities to those countries? How can the WTO help make trade and the environment mutually supportive? Also, the European Union (EU) has very strict environmental standards. Have these standards hurt trade flows in the EU? Furthermore, what increased roles can the UNEP play in making trade and the environment mutually supportive?

## **II. Environmental Degradation and Natural Disasters**

*“More effective prevention strategies would save not only tens of billions of dollars, but save tens of thousands of lives. Building a culture of prevention is not easy. While the costs of prevention have to be paid in the present, its benefits lie in a distant future. Moreover, the benefits are not tangible; they are the disasters that did not happen.”<sup>85</sup>*

### **Background**

Over the last decade the numbers of environmental emergencies and natural disasters have more than doubled.<sup>86</sup> The Centre for Research on the Epidemiology of Disasters (CRED) in Brussels records more than 600 disasters yearly.<sup>87</sup> Current estimates show that natural disasters such as floods, hurricanes, earthquakes and wild fires affect

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<sup>79</sup> Ibid.

<sup>80</sup> “IUCN Working Group on Environment, Trade and Investment.” The World Conservation Union. [http://www.iucn.org/themes/ceesp/wkg\\_grp/GETI.pdf](http://www.iucn.org/themes/ceesp/wkg_grp/GETI.pdf)

<sup>81</sup> Ibid.

<sup>82</sup> “Farmer’s Rights Programme.” South Asian Watch on Trade. <http://www.sawtee.org/programmes.html>

<sup>83</sup> Ibid.

<sup>84</sup> Ibid.

<sup>85</sup> Salvano Briceno. “Global Challenges in Disaster Reduction and Earth Observation Systems.” International Strategy for Disaster Reduction. <http://dels.nas.edu/dr/docs/dr9/briceno.pdf>

<sup>86</sup> “Natural Disasters and Risk.” The United Nations Development Programme. <http://gridca.grid.unep.ch/undp>

<sup>87</sup> *Disaster Risk Management Series No. 5, Natural Disasters Hotspots- A Global Risk Analysis.* The World Bank. Washington D.C. 2005, pp. 1, 4.



more than 200 million people annually, claiming the lives of nearly 150,000.<sup>88</sup> In 2000, global financial losses from natural catastrophic events exceeded \$100 billion and cost more than \$670 billion in material damage.<sup>89</sup> Unfortunately, such staggering figures do not begin to account for the full social and economic impact of these disasters.

The continuous increase in natural disasters poses a significant threat to development initiatives.<sup>90</sup> The associated rise in the cost of reconstruction efforts and loss of development assets has forced the issue of disaster reduction, risk management, and disaster prevention on the policy agenda for many governments, multilateral lending institutions and international organizations such as the United Nations. The United Nations Environment Programme (UNEP) plays a major role in disaster relief efforts. UNEP has established a joint unit with the Office of the Coordinator of Humanitarian Assistance (OCHA) to assess and respond to man-made environmental emergencies in cooperation with other U.N. agencies including the United Nations Development Programme (UNDP).<sup>91</sup>

There are many causes of natural disasters, including urbanization and population growth.<sup>92</sup> However, the most prevalent cause is environmental degradation. In both developing and industrial countries, the overuse of resources causes pollution and ultimately leads to changes in the global environment.<sup>93</sup> The quadrupling of carbon emissions in the last half-century has led to global warming and climatic changes.<sup>94</sup> For example, there has been a 1.2 degree increase in global mean surface temperature, as well as 10 to 15 centimeters rise in sea levels.<sup>95</sup> If current trends continue, scientists predict that global temperatures will increase by another degree by 2050.<sup>96</sup> This means that precipitation anomalies will also rise—which in turn could increase the occurrence of weather related hazards. In 2004, CRED recorded 617 natural hazards of which 142 were deemed disasters mostly in developing countries.<sup>97</sup> According to CRED, 62 percent of the disasters were weather related hazards.<sup>98</sup> This means that if global temperatures continue to rise, there could be an increase in weather related disasters. According to the Third Assessment Report of the Intergovernmental Panel on Climate Change (IPCC), climate change is likely to affect the severity, frequency and spatial distribution of extreme climatic events such as hurricanes, storm surges, floods and droughts. IPCC scenarios have linked higher atmospheric concentrations of greenhouse gases, in particular CO<sub>2</sub>, to a rise in mean global temperature.<sup>99</sup> This is associated with larger and more abrupt climatic variations resulting in more frequent and increasingly devastating natural disasters.<sup>100</sup>

### ***Environmental Refugees***

When natural disasters occur, they create environmental refugees—people who have been forced to flee their homes due to environmental related incidents.<sup>101</sup> The number of people seeking refuge as a result of environmental disaster is set to increase dramatically over the coming years.<sup>102</sup> The United Nations High Commission on Refugees

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<sup>88</sup> Ibid.

<sup>89</sup> “Natural Disasters and Risk.” The United Nations Development Programme.

<http://gridca.grid.unep.ch/undp>

<sup>90</sup> *World Disaster Report 2001*. International Federation of Red Cross (IFRC) and Red Crescent Societies.

<http://www.ifrc.org/publicat/wdr2001/chapter1.asp>

<sup>91</sup> “Environmental and Natural Disasters.” United Nations Environment Programme.

<http://www.unep.ch/about.htm>

<sup>92</sup> “Natural Disaster Prevention.” World Conference on Natural Disaster Reduction.

<http://undp.org/bcwr/disred/documents/miscellaneous/naturaldisasterstrategy.pdf>

<sup>93</sup> Ibid.

<sup>94</sup> “Climate Change.” United Nations Cyber-School Bus. <http://www.un.org/cyberschoolbus/briefing/climate/index.htm>

<sup>95</sup> Ibid.

<sup>96</sup> Ibid.

<sup>97</sup> “Natural Disaster Prevention.” World Conference on Natural Disaster Reduction.

<http://undp.org/bcwr/disred/documents/miscellaneous/naturaldisasterstrategy.pdf>

<sup>98</sup> Ibid.

<sup>99</sup> “The Scientific Basis.” Inter-Governmental Panel on Climate Change.

<http://www.ipcc.ch/>

<sup>100</sup> Ibid.

<sup>101</sup> “Protecting Refugees.” United Nation High Commissioner on Refugees.

<http://www.unhcr.org/cgi-bin/texis/vtx/protect/openssl.html?&tbl=PROTECTION&id=3b03b6f4>

<sup>102</sup> Ibid.

(UNHCR) reports that since 1999 over 100 million people have been displaced by natural disasters.<sup>103</sup> In China, sea level rise coupled with local subsidence would flood all of Shanghai and around 96 percent of the surrounding province.<sup>104</sup> The Chinese government calculates that 30 million people may be displaced due global warming impacts.<sup>105</sup> Also, estimates show that seven percent of Bangladesh could be permanently lost to rising sea levels coupled with land subsistence,<sup>106</sup> which could cause 15 million people to be displaced.<sup>107</sup> Problems may also be exacerbated by inland flooding. In September 1988, river flooding left three quarters of the country inundated and 50 million people left homeless.<sup>108</sup> In addition to being displaced, environmental refugees lack mobility and access to resources and are susceptible to physical danger.<sup>109</sup> Despite the vulnerable position of environmental refugees following a disaster, their special needs are often ignored, as are their abilities to respond.<sup>110</sup>

### *Early Warning Systems as a Means of Disaster Prevention*

One way to mitigate the impact of natural disasters is to adopt emergency preparedness practices, which can be defined as pre-impact actions that provide the human and material resources needed to support active responses at the time that the disasters impacts.<sup>111</sup> The first step in emergency preparedness is to identify the demands that a disaster of a given magnitude would place upon a community.<sup>112</sup> Early warning systems are the most efficient and cost-effective measure to mitigate the impacts of natural disasters.<sup>113</sup> These systems can effectively predict the occurrence of natural hazards, dissemination of understandable information to the affected community, their preparedness to act and to determine an adequate response.<sup>114</sup> In order for early warning systems to be effective, they need to be integrated into the institutional and legislative framework of affected states, which assume political responsibility for the efforts.<sup>115</sup> Early warning systems are crucial to current disaster reduction strategies.<sup>116</sup> The International Decade of Natural Disaster Reduction (1990-2000) had as its goal that early warning should be available worldwide by the year 2000.<sup>117</sup> The Indian Ocean Tsunami Disaster on December 26, 2004, was a vivid example that this goal has not been satisfactorily achieved. The importance of early warning was stressed by the *Yokohama Strategy and Plan of Action for a Safer World* (1994) as well as at the First and Second International Conferences on Early Warning in 1998 and 2003, both hosted by Germany.<sup>118</sup> Early warning systems can be extremely effective and have proven ever more effective due to advances in scientific technology.<sup>119</sup> Today, for example, drought warnings can be issued several months in advance. Yet, despite all success, weaknesses of early warning systems remain.

The effectiveness of early warning systems has been extensively debated. Early warning systems still lack expertise in disseminating warning and training adequate for response.<sup>120</sup> Academics believe that efforts to increase the

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<sup>103</sup> Ibid.

<sup>104</sup> "Congressional Testimony: China's Environmental Challenges." Council on Foreign Relations  
[http://www.cfr.org/publication/7391/congressional\\_testimony.html](http://www.cfr.org/publication/7391/congressional_testimony.html)

<sup>105</sup> Ibid.

<sup>106</sup> Ibid.

<sup>107</sup> Anthony Black. *Environmental Refugees Myth or Reality*. London: University of Sussex Press.  
[www.jha.ac/articles/u034.pdf](http://www.jha.ac/articles/u034.pdf)

<sup>108</sup> Ibid.

<sup>109</sup> Ibid.

<sup>110</sup> Ibid.

<sup>111</sup> Micheal K. Lindell and Carala S. Prater. *Assessing Community Impacts of Natural Disasters*. Texas A&M University Press, p. 3-4.

<sup>112</sup> Ibid.

<sup>113</sup> "Platform for the Promotion of Early Warning Systems: Basics of EWS." International Strategy for Disaster Reduction  
<http://unisdr.org/ppew/whats=ew/bsics.htm>.

<sup>114</sup> Ibid.

<sup>115</sup> Ibid.

<sup>116</sup> Ibid.

<sup>117</sup> Ibid.

<sup>118</sup> "Effective Early Warning to Reduce Disasters: the Need for more Coherent International Action."  
[http://www.ewc2.org/upload/download/ew\\_programme.pdf](http://www.ewc2.org/upload/download/ew_programme.pdf)

<sup>119</sup> "Platform for the Promotion of Early Warning Systems: Basics of EWS." International Strategy for Disaster Reduction  
<http://unisdr.org/ppew/whats=ew/bsics.htm>.

<sup>120</sup> Ibid.

effectiveness of dissemination are more important than scientific advances.<sup>121</sup> The communication of warnings to people affected and the training of adequate response is a particularly weak point in the development of early warning systems, even though modern technology makes early warning faster than ever before.<sup>122</sup> Yet, those modern technologies may often not exist in areas that are prone to natural hazards.

A more serious problem than issues affecting the inefficiency and inadequacy of existing early warning systems remains to be the lack of early warning systems, especially in areas that are prone to natural hazards and disasters.<sup>123</sup> Due to climate change, early warning systems that are needed the most are the ones that can detect weather related hazards. The sea level is expected to rise by 90 centimeters worldwide and average surface temperatures are expected to rise by 6 degrees.<sup>124</sup> There is a need for sophisticated early warning systems for droughts and floods with a parallel effort to increase adaptive capabilities and development of policies that take into consideration climatic changes.<sup>125</sup> The need for an early warning system for both floods and droughts is especially important in Western Africa, Latin America and Southeast Asia—as these areas will bear the greatest negative impact of the greenhouse effect and climatic changes.<sup>126</sup> Big cities such as Quito, Ecuador, San Jose, Costa Rica, Taipei, Taiwan and Tokyo, Japan lack adequate systems and measures for assessing risk.<sup>127</sup> According to the World Bank, if a disaster should strike any of those cities, three percent of the global GDP would be directly affected.<sup>128</sup> The development of hazard-resistant infrastructure can also greatly reduce the risk of any natural hazards having a major impact.<sup>129</sup> The World Bank supports the view that such systems should be integrated into national development when making policy decision on investments in hazard prone developing countries.<sup>130</sup>

### ***The Role of the United Nations in Natural Disaster Preparedness and Relief***

The United Nations System has done a great deal to help address issues related to natural disaster preparedness and disaster relief. The United Nations Development Programme (UNDP) is the central coordinating organization for U.N. development activities and the world's largest multilateral source of technical assistance for sustainable human development. UNDP has traditionally managed the in-country position of Resident Coordinator, who often also serves as the Humanitarian Coordinator in an emergency.<sup>131</sup>

The United Nations High Commissioner for Refugees' (UNHCR) primary function is to provide international protection to refugees through its humanitarian and non-political work.<sup>132</sup> This work includes coordinating the provision of food, water, shelter, sanitation and medical care as well as promoting the adoption and implementation of international standards for the treatment of refugees and for seeking voluntary repatriation or permanent resettlement.<sup>133</sup> Increasingly, UNHCR also assists internally displaced persons.<sup>134</sup>

For sixty years, the United Nations Children's Fund (UNICEF) has provided clean water, food clothing, shelter and other necessities to children who are victims of natural disasters. UNICEF, in its commitment to providing protection for “the most disadvantaged children” and responding in emergency situations to “protect the rights of children,” has made a conscious commitment to children affected by natural disasters.<sup>135</sup> UNICEF is viewed by the

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<sup>121</sup> Ibid.

<sup>122</sup> Ibid.

<sup>123</sup> Ibid.

<sup>124</sup> “Effective Early Warning to Reduce Disasters: the Need for more Coherent International Action.

[http://www.ewc2.org/upload/download/ew\\_programme.pdf](http://www.ewc2.org/upload/download/ew_programme.pdf)

<sup>125</sup> “Platform for the Promotion of Early Warning Systems: Basics of EWS.” International Strategy for Disaster Reduction

<http://unisdr.org/ppew/whats=ew/bsics.htm>.

<sup>126</sup> Ibid.

<sup>127</sup> *Disaster Risk Management Series No. 2*. The World Bank. Washington, D.C.: The World Bank p. 8

<sup>128</sup> Ibid.

<sup>129</sup> Ibid.

<sup>130</sup> Ibid.

<sup>131</sup> “Natural Disaster Unit.” The United Nations Development Programme. <http://www.undp.org/bcpr/disred/>

<sup>132</sup> “What is UNHCR?” United Nations High Commissioner for Refugees. <http://www.unhcr.org/unhcr/un&ref/what/what.htm>

<sup>133</sup> Ibid.

<sup>134</sup> Ibid.

<sup>135</sup> Ibid.

international community as a leader in this area, often coordinating such efforts with other UN Organizations and NGOs.

The World Food Programme (WFP) has the dual mandate of relief and development through food aid.<sup>136</sup> Currently, about 80 percent of its resources are used for emergency food aid and about 20 percent go for development projects that promote long-term food security such as its food-for-work program.<sup>137</sup> The WFP assesses food and logistical needs, both in preparation for and in response to disasters. Through agreements with other agencies, WFP provides food and logistical arrangements where other agencies take the lead role.<sup>138</sup>

The World Health Organization (WHO) directs and coordinates the health-related aspects of emergencies. Additionally, WHO provides initial health relief and subsequent help rehabilitating health care systems.<sup>139</sup>

### ***The Role of Non-Governmental Organizations (NGOs)***

There are many NGOs currently playing an active role in natural disaster relief. The most known organization is the International Federation of Red Cross and Red Crescent Societies. The Federation's mission is to improve the lives of vulnerable people by mobilizing the power of humanity.<sup>140</sup> The Federation carries out relief operations to assist victims of disasters, and combines this with development work to strengthen the capacities of its member's National Societies.<sup>141</sup> In addition to their various disaster management programs, the International Red Cross established the Disaster Relief Emergency Fund (DREF), which provides immediate funding to countries for disaster relief.<sup>142</sup> Also, the DREF is used to allow timely response and awareness raising in the case of slow onset disasters like droughts and food insecurity.<sup>143</sup> In addition to the International Red Cross, OXFAM and CARE International have contributed to disaster relief efforts in many developing countries. OXFAM provides clean water, sanitation facilities, food, health and nutrition to areas that have been affected by natural disasters.<sup>144</sup> CARE International works with more than 70 countries and many independent relief and development organizations in disaster stricken areas.<sup>145</sup> For instance, during the Tsunami, CARE worked to provide housing and food to many displaced persons.<sup>146</sup> NGOs can play a vital role in assisting countries in preparing for disasters and in relief efforts through technical assistance and capacity building.

### ***Conclusion***

Natural disasters are occurring ever more frequently as a consequence of human activities. Environmental degradation is increasingly stripping the planet of its natural defenses against these disasters and at the same time increasing human vulnerability. Natural disasters lead to financial, structural and human losses. Despite efforts to create adequate disaster management plans, there have been little successes in this arena. Therefore, it is the priority of this committee to address this issue to insure human lives and infrastructure while preserving environmental resources.

### ***Committee Directive***

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<sup>136</sup> "Disaster and Development." The World Food Programme.  
[http://www.wfp.org/operations/introduction/index.asp?section=5&sub\\_section=1](http://www.wfp.org/operations/introduction/index.asp?section=5&sub_section=1)

<sup>137</sup> Ibid.

<sup>138</sup> Ibid.

<sup>139</sup> "Natural Disaster Profile." The World Health Organization.

<http://www.who.int/hac/techguidance/ems/disasters/en/index.html>

<sup>140</sup> "Mission of the Red Cross." The International Red Cross and Red Crescent Societies.

<http://www.icrc.org/HOME.NSF/060a34982cae624ec12566ae300394f6e?OpenDocument>

<sup>141</sup> Ibid.

<sup>142</sup> "Disaster Relief Emergency Fund." International Red Cross and Red Crescent Societies

<http://www.ifrc.org/what/disasters/dref/index.asp>

<sup>143</sup> Ibid.

<sup>144</sup> "About OXFAM." OXFAM International. [http://www.oxfam.org.uk/what\\_we\\_do/issues/conflict\\_disasters/index.htm](http://www.oxfam.org.uk/what_we_do/issues/conflict_disasters/index.htm)

<sup>145</sup> "Disaster and Conflict." CARE International. <http://www.careinternational.org.uk/?lid=2570>

<sup>146</sup> Ibid.

In order to address the issues laid out in the background guide, it is essential to be aware of your nation's natural disaster preparedness preparations in relation to environmental degradation. What kinds of natural disasters, if any, is your country or region prone too? What are the human caused impacts of these disasters? Does your nation have a management plan in place, and if so, how successful has it been when faced with natural disasters? How has your nation learned from both successes and failures in relation to its management plans? You should also look at international disaster management plans. What lessons can your State offer the international community in response to various situations? While disaster management plans often look at short-term relief, can long-term planning be applied in these situations in order to minimize human caused environmental degradation, and therefore, the impacts of natural disasters?

### III. Water Resource Management: Development, Conservation and Access

*“Let us also reaffirm our commitment to better management of the world’s water resources, which are our lifetime for survival, and for sustainable development in the 21<sup>st</sup> century.”<sup>147</sup>*

One of the most important environmental issues facing the international community today is water degradation and, therefore, water resource management. Water resource management is defined as the “decision-making, manipulative and non-manipulative process by which water is protected, allocated or developed.”<sup>148</sup> Water resources are essential for satisfying daily human needs, protecting public health and ensuring food production, energy, the restoration of ecosystems, and for social and economic development.<sup>149</sup> While water is the most common natural resource in the world, the supply of freshwater is much smaller and now under threat. Thus, appropriate management of the world’s water resources is essential for meeting the demands of a growing population and for expanding water uses.<sup>150</sup>

Creating and enforcing water resource management strategies is a recognized development goal, and is clearly defined within Goal 7 of the Millennium Development Goals (MDGs). Goal 7 of the MDGs, calls on Member States to “halve, by the year 2015, the number of people who are unable to reach or to afford safe drinking water.”<sup>151</sup> The MDGs also call for the development of national and local water resource strategies that promote equitable access to water and maintenance of adequate water supplies.<sup>152</sup>

UNEP has committed to “identify and promote the tools that will address the critical water issues facing humanity” as it continues to serve as the environmental voice for the United Nations.<sup>153</sup> Within this role, UNEP has the “major responsibility of facilitating the integration of the environmental aspects of social and economic development into policy discussions involving freshwater issues.”<sup>154</sup>

#### *The Impact of Water Degradation*

It is important to understand the causes of water degradation to fully understand its effects. The major cause of water degradation is population growth.<sup>155</sup> Between 1970 and 1990, available per capita water supply decreased by nearly one-third due to the population boom.<sup>156</sup> Current estimates show that the world population is likely to

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<sup>147</sup> Koffi Annan. Message from the Secretary-General for World Water Day. World Water Day: Water for Life, 2005-2015. March 22, 2005. <http://www.un.org/waterforlifedecade/worldwaterday.html>

<sup>148</sup> “UNEP Water Resource Management Strategies.” The United Nations Environment Programme. <http://www.unep.org/dpdl/water/>

<sup>149</sup> “Global International Water Assessment.” The United Nations Environment Programme. <http://www.giwa.net>

<sup>150</sup> Ibid.

<sup>151</sup> “United Nations Millennium Declaration.” United Nations General Assembly. <http://www.ohchr.org/english/law/millennium.htm>

<sup>152</sup> Ibid.

<sup>153</sup> “Water Policy and Strategy.” The United Nations Environment Programme. <http://www.unep.org/dpdl/water/index.asp>

<sup>154</sup> “Water Policy and Strategy.” The United Nations Environment Programme. [http://www.unep.org/dpdl/water/Policy\\_strategy/index.asp](http://www.unep.org/dpdl/water/Policy_strategy/index.asp)

<sup>155</sup> “Water and Sustainable Development.” The United Nations Education, Scientific, and Cultural Organization. <http://www.unesco.org/water>

<sup>156</sup> Ibid.

increase from 6 billion to 9.3 billion by 2050.<sup>157</sup> Depending on future rates of population growth, between 2.6 billion and 3.1 billion people may be living in either water-scarce or water-stressed conditions by 2025.<sup>158</sup> The exponentially increasing global population has taken its toll on the available freshwater resources. Unfortunately, all predictions for the future point towards an even grimmer situation. Of the current global population, 434 million people face either water stress or scarcity.<sup>159</sup>

For tens of millions of people in the Middle East and much of Africa today, the lack of available fresh water is a chronic concern that is growing more acute and more widespread.<sup>160</sup> The problem is worse than it often appears because much of the fresh water currently used in water-scarce regions comes from deep aquifers that are not being refreshed by the natural water cycle.<sup>161</sup> The demand for water resources is higher than what the supply can provide. In most of the countries where water shortage is severe and worsening, high rates of population growth exacerbate the declining availability of renewable fresh water.<sup>162</sup> While 25 countries currently experience either water stress or scarcity, between 36 and 40 countries are projected to face similar conditions by 2025.<sup>163</sup>

In addition to population growth, urbanization is another demographic trend resulting in greater water use and pollution.<sup>164</sup> As defined by the United Nations Centre for Human Settlements (UNCHS) urbanization is simply the process by which a country's population changes from primarily rural to urban.<sup>165</sup> It is caused by the migration of people from the countryside to the city in search of better jobs and living conditions.<sup>166</sup> The proportion of the world's population residing in cities was only 14 percent in the early 1900s and only 29 percent by 1950.<sup>167</sup> Since then, the urban population has grown rapidly. Currently, 48 percent of the world population lives in cities and small urban areas.<sup>168</sup> This number is expected to increase 60 percent by 2030.<sup>169</sup>

Urbanization has had two critical impacts on freshwater use. First, many cities divert enormous volumes of surface water or overexploit aquifers.<sup>170</sup> Secondly, untreated or inadequately processed sewage from these cities is a major source of water pollution.<sup>171</sup> A good example of the pressure that population growth and urbanization puts on water resources can be seen along the U.S. and Mexican Border.<sup>172</sup> The Rio Grande River separates the two countries along 1,885 of the 2,200 mile border.<sup>173</sup> During the early 1900s and up to the late 1950s the total population along the border area was less than three million.<sup>174</sup> During the 1970s, with the expansion of agriculture and industry, the population increased by 12 percent and is now at nine million.<sup>175</sup> In 1994, shortly after the North American Free Trade Agreement (NAFTA) went into effect, industry increased three-fold, especially along the El Paso, Texas and

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<sup>157</sup> "About the Issue: Population Matters." The Populations Institute.

[http://www.populationinstitute.org/teampublish/71\\_234\\_4084.cfm](http://www.populationinstitute.org/teampublish/71_234_4084.cfm)

<sup>158</sup> Ibid.

<sup>159</sup> "Water and Sustainable Development." The United Nations Education, Scientific, and Cultural Organization.

<http://www.unesco.org/water>

<sup>160</sup> Ibid.

<sup>161</sup> Ibid.

<sup>162</sup> Ibid.

<sup>163</sup> Ibid.

<sup>164</sup> *Water for People, Water for Life: The United Nations World Water Development Report*. United Nations Education, Scientific, and Cultural Organization. New York and Oxford. 2005.

<http://www.unesco.org/water/wwap/wwdr/index.shtml>

<sup>165</sup> "Water Sanitation and Urbanization." United Nations Centre for Human Settlements.

<http://www.unhabitat.org/categories.asp?catid=263>

<sup>166</sup> Ibid.

<sup>167</sup> Ibid.

<sup>168</sup> Ibid.

<sup>169</sup> Ibid.

<sup>170</sup> Ibid.

<sup>171</sup> Ibid.

<sup>172</sup> *Water for People, Water for Life: The United Nations World Water Development Report*. United Nations Education, Scientific, and Cultural Organization. New York and Oxford. 2005.

<http://www.unesco.org/water/wwap/wwdr/index.shtml>

<sup>173</sup> "Water Sanitation and Urbanization." United Nations Centre for Human Settlements.

<http://www.unhabitat.org/categories.asp?catid=263>

<sup>174</sup> Ibid.

<sup>175</sup> Ibid.



Juarez, Mexico region of the border.<sup>176</sup> The significant expansion of industrial and agricultural activities led to unsustainable water use.<sup>177</sup> A major study conducted by the International Water and Boundary Commission (IBWC) in 2002 predicted that the total population for the El Paso, Texas and Juarez, Mexico region could leap from 2.7 million to nearly 6 million by 2025.<sup>178</sup> Such growth would put greater pressure on the regions already scarce water resources. According to the IBWC, the area already heavily relies on deep wells to abstract water from aquifers.<sup>179</sup> Therefore, the combination of an increased urban population, expansion of industry, and heightened agricultural activity has placed a strain on the availability and usability of the current water resources.

A third cause of water degradation is agricultural demand and trade.<sup>180</sup> A growing population consumes more food which, in turn, requires larger volumes of water to meet the increased agricultural demands. According to the United Food and Agricultural Organization (FAO), 71 percent of freshwater is used for irrigation globally.<sup>181</sup> Since the 1960s, irrigation based agriculture has contributed to 80 percent of the increases in food production.<sup>182</sup> At the same time, irrigation practices deplete rivers and aquifers, and degrades water, soil and wildlife habitat.<sup>183</sup> In most areas, the diversion of rivers and increased water storage capacity has facilitated irrigation development.<sup>184</sup> In a few areas, including parts of South Asia, groundwater extraction makes irrigation possible.<sup>185</sup> Irrigation has been, and will continue to be, key in addressing the global food supply for the growing global population. Unfortunately, irrigation water is often used extremely inefficiently and therefore has depleted water resources in many regions.

In the arid Senegal River Basin, less than 50 percent of the water used in agriculture is used productively.<sup>186</sup> Many farmers do not recognize the economic cost of wasting water, or lack the capital to install appropriate irrigation systems.<sup>187</sup> Improving the environmental performance of irrigation agriculture is not only key to reducing water scarcity, but also important for the environment's long-term sustainability.<sup>188</sup> Environmental problems from irrigation are not limited to developing countries. In Australia, for example, 80 percent of its water flow has been diverted primarily for agriculture.<sup>189</sup> This has resulted in the extensive alteration of the river line and has caused the widespread salinization of groundwater.<sup>190</sup> Salinization is the accumulation of salt in soil—usually in toxic levels. If these salts reach groundwater, or any source of drinking water, they can pose significant health risks,<sup>191</sup> therefore salinization has a dangerous effect on human health, and it is here that the most direct effects of water degradation will undoubtedly be seen.<sup>192</sup>

Water related diseases are among the most common causes of illness and death, affecting mainly those living in developing and Least Developed Countries (LDCs).<sup>193</sup> Water-borne diseases causing gastro-intestinal illness, such

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<sup>176</sup> Ibid.

<sup>177</sup> <sup>177</sup> *Water for People, Water for Life: The United Nations World Water Development Report*. United Nations Education, Scientific, and Cultural Organization. New York and Oxford. 2005. <http://www.unesco.org/water/wwap/wwdr/index.shtml>

<sup>178</sup> Ibid.

<sup>179</sup> Ibid.

<sup>180</sup> "Agriculture and Water Resources." United Nations Food and Agricultural Organization. [http://www.fao.org/ag\\_wtr/\\_id\\_2318.htm](http://www.fao.org/ag_wtr/_id_2318.htm)

<sup>181</sup> Ibid.

<sup>182</sup> Ibid.

<sup>183</sup> "Irrigation Practices and Water Degradation." National Sustainable Agriculture Information Service. [www.attra.org/downloads/water\\_quality/irrigation](http://www.attra.org/downloads/water_quality/irrigation)

<sup>184</sup> Ibid.

<sup>185</sup> "Agriculture and Water Resources." United Nations Food and Agricultural Organization. [http://www.fao.org/ag\\_wtr/\\_id\\_2318.htm](http://www.fao.org/ag_wtr/_id_2318.htm)

<sup>186</sup> Ibid.

<sup>187</sup> Ibid.

<sup>188</sup> Claudio O. Stockle. "Environmental Impact of Irrigation: A Review." National Sustainable Agriculture Information Service. <http://www.swwrc.wsu.edu/newsletter/fall2001/IrrImpact2.pdf>

<sup>189</sup> "Irrigation Practices and Water Degradation." National Sustainable Agriculture Information Service. [www.attra.org/downloads/water\\_quality/irrigation](http://www.attra.org/downloads/water_quality/irrigation)

<sup>190</sup> Ibid.

<sup>191</sup> Ibid.

<sup>192</sup> Ibid.

<sup>193</sup> *World Health Report 2001*. The World Health Organization. <http://hdr.undp.org/reports/global/2005/>

as diarrhea, are caused by drinking contaminated water.<sup>194</sup> Vector-borne diseases like malaria and schistosomiasis are passed through insects and snails that breed in aquatic ecosystems.<sup>195</sup> In 2000, the estimated mortality rate due to water sanitation diseases was 2.2 million,<sup>196</sup> and there were an estimated 1.4 million deaths due to malaria.<sup>197</sup> Further, over two billion people worldwide were infected with schistosomiasis and soil transmitted helminthes, the majority of which were children under five.<sup>198</sup> According to World Health Organization (WHO), the vast majority of these illnesses are preventable and the best way to mitigate the number of water-borne diseases is to provide access to safe drinking water and proper sanitation.<sup>199</sup>

The United Nations Development Programme estimates that currently, 1.1 billion people lack access to safe drinking water and that 2.4 billion lack proper sanitation services.<sup>200</sup> The UNDP has stressed that “if those in poverty were extended improved water supply and basic sanitation, infectious diarrheas would be reduced by 17 percent annually. If well regulated water supply and full sanitation were achieved, this would reduce the burden by 70 percent annually, “thus having an enormous impact on people’s health and ability to contribute to development projects.”<sup>201</sup>

In each of these case studies it was revealed how better water resources could make a tremendous positive change in health, development and agriculture. For all of these reasons it is crucial to examine water resource management and start taking action against this global crisis.

### ***Multilateral Cooperation for Water Resource Management***

Ensuring multilateral cooperation in water resource management is an important consideration when discussing water resource shortcomings.<sup>202</sup> Several current promising projects highlight experiences that may be used as models for future efforts.<sup>203</sup> The World Bank initiated a partnership between the private sector and non-governmental organizations (NGOs) to create sustainable water management policies that include environmental protection in its formulation.<sup>204</sup> The partnership was established to create lessons learned from past experiences, collaborate on future projects and integrate best practices into the program management of each partner organization.<sup>205</sup>

The Global Water Partnership is a coalition of government institutions, private sector entities, and NGOs working to combine knowledge of water management with effective programs in order to promote sound water management policies on regional and local levels.<sup>206</sup> This coalition has created many useful tools for such purposes. Among those is a “Toolkit” containing a compendium of knowledge on programs and policies used to create sustainable water management programs.<sup>207</sup> These “tools” and programs have been implemented in almost every region of the world and are accessible online.

The World Water Council (WWC) identifies itself as the “international water policy think tank” and provides a wealth of information on many topics related to water resource management.<sup>208</sup> The Council is a network of private and public sector institutions combining resources to “build political commitment and trigger action on critical water

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<sup>194</sup> Ibid.

<sup>195</sup> Ibid.

<sup>196</sup> Ibid.

<sup>197</sup> Ibid.

<sup>198</sup> Ibid.

<sup>199</sup> Ibid.

<sup>200</sup> “Poverty.” The United Nations Development Programme. <http://www.undp.org/poverty/index.html>

<sup>201</sup> *UNDP 2004 Human Development Report*. The United Nations Development Programme.

<http://hdr.undp.org/reports/global/2004/>

<sup>202</sup> Gabelnick, Tamar. “Managing Fragile Ecosystems: Sustainable Mountain Development.” March 1997.

<http://www.mtnforum.org/resources/library/gabex97a.htm>

<sup>203</sup> “Partnerships.” World Bank Group. <http://lnweb18.worldbank.org/EESD/ardest.nsf/18ByDocName/Partnerships>

<sup>204</sup> Ibid.

<sup>205</sup> Ibid.

<sup>206</sup> “Small Planet. Big Job. Our Mission.” Global Water Partnership.

<http://www.gwpforum.org/servlet/PSP?chstartupName=about>

<sup>207</sup> Ibid.

<sup>208</sup> “About WWC.” World Water Council. <http://worldwatercouncil.org/about.shtml>

issues at all levels, including the highest decision-making levels, to facilitate the efficient conservation, protection, development, planning, management and use of water in all its dimensions on an environmentally sustainable basis for the benefit of all life on earth.”<sup>209</sup> For example, the WWC’s World Water Forum brings together water policy-makers and experts and serves as a precursor to global collaboration on water security problems.<sup>210</sup> Other projects have included taking a multi-lateral approach to discussing water issues that face the global population.

Currently, UNEP maintains a database called the Global Environmental Monitoring Systems (GEMS), which is designed to provide information on the state of global inland water quality needed for sustainable management of the world’s freshwater.<sup>211</sup> Since 1978, GEMS has maintained a global database to monitor fresh water resources in over 100 countries around the world.<sup>212</sup> GEMS, along with other programs, exemplify how UNEP is committed to addressing water resource management issues of today and tomorrow.

### ***Conclusion***

Population growth, urbanization, and agriculture have always been linked to the availability of freshwater and the sustainability of renewable water resources. The demand for water has grown significantly over the last 50 years not only because of population growth, but also because of an increase in the uses of water for households, agriculture and industrial production. Appropriate management of the world’s water resources is essential for meeting the demands of a growing population and for expanding water uses. At the same time, we must also prevent the further degradation of our water sources and clean up polluted waters because water does not stop at national boundaries, the use of water upstream, pollution and reduced flows will affect countries downstream. The future of the world’s water resources depends on improving management policies and practices globally. Water management institutions must incorporate efficient techniques for using water in industry and agriculture. And most important, management policies must involve the interests of the local community in collaboration with national governments in order to protect water rights and ensure success of programs.

### ***Committee Directive***

As the developing world continues to develop and the global population increases, the world’s water resources are becoming threatened. There are two approaches you should take when trying to research your country’s position on issues related to water degradation and management. First, you should be very aware of your country’s own issues related to its water sources. How is your country meeting your current population’s water needs? How accessible are your water resources? What are, if any, conservation actions being taken to preserve your water resources? Secondly, you should be aware of overall regional and international water situations. How is your country involved in regional water issues? As you have read, issues regarding water degradation and access can span several affect several countries at once. Finally, you not only need to be knowledgeable about the different facets of water pollution and management, you should also come prepared to make suggestions about ways in order to correct some of the problems and inequities that you have researched. What is the importance of taking a multilateral approach to discussing water resource management issues? What ways can you alleviate issues for slum dwellers and those that live in rural areas? How can you balance the needs of providing clean water resources to all people against environmental degradation that can be caused by some practices such as irrigation?

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<sup>209</sup> Ibid.

<sup>210</sup> Ibid.

<sup>211</sup> “GEMS / Water Programme.” The United Nations Environment Programme.

[http://www.gemswater.org/common/pdfs/gems\\_brochure.pdf](http://www.gemswater.org/common/pdfs/gems_brochure.pdf)

<sup>212</sup> Ibid.