

## ENDNOTES

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### INTRODUCTION

<sup>1</sup> World Health Organization, Food Safety Programme “ Food Safety – An Essential Public Health Issue for the New Millenium”, 1999, (WHO/SDE/PHE/FOS/99.4), [hereafter “*Food Safety – An Essential Public Health Issue for the New Millenium*”], at p. 7.

<sup>2</sup> Mead PS, Slutsker L, Dietz V, et al., Centers for Disease Control and Prevention, “Food-Related Illness and Death in The United States,” *Emerging Infectious Diseases*, 1999, Vol.5, No.5, pp. 607-25; Population Reference Bureau, <<http://www.prb.org/>>.

<sup>3</sup> World Health Organization, Office for the South East Asia Region, “Health situation in the South East Asia Region 1994-1997”, pp. 213-214.

<sup>4</sup> Documentation of the Iraq study are contained in the following journal articles: [Marsh, *Arch. Neurol.*, 44 1017-1022, 1987], [Cox, *Environ.Res.* 31, 640-649, 1989], [Cox, *Neurotoxicology* 16(4) 727-730, 1995].

<sup>5</sup> Centers for Disease Control and Prevention “International Notes Follow-Up on Epidemic Pneumonia with Progression to Neuromuscular Illness – Spain”, *Morbidity and Mortality Weekly Report (MMWR)*, March 05, 1982 / 31(8);93-5. Available at <<http://www.ers.usda.gov/Briefing/FoodborneDisease/overview.htm>>.

<sup>6</sup> CNN.com “Death sentence over Chinese poisonings”, 30 September 2002. Available at <<http://www.cnn.com/2002/WORLD/asiapcf/east/09/30/china.poison>>.

<sup>7</sup> World Health Organization “Foodborne disease: a focus for health education”, Geneva, 1999.

<sup>8</sup> World Health Organization, Food Safety Department “WHO Global Strategy for Food Safety”, 2002, (ISBN 92 4 154574 7), [hereafter “*WHO Global Strategy for Food Safety*”], at p. 5.

<sup>9</sup> In a 1985 outbreak of salmonellosis in Chicago caused by contaminate pasteurized milk, more than 2 percent of the 170,000-200,000 people infected had reactive arthritis as a result. Archer, D. & Young, F.E. “Contemporary issues: diseases with a food vector.” *Clinical microbiology reviews*, 1: 377–398 (1988).

<sup>10</sup> *WHO Global Strategy for Food Safety*, at p. 5.

<sup>11</sup> *Food Safety – An Essential Public Health Issue for the New Millenium*, at p. 6.

<sup>12</sup> *Food Safety – An Essential Public Health Issue for the New Millenium*, at p. 2.

<sup>13</sup> *WHO Global Strategy for Food*, at p. 6.

<sup>14</sup> *Food Safety – An Essential Public Health Issue for the New Millenium*, at p. 7.

<sup>15</sup> Buzby, Jean C., and Tanya Roberts. “ERS updates U.S. foodborne disease costs for seven pathogens,” *FoodReview*, USDA, Economic Research Service, September-December 1996, p. 20-25. In 2000, according to ERS (Economic Research Service – US Department of Agriculture), the costs in the USA associated with five major pathogens amounted to at least \$6.9 billion annually. “Economics of foodborne disease: overview”, February 7, 2003. Available at <<http://www.ers.usda.gov/Briefing/FoodborneDisease/overview.htm>>.

<sup>16</sup> Federal Institute for Risk Assessment (BfR) of Germany “The return of the germs”, June 2004, 14. Available at <<http://www.bgvv.de/cms5w/sixcms/detail.php/4217>>.

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- <sup>17</sup> Australia New Zealand Food Authority, "Food safety standards - costs and benefits," 1999.
- <sup>18</sup> Food Standards Agency "Food Standards Agency review of BSE controls" London, 2000. Available at <<http://www.food.gov.uk/bse/what/about/report/rep16>>.
- <sup>19</sup> Department of Health "Compensation scheme for variant CJD victims announced" London, October 1<sup>st</sup> 2001, Press release 2001/0457. Available at <[http://www.dh.gov.uk/PublicationsAndStatistics/PressReleases/PressReleasesNotices/fs/en?CONTENT\\_ID=4010884&chk=8kn19I](http://www.dh.gov.uk/PublicationsAndStatistics/PressReleases/PressReleasesNotices/fs/en?CONTENT_ID=4010884&chk=8kn19I)>.
- <sup>20</sup> *Food Safety – An Essential Public Health Issue for the New Millenium*, at p. 7.
- <sup>21</sup> CDC, "Cholera – Peru, 1991", *MMWR* 40(6): 108-10, 1991 February 15.
- <sup>22</sup> Linda Calvin, Luis Flores and William Foster "Safety in Food Security and Food Trade – Case Study : Guatemalan raspberries and Cyclospora ", International Food Policy Research Institute, Focus 10, September 2003.
- <sup>23</sup> Weber B. Ranchers "Beef industry celebrate long-awaited U.S. border re-opening", Edmonton Journal. December 29, 2004. Available at <http://www.propertyrightsresearch.org/2004/articles12/ranchers.htm>.
- <sup>24</sup> USDA Economic Research Service, Background statistics: U.S. cattle and beef industry 2002-2005. Available at <http://www.ers.usda.gov/news/BSECoverage.htm>.
- <sup>25</sup> Federal Government of Germany "Renate Künast and Ulla Schmidt new federal ministers?" , Bonn, 10 January 2001, Press Release 6/01. Available at <[http://www.bundesregierung.de/dokumente/Pressemitteilung/ix\\_28378.htm?script=0](http://www.bundesregierung.de/dokumente/Pressemitteilung/ix_28378.htm?script=0)>.
- <sup>26</sup> WHO Regional Office for Europe "Improved coordination and harmonization of national food safety control services: report on a joint WHO/EURO–FSAI meeting, Dublin, Ireland, 19–20 June 2001 ", Copenhagen, 2001. Available at <<http://www.euro.who.int/document/E74473.pdf>>.
- <sup>27</sup> WHO Regional Office for Europe " Food and Health in Europe: a new basis for action", WHO Regional Publications, European Series, No 96, 2004 at p.141.
- <sup>28</sup> J. Rocourt, G. Moy, K. Vierk and J. Schlundt "The Present State of Foodborne disease in OECD Countries", World Health Organization, Food Safety Department, 2003, (ISBN 92 4 159109 9), at p. 8-9.
- <sup>29</sup> Beuchat LR, Ryu J-H. "Produce handling and processing practices", *Emerging Infectious Diseases* 1997; 3 (4):459-65.
- <sup>30</sup> Bern C, Hernandez B, Lopez MB, Arrowood MJ, Alvarez de Mejia M, De Merida AM, Hightower AW, Venczel L, Herwaldt BL, Klein RE "Epidemiologic studies of *Cyclospora cayetanensis* in Guatemala." *Emerging Infectious Diseases* 1999; 5:766-74.
- <sup>31</sup> Döller PC, Dietrich K, Phillip N, Brockmann S, Dreweck C, Vontheim R, Wagner-Wiening C, Wiedenmann A "Cyclosporiasis outbreak in Germany associated with the consumption of salad", *Emerging Infectious Diseases* 2002; 8(9): 992-994.
- <sup>32</sup> Hodeshi M, Kazuhiro A, Shunsaku M, Satoshi T, Nobumichi S, Motonobu M, Akio O, Hiroshi Y. "Massive outbreak of Eschrichia O157:H7 infection in schoolchildren in Sakai City, Japan, associated with consumption of white radish sprouts", *American Journal of Epidemiology* 1999; 150:787-796.

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<sup>33</sup> Rocourt J, Cossart P. *Listeria monocytogenes*. In: Food Microbiology - Fundamentals and Frontiers. (M.P. Doyle, L.R. Beuchat and T.J. Montville, Eds.), American Society for Microbiology (Washington DC, USA) 1997;337-52.

<sup>34</sup> *Food Safety – An Essential Public Health Issue for the New Millennium*, at p. 7.

<sup>35</sup> WHO Food Safety Department. *Terrorist threats to food: guidance for establishing and strengthening prevention and response systems*. 2002, ISBN 92 4 154584 4 at p.11.

<sup>36</sup> With the exception of Israel.

## **CHAPTER 1: WESTERN PACIFIC REGION**

<sup>1</sup> World Health Organization, Food Safety Program, Regional Office for the Western Pacific “Food Safety: issues -Public Health Significance of Foodborne Illnesses”, 2003, ISBN 92 9061 028x, p. 8 [hereafter *WHO Food Safety*].

<sup>2</sup> CNN.com “Death sentence over Chinese poisonings”, 30 September 2002. Available at <<http://www.cnn.com/2002/WORLD/asiapcf/east/09/30/china.poison>>.

<sup>3</sup> Lancet medical journal, “Tokyo Contaminated Milk Scare Leaves Sour Taste among Consumers”, Vol. 356, 12 August 2000, p.573.

<sup>4</sup> WHO Weekly Epidemiological Record, Vol. 71, No 35, 1996.

<sup>5</sup> Halliday, M. L., L. Y. Kang, T. K. Zhou, M. D. Hu, Q. C. Pan, T. Y. Fu, Y. S. Huang, and S. L. Hu, “An epidemic of hepatitis A attributable to the ingestion of raw clams in Shanghai, China”, *J. Infect. Dis.*, November 1991; 164(5), pp. 852-859.

<sup>6</sup> *WHO Food Safety*, p. 3.

<sup>7</sup> Anon. “Food borne disease in Australia: incidence, notifications and outbreaks”. Annual report of the OzFoodNet network, 2002. *Commun Dis Intell* 2003; **27**:209–43 ; Australian Bureau of Statistics. *Year Book Australia: population size and growth*. February 27, 2005. Available at: <<http://www.abs.gov.au/Ausstats/abs@.nsf/Lookup/5A93A65FBEBE1923CA256DEA00053A32>>.

<sup>8</sup> *WHO Food Safety*, p. 3.

<sup>9</sup> Government of China “Epidemiology-Surveillance of Foodborne Diseases and Food Safety Rapid Alert Systems”, Second FAO/WHO Global forum of food safety regulators, Bangkok, Thailand, 12-14 October 2004, CRD 27 [hereafter “*China Epidemiology-Surveillance of Foodborne Diseases and Food Safety Rapid Alert Systems*”].

<sup>10</sup> Nguyen Him Huan, Dao Trong Anh “Vietnam promotes solutions to pesticide risks”, *Pesticides News* No. 53, September 2001, p. 6-7.

<sup>11</sup> *WHO Food Safety*, p. 4.

<sup>12</sup> *WHO Food Safety*, p. 2.

<sup>13</sup> Government of Cambodia “Cambodia Country Report on Food Safety”, FAO/WHO Regional Conference on Food Safety for Asia and Pacific, Seremban, Malaysia, 24-27 May 2004, CRD 19.

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<sup>14</sup> WHO, *Avian influenza A (H5N1) in humans and in poultry in Asia: food safety considerations*, 24 January 2004. Available at: <<http://www.who.int/foodsafety/micro/avian1/en/>>.

<sup>15</sup> Mari Yamaguchi, Associated Press “Japan Confirms Human Case of Mad Cow Disease”, Washington Post.com, February 4, 2005.

<sup>16</sup> Government of the Republic of Korea “Prevention and management system for food poisoning in Korea”, FAO/WHO Regional Conference on Food Safety for Asia and Pacific, Seremban, Malaysia, 24-27 May 2004, CRD 11.

<sup>17</sup> *WHO Food Safety*, p. 5-6.

<sup>18</sup> For example, in Cambodia, Fiji, Kiribati, Lao PDR, and Vietnam, in collaboration with WHO, food laws and/or regulations have been reviewed and revisions initiated. Food hygiene and environmental health regulations were also reviewed by WHO and guidance provided to Cook Islands and Palau. Food law, hygiene regulations and food recall guidelines were drafted in Vanuatu. Codex Alimentarius Commission “Capacity Building for Food Quality and Food Safety Activities of the Food And Agriculture Organization and the World Health Organization”, June 2003, CAC/27INF/5, p.31.

<sup>19</sup> Government of New-Zealand “Performance – Based Approach to Food Safety Regulatory Inspections”, FAO/WHO Regional Conference on Food Safety for Asia and Pacific, Seremban, Malaysia, 24-27 May 2004, CRD 22.

<sup>20</sup> In many countries, fishery export standards must comply with standards set by Codex Alimentarius or higher importing country standards, while the standards for domestic production and imported seafood products are often lower. Report on FAO/SPC/WHO Pacific Islands Food Safety and Quality Consultation, WHO Regional Office for the Western Pacific, Nadi, Fiji, 11-15 November 2002, printed February 2003.

<sup>21</sup> Mr Martyn Kirk (Australian Government Department of Health & Ageing) and Dr Scott Crerar (Food Standards Australia New Zealand) “Enhancing surveillance of foodborne diseases in Australia to control disease and improve food safety”, Second FAO/WHO Global Forum of Food Safety Regulators, Bangkok, Thailand, 12-14 October 2004, CRD 6.

<sup>22</sup> *China Epidemio-Surveillance of Foodborne Diseases and Food Safety Rapid Alert Systems*.

<sup>23</sup> Government of Malaysia, “Foodborne disease monitoring and surveillance systems”, FAO/WHO Regional Conference on Food Safety for Asia and Pacific, Seremban, Malaysia, 24-27 May 2004, CAP 04/6 [hereafter “*Malaysia Foodborne disease monitoring and surveillance systems*”].

<sup>24</sup> Japan “Food borne Disease Surveillance in Japan”, Second FAO/WHO Global forum of food safety regulators, Bangkok, Thailand, 12-14 October 2004, CRD 96.

<sup>25</sup> *WHO Food Safety*, at p. 8-10.

<sup>26</sup> Codex Alimentarius Commission “Joint FAO/WHO FOOD Standards Programme Codex Alimentarius Commission”, Twenty-Fourth Session, Geneva, 2 - 7 July 2001, ALINORM 01/15, p. 14, 15.

<sup>27</sup> Member countries of the ASEAN: Brunei Darussalam, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam.

<sup>28</sup> The Twenty-Fifth Meeting of the ASEAN Ministers of Agriculture and Forestry (25TH AMAF), Joint Press Statement, 21 August 2003, Kuala Lumpur, Malaysia. Available at <<http://www.aseansec.org/15042.htm>>.

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<sup>29</sup> Contribution of Hatijah Hashim from Consumers Association of Penang, Malaysia.

## **CHAPTER 2: SOUTH EAST ASIAN REGION**

<sup>1</sup> World Health Organization, Office for the South East Asia Region, "Health situation in the South East Asia Region 1998-2000", 2002, p. 259.

<sup>2</sup> World Health Organization, Office for the South East Asia Region, "Health situation in the South East Asia Region 1994-1997", pp. 213-214.

<sup>3</sup> World Health Organization "Cholera", Fact sheet N107, March 2000. Available at <<http://www.who.int/mediacentre/factsheets/fs107/en/>>.

<sup>4</sup> Government of Bangladesh "Bangladesh Country Paper", FAO/WHO Regional Conference on Food Safety for Asia and Pacific, Seremban, Malaysia, 24-27 May 2004, CRD 15.

<sup>5</sup> Thailand has implemented a programme for prevention and control of diarrheal diseases in the country, focusing on prevention, investigation, monitoring, reporting, and treatment of the diarrheal cases. That program reported a decrease in the diarrheal disease incidence in 2003. In addition to the diarrheal diseases control program, the prevention of food borne diseases generated from contamination with other microbiological agents (e.g. worm diseases and hepatitis-A), toxins, and chemical agents (e.g. pesticides and toxic metals) is also a strategy included in the 'Food Safety Programme' in Thailand. This program, emphasized and implemented by the Ministry of Public Health, aims to make all foods produced and consumed in Thailand safe and able to meet the international food standard.

Food Control Division, Food and Drug Administration of Thailand "Country Report - Foodborne Diseases: Situation of Diarrheal Diseases in Thailand", FAO/WHO Regional Conference on Food Safety for Asia and Pacific, Seremban, Malaysia, 24-27 May 2004, CRD 7 [hereafter "*Country report: Thailand*"].

<sup>6</sup> Government of Sri Lanka "Food Safety Legislation – Science and Risk Based Approaches to Harmonization", FAO/WHO Regional Conference on Food Safety for Asia and Pacific, Seremban, Malaysia, 24-27 May 2004, CRD 26.

<sup>7</sup> These programs include:

-The "Clean Food Good Taste" program: This program started in the year 1999 and includes inspection of food services and street vendors all over the country on the basis of hygienic and sanitary standards. Since the program started, more than 30,000 food services, which is almost 30 percent of the food service businesses in the country, have been certified and awarded the "Clean Food Good Taste" mark.

-The certification of fresh markets program: This program entails the inspection of fresh markets for sanitary standards and analysis for the contamination of 6 chemical hazards including pesticide residues. The inspection involves the sampling of food collecting from fresh markets. Any fresh market that passes inspection will be certified and awarded the label of fresh market certification. Fresh markets may then use the label for advertisements. More than 700 fresh markets have applied to join this program thus far.

Government of Thailand "Application of Farm-to-Table Official and Non-Official Food Safety Control in Thailand: Case Study on Fresh Produce", Second FAO/WHO Global Forum of Food Safety Regulators, Bangkok, Thailand, 12-14 October 2004, CRD 26.

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<sup>8</sup> Shashi Sareen, “Food Safety in Food Security and Food Trade – Case Study India responds to international food safety requirements”, International Food Policy Research Institute, Focus 10, September 2003. Available at <[http://www.ifpri.org/2020/focus/focus10/focus10\\_11.pdf](http://www.ifpri.org/2020/focus/focus10/focus10_11.pdf)>.

<sup>9</sup> *Country report: Thailand*

### **CHAPTER 3: EASTERN MEDITERRANEAN REGION**

<sup>1</sup> WHO/FAO “The impact of current food safety systems in the Near East/ Eastern Mediterranean Region on human health”, FAO/WHO Regional Meeting on Food Safety for the Near East, Amman, Jordan, 5-6 March 2005, NEM 05/3 [hereafter “*Impact of current food safety systems on human health*”], at p. 2.

<sup>2</sup> *Impact of current food safety systems on human health*, at p.2.

<sup>3</sup> “The work of WHO in the Eastern Mediterranean Region: Annual report of the Regional Director, 1 January–31 December 2003/WHO Regional Office for the Eastern Mediterranean”, ISBN 92-9021-368-0, [hereafter “*Annual Report 2003*”], Section 4.3. Available at <<http://www.emro.who.int/rd/AnnualReports/2003/pdf/RD2003b.pdf>>.

<sup>4</sup> *Impact of current food safety systems on human health*, at pp.6,7.

<sup>5</sup> Food and Agriculture Organization, Discussion paper for the Technical Consultation on Food Safety and International Trade in the Near East (Cairo, December 2003) in preparation for the 27 th FAO Regional Conference for the Near East (Doha, Qatar, March 2004) “Food safety and international trade in the Near East Region”, [hereafter “*Food safety and international trade*”], p.2. Available at <[ftp://ftp.fao.org/es/esn/food/nerc\\_report.pdf](ftp://ftp.fao.org/es/esn/food/nerc_report.pdf)>.

<sup>6</sup> WHO/FAO “Impact of food safety standard on food and agricultural trade in the Near East”, FAO/WHO Regional Meeting on Food Safety for the Near East, Amman, Jordan, 5-6 March 2005, NEM 05/2.

<sup>7</sup> World Health Organization “The Mediterranean zoonoses control programme”, Fact sheet n°185, November 1997.

<sup>8</sup> *Annual Report 2003*, Executive Summary, p xxi.

<sup>9</sup> World Health Organization, Regional Office for the Eastern Mediterranean “Technical paper on Food Safety”, July 99, EM/RC46/6, [hereafter “*Technical Paper*”], Executive Summary.

<sup>10</sup> WHO/FAO “National food safety systems in the Near East - A situation analysis”, FAO/WHO Regional Meeting on Food Safety for the Near East, Amman, Jordan, 5-6 March 2005, NEM 05/2 [hereafter “*National food safety systems in the Near East*”], p. 4.

<sup>11</sup> *National food safety systems in the Near East*, p. 5.

<sup>12</sup> Government of Maroc “Renforcement du système national de contrôle de la sécurité sanitaire des aliments”, Second FAO/WHO Global forum of food safety regulators, Bangkok, Thailand, 12-14 October 2004, CRD 4.

<sup>13</sup> *National food safety systems in the Near East*, p. 5.

<sup>14</sup> Contribution of Abed Berro from “Consumers Lebanon.”

<sup>15</sup> *National food safety systems in the Near East*, p. 2.

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<sup>16</sup> *Technical Paper*, Section 5.1 “Regional plan of action to address food safety in the 21<sup>st</sup> in the WHO Eastern Mediterranean Region.”

<sup>17</sup> *Technical Paper*, Section 5.2 “Recommendations”.

<sup>18</sup> Egypt, Jordan, Lebanon, Morocco, Oman, Pakistan, Sudan and United Arab Emirates.

<sup>19</sup> *National food safety systems in the Near East*, p. 2.

<sup>20</sup> TCP/MOR/0168 (A): Appui à la création de l'Agence de la qualité et de la répression des fraudes.

<sup>21</sup> *Annual Report 2003*, Section 4.3.

<sup>22</sup> Members are: The United Arab Emirates, Bahrain, Saudi Arabia, Oman, Qatar and Kuwait.

<sup>23</sup> *Annual Report 2003*, Section 4.3.

<sup>24</sup> *Annual Report 2003*, Section 4.3.

<sup>25</sup> *National food safety systems in the Near East*, p. 5.

<sup>26</sup> Government of Sudan “Farm -to-Fork Food Safety Approach: The Role of Ministry of Agriculture and Forestry in Production of Fresh Agricultural Products for Consumption”, Second FAO/WHO Global Forum of Food Safety Regulators, Bangkok, Thailand, 12-14 October 2004, CRD 69.

<sup>27</sup> In Oman, Tunisia, UAE and Yemen, quality management regulations based on HACCP have been adopted for fish and fish products to regain access to importing markets (ex. EU market). In addition, Tunisia has introduced provisions for the application of HACCP by the fish industry in its food safety legislation. Some countries, such as Lebanon, Morocco, Oman, and UAE have or are developing legislation and guidelines on GMP and the HACCP system. The Islamic Republic of Iran has introduced legislation requiring HACCP certification for food exports and has strengthened its national capacity to monitor and control residues (pesticides, animal drugs and chemical residues) in foodstuffs with FAO assistance. *Food safety and international trade*, p.2.

<sup>28</sup> Hashemite Kingdom of Jordan “Strengthening Official Food Safety Control Services: Risk Management Approach - Imported Food Control - A Success Story”, Second FAO/WHO Global Forum of Food Safety Regulators, Bangkok, Thailand, 12-14 October 2004, CRD 2.

#### **CHAPTER 4: AFRICAN REGION**

<sup>1</sup> Data from the food safety department of the Regional office department for Africa of the World Health Organization. Available at: <<http://www.afro.who.int/des/fos/index.html>>.

<sup>2</sup> WHO Regional Office for Africa “Developing and Maintaining Food Safety Control Systems for Africa Current Status and Prospects For Change”, Second FAO/WHO Global Forum of Food Safety Regulators, Bangkok, Thailand, 12-14 October 2004, CRD 32 [hereafter “*Developing and Maintaining Food Safety Control Systems for Africa*”].

<sup>3</sup> WHO reports that 90 percent of the annual deaths from diarrhea are among children particularly in developing countries. World Health Organization, Regional Office for Africa, Division of Healthy Environments and Sustainable Development, Food Safety Unit, “Hand Washing and Food Safety”, Fact Sheet 2.

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<sup>4</sup> World Health Organization, Regional Office for Africa, Division of Healthy Environments and Sustainable Development, Food Safety Unit “Food Safety and High Risk Groups: Are you at greatest risk to contracting a foodborne illness?”, Fact Sheet 1 [hereafter “*Fact Sheet 1*”].

<sup>5</sup> Moy et al “Recurrent and persistent diarrhoea in a rural Zimbabwean Community: a prospective study.” *Journal of Tropical Paediatrics* 1991; 37:293-299.

<sup>6</sup> *Fact Sheet 1*.

<sup>7</sup> *Fact Sheet 1*

<sup>8</sup> Codex Alimentarius Commission “Capacity Building for Food Quality and Food Safety Activities of the Food and Agriculture Organization and the World Health Organization”, June 2003, (CAC/26INF/5), at p.9 [hereafter “*Codex*”].

<sup>9</sup> *Codex*, p.9.

<sup>10</sup> World Health Organization, Regional Office for Africa, Division of Healthy Environments and Sustainable Development, Food Safety Unit “Mycotoxins”, Fact Sheet 5.

<sup>11</sup> World Health Organization, Regional Office for Africa, Division of Healthy Environments and Sustainable Development, Food Safety Unit “Food safety in emergencies”, Fact Sheet 4.

<sup>12</sup> The major factor contributing to illness was consumption of cooked food bought at the market.

<sup>13</sup> *Developing and Maintaining Food Safety Control Systems for Africa*.

<sup>14</sup> Available at: <[http://www.afro.who.int/des/fos/country\\_profiles/index.html](http://www.afro.who.int/des/fos/country_profiles/index.html)>.

<sup>15</sup> *Developing and Maintaining Food Safety Control Systems for Africa*.

<sup>16</sup> *Developing and Maintaining Food Safety Control Systems for Africa*.

<sup>17</sup> Government of Madagascar “Renforcement des services officiels de contrôle des aliments- Mise en place d’un système national de contrôle de qualité des denrées alimentaires à Madagascar”, Second FAO/WHO Global Forum of Food Safety Regulators, Bangkok, Thailand, 12-14 October 2004, CRD 7.

<sup>18</sup> Report of FAO/WHO Workshop, “Food control systems – practical approaches in the southern African region,” workshop held in collaboration with ILSI, 1 September 2003, Pretoria, South Africa, at p. 4.

<sup>19</sup> A regional strategy for foodborne disease surveillance is currently in preparation by WHO/FAO. *Developing and Maintaining Food Safety Control Systems for Africa*.

<sup>20</sup> *Developing and Maintaining Food Safety Control Systems for Africa*.

<sup>21</sup> *Developing and Maintaining Food Safety Control Systems for Africa*.

<sup>22</sup> The Regional Agricultural Trade Promotion and Food Security Program developed by COMESA has been conceived in the context of FAO supported Regional Food Security Programme (RPFS). More information available at: <<http://www.fao.org/tc/tca/pdf/comesa.pdf>>.

## **CHAPTER 5: EUROPEAN REGION**



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<sup>1</sup> WHO Surveillance Programme for Control of Foodborne Infections and Intoxications in Europe, "8th Report - 1999-2000".

<sup>2</sup> WHO "Statistical Information on Food-borne Disease In Europe - Microbiological and Chemical Hazards", FAO/WHO Pan-European Conference on Food Safety and Quality, Budapest, Hungary, 25 – 28 February 2002, PEC 01/04.

<sup>3</sup> World Health Organization, Regional Office for Europe, "Food and Health in Europe: a new basis for action", Part 2, pp. 94-95, ISBN 92 890 1363X.

<sup>4</sup> Most of these outbreaks are due to the consumption of foods of animal origin, particularly insufficiently cooked eggs or foods containing raw eggs, such as mayonnaise, ice creams or cream-filled pastries. WHO "Several Foodborne Diseases are Increasing in Europe. 'Five keys to safer food' for winter holidays", Press release EURO/16/03, Copenhagen, Rome, Berlin, 16 December 2003.

<sup>5</sup> The countries included in the Balkan region are: Slovenia, Croatia, Bosnia and Herzegovina, the Former Yugoslav Republic of Macedonia, Serbia and Montenegro (formerly the Federal Republic of Yugoslavia), Albania, Greece, Romania, Bulgaria, and European Turkey.

<sup>6</sup> CJD surveillance unit, Edinburgh. More information is available at <<http://www.cjd.ed.ac.uk/figures.htm>>.

<sup>7</sup> International Society for Infectious Diseases, "CJD (New Var.) Update 2005 (05)," *ProMED-mail* Archive Number 20050505.1243, Published May 5, 2005.

<sup>8</sup> In particular, on 22 May 2001, the European Parliament and Council adopted Regulation (EC) 999/2001 laying down rules for the prevention, control and eradication of certain transmissible spongiform encephalopathies, which is known as the "TSE Regulation". This Regulation is applicable as of 1 July 2001. *Official Journal of the European Union L 147, 31/05/2001 P. 0001 – 0040*.

<sup>9</sup> This was introduced in light of scientific consensus that the spread of BSE in cattle was caused by the consumption of feed contaminated by ruminant protein in the form of meat and bone meal (MBM). The European Commission, "Questions and Answers on BSE," 8 January 2002, Memo/03/3 [hereafter *Q&A on BSE*].

<sup>10</sup> *Q&A on BSE*.

<sup>11</sup> Sweden is allowed to test only a random sample.

<sup>12</sup> In the UK, where the vast majority of bovine animals over 30 months of age are destroyed under the Over Thirty Months Scheme (OTMS), BSE testing must be carried out on the following animals slaughtered under that scheme: all bovine animals subject to casualty slaughter, all animals over 42 months of age born after 1 August 1996 and subject to normal slaughter and a random sample of bovine animals born before 1 August 1996 and subject to normal slaughter.

<sup>13</sup> More information available at <[http://www.europa.eu.int/comm/food/food/biosafety/bse/goats\\_index\\_en.htm](http://www.europa.eu.int/comm/food/food/biosafety/bse/goats_index_en.htm)>.

<sup>14</sup>

§ Directive 2001/18/EC on the deliberate release into the environment of genetically engineered organisms is a 'horizontal' Directive, which regulates experimental releases and the placing on the market of genetically engineered organisms. *Official Journal of the European Communities L 106*, 17 April 2001, pp. 0001-0039.

§ Regulation (EC) No 1829/2003 on genetically engineered food and feed regulates the placing on the market of food and feed products containing or consisting of genetically engineered organisms and

also provides for the labelling of such products to the final consumer. *Official Journal of the European Communities L 268*, 18 October 2003, pp. 0001-0023.

- § Regulation (EC) No 1830/2003 on traceability and labelling of genetically engineered organisms (GMO) and the traceability of food and feed products from GMOs introduces a harmonised EU system to trace and label GMOs and to trace food and feed products produced from GMOs. *Official Journal of the European Communities L 268*, 18 October 2003, pp. 0024-0028.
- § Commission Regulation (EC) No 641/2004 on the detailed rules for the implementation of Regulation 1829/2003. *Official Journal of the European Communities L 102*, 07 April 2004, pp. 0014-0025.
- § Directive 90/219/EEC, as amended by Directive 98/81/EC, on the contained use of genetically engineered micro-organisms (GEMs), regulates research and industrial work activities involving GEMs under conditions of containment. This includes work activities in laboratories. *Official Journal of the European Communities L 117*, 08 May 1990, pp. 0001-0014.

<sup>15</sup> European Commission “Questions and Answers on the regulation of GMOs in the EU”, Brussels, 15 April 2004, Memo/04/85. Available at:  
<[http://www.europa.eu.int/comm/food/food/biotechnology/gmfood/gmo\\_faq\\_en.pdf](http://www.europa.eu.int/comm/food/food/biotechnology/gmfood/gmo_faq_en.pdf)>.

<sup>16</sup> World Health Organization, “Antimicrobial resistance”, Fact sheet N°194, January 2002.

<sup>17</sup> According to a study of the European Federation of Animal Health (FEDESA), in 1999, farm animals consumed 4,700 tons (35 percent) of all the antibiotics administered in the European Union, and humans consumed 8,500 tons (65 percent). Of the antibiotics that were given to animals, 3,900 tons (or 29 percent of the total usage) were administered to help sick animals recover from disease, and 786 tons (or 6 percent of the total usage) were given to farm animals in their feed as growth promoters. The survey estimates that the amount of antibiotics used as growth promoters fell by 50 percent from the levels used in 1997, when animals consumed around 1,600 tons as feed additives. More information is available at:  
<[http://europa.eu.int/rapid/start/cgi/guesten.ksh?p\\_action.gettxt=gt&doc=IP/02/466|0|RAPID&lg=EN](http://europa.eu.int/rapid/start/cgi/guesten.ksh?p_action.gettxt=gt&doc=IP/02/466|0|RAPID&lg=EN)>.

<sup>18</sup> Regulation (EC) No 1831/2003 of the European Parliament and of the Council of 22 September 2003 on additives for use in animal nutrition. *Official Journal of the European Communities L 268*, 18 October 2003, pp. 0029-0043.

<sup>19</sup> The European Commission, “Report from the Commission on food irradiation for the period September 2000 to December 2001”, 09 October 2002, (COM (2002) 549)(2002/C 255/02).

<sup>20</sup> Directive 1999/2/EC of the European Parliament and of the Council of 22 February 1999 on the approximation of the laws of the Member States concerning foods and food ingredients treated with ionising radiation. *Official Journal of the European Communities L 066*, 13 March 1999, pp. 0016-0023.

<sup>21</sup> Examples for these kind of growth promoters are oestradiol 17 $\beta$ , testosterone, progesterone, zeranol, trenbolone acetate, and melengestrol acetate (MGA).

<sup>22</sup> The legal instrument in force is Directive 96/22/EC (*Official Journal of the European Communities L 125*, 23/05/1996 P. 0003 – 0009) as amended by Directive 2003/74/EC (*Official Journal of the European Communities L 262*, 14/10/2003 P. 0017 – 0021).

<sup>23</sup> Only three uses remain permissible on a transitional basis and under strict veterinary control: treatment of foetus maceration/ mummification, pyometra in cattle (for animal welfare reasons), and oestrus induction in cattle, horses, sheep and goats. The latter use has to be phased out by September 2006. Products to be used for these remaining permissible purposes have to comply with the general marketing authorization requirements for veterinary medicinal products established in Directive (2001/82/EC). By October 2005 the Commission will present a report on the availability of alternative veterinary medicinal products to those containing oestradiol 17 $\beta$  or its ester-like derivatives for the treatment of foetus maceration/mummification in cattle and for the treatment of pyometra in cattle.

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<sup>24</sup> Regulation (EC) No 178/2002 of the European Parliament and of the Council of 28 January 2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety. *Official Journal of the European Communities L 031*, 01 February 2002, pp. 0001-0024.

<sup>25</sup> “Guidance on the implementation of Articles 11, 12, 16, 17, 18, 19 and 20 of Regulation (EC) No 178/2002 on General Food Law – Conclusions of the Standing Committee on the food chain and animal health”, December 20, 2004. Available at <[http://europa.eu.int/comm/food/food/foodlaw/guidance/guidance\\_rev\\_7\\_en.pdf](http://europa.eu.int/comm/food/food/foodlaw/guidance/guidance_rev_7_en.pdf)>.

<sup>26</sup> M.C. Tirado, WHO Regional Office for Europe “Food safety strategies in Europe: Promoting a new approach to for food control in the region”, Second FAO/WHO Global forum of food safety regulators, Bangkok, Thailand, 12-14 October 2004, CRD 84 [hereafter “*Food safety strategies in Europe*”].

<sup>27</sup> Lithuania “Constraints in CEEC countries to Achieving International Laboratory Accreditation”, FAO/WHO Pan-European Conference on Food Safety and Quality, Budapest, Hungary, 25 – 28 February 2002, CRD 08 [hereafter “*Constraints in CEEC countries to Achieving International Laboratory Accreditation*”].

<sup>28</sup> *Constraints in CEEC countries to Achieving International Laboratory Accreditation*.

<sup>29</sup> More information available at <<http://europa.eu.int/comm/enlargement/pas/phare/intro.htm>>.

<sup>30</sup> *Food safety strategies in Europe*.

<sup>31</sup> The EFSA was formally established by the Regulation (EC) No 178/2002 (Articles 22 to 49).

<sup>32</sup> The “Österreichische Agentur für Gesundheit und Ernährungssicherheit GmbH” in Austria, the “Štátna veterinárna a potravinová správa” in Slovakia, the “Agence française de sécurité sanitaire des aliments” in France, the “Agencia Española de Seguridad Alimentaria” in Spain, the “Agência para a Qualidade e Segurança Alimentar” in Portugal, the “Bundesamt für Verbraucherschutz und Lebensmittelsicherheit (BVL)” in Germany, the “EΦET” in Greece, the “Elintarvikevirasto” in Finland, the “Fødevaredirektoratet” in Denmark, the “FAVV/AFSCA” in Belgium, the “Food Safety Authority of Ireland” in the Republic of Ireland, the “Livsmedelsverket” in Sweden, the “Mattilsynet” in Norway, the “Parikās un Veterinārais Dienests” in Latvia, the “Státní zemědělské a potravinářské inspekce” in the Czech Republic, the “Valstybineė maisto ir veterinarijos tarnyba” in Lithuania, the “Veterinaar-ja Toiduamet” in Estonia, the “Veterinarska uprava Republike Slovenije” in Slovenia, the “Voedsel en Waren Autoriteit” in The Netherlands, the Food Standards Agency in the United Kingdom, the “National Sanitary Veterinary and Food Safety Authority (ANSVSA)” in Romania. Available at <<http://www.food.gov.uk/aboutus/agencyineurope/eufsanations>>.

<sup>33</sup> Germany “Official Food Control and Legal Foundations in Germany”, Second FAO/WHO Global forum of food safety regulators, Bangkok, Thailand, 12-14 October 2004, CRD 41.

<sup>34</sup> Regulation EC/178/2002 - Article 6.

<sup>35</sup> Regulation EC/178/2002 - Article 7.

<sup>36</sup> Regulation EC/178/2002 - Articles 19, 20 and 21.

<sup>37</sup> European Commission “Commission extends Sudan dye measures and reminds food operators of their responsibilities”, Press Release, Brussels, 4 April 2005, IP/05/385. Available at: <<http://europa.eu.int/rapid/pressReleasesAction.do?reference=IP/05/385&format=HTML&aged=0&language=EN&guiLanguage=fr>>.

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<sup>38</sup> In particular, Regulation EC/178/2002 - Article 18.

<sup>39</sup> Council Directive 2000/13/EC. *Official Journal of the European Communities L 109*, 06/05/2000 P. 0029 – 0042.

It has been amended by Commission Directive 2001/101/EC of 26 November 2001 regulating the definition of meat for labelling purpose, where meat is used as an ingredient in foodstuffs (*Official Journal of the European Communities L 310*, 28/11/2001 P. 0019 – 002) and by Directive 2003/89/EC of 10 November 2003, as regard indication of the ingredients present in foodstuffs (*Official Journal of the European Communities L 308*, 25/11/2003 P. 0015 – 0018).

<sup>40</sup> Regulation EC/178/2002 - Articles 19, 20.

<sup>41</sup> In general, these certificates must be signed by an official veterinarian of the competent authority of the exporting third country guaranteeing that the conditions for import into the EU have been met. Source: European Commission, DG Health and Consumer Protection, Animal Health and Welfare Internet Site “Trade and Imports of Live Animals – Introduction”. Available at <[http://europa.eu.int/comm/food/animal/liveanimals/index\\_en.htm](http://europa.eu.int/comm/food/animal/liveanimals/index_en.htm)>.

<sup>42</sup> European Commission, Health and Consumer Protection Directorate General “General guidance for third country authorities on the procedures to be followed when importing live animals and animal products into the European Union”, 1 October 2003. Available at <[http://europa.eu.int/comm/food/international/trade/guide\\_thirdcountries\\_en.pdf](http://europa.eu.int/comm/food/international/trade/guide_thirdcountries_en.pdf)>.

<sup>43</sup> Regulation (EC) No 882/2004 of the European Parliament and of the Council of 29 April 2004 on official controls performed to ensure the verification of compliance with feed and food law, animal health and animal welfare rules, *Official Journal of the European Union L 191*, 28/05/2004 P. 0001 - 0052.

<sup>44</sup> European Commission “Byrne welcomes completion of extensive review of food and feed controls and hygiene rules”, Press Release, Brussels, 26 April 2004, IP/04/544. Available at <<http://europa.eu.int/rapid/pressReleasesAction.do?reference=IP/04/544&format=HTML&aged=0&language=EN&guiLanguage=en>>.

<sup>45</sup> For Aflatoxin levels: Commission Directive 1998/53/EC amended by Commission Directive 2002/27/EC; for levels of heavy metal and 3-MCPD: Commission Directive 2001/22/EC; for Dioxin levels: Commission Directive 2002/69/EC; for Ochratoxin A levels: Commission Directive 2002/26/EC; for Patulin levels: Commission Directive 2003/78/EC. More information available at <[http://europa.eu.int/comm/food/food/chemicalsafety/contaminants/sampling\\_en.htm](http://europa.eu.int/comm/food/food/chemicalsafety/contaminants/sampling_en.htm)>.

<sup>46</sup> Regulation EC/178/2002 - Article 17.

<sup>47</sup> Regulation EC/178/2002 - Article 22.

<sup>48</sup> Regulation EC/178/2002 - Article 34.

<sup>49</sup> Information and data reported: number of ill persons, causative agent, type of food, place where food was consumed, place where food was acquired, place where food was contaminated, factors contributing to outbreak. National sources of data include: statutory notifications (cases reporting); reporting of investigated outbreaks; laboratory reports; special surveys. Source: WHO/Regional Office for Europe “WHO surveillance program for control of foodborne infections and intoxications in Europe”; 8<sup>th</sup> report 1999-2000, Introduction. Available at <[http://www.bfr.bund.de/internet/8threport/8threp\\_fr.htm](http://www.bfr.bund.de/internet/8threport/8threp_fr.htm)>.

<sup>50</sup> The program for surveillance of foodborne diseases in Europe was launched by WHO/Europe in 1980, with the participation of 8 countries. The number of participating countries has steadily increased, reaching

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51 in 2000. Under the responsibility of WHO/Europe, the program is managed by the Federal Institute for Risk Assessment (BfR), a FAO/WHO Collaborating Centre for Training and Research in Food Hygiene and Zoonoses. More information available at [http://www.euro.who.int/eprise/main/WHO/Progs/FOS/Surveillance/20020903\\_3](http://www.euro.who.int/eprise/main/WHO/Progs/FOS/Surveillance/20020903_3).

<sup>51</sup> The CRLs have been designated in different Community Decisions, Directives and Regulations. Within the framework of Council Decision N° 90/424/EEC on expenditure in the veterinary field of 26 June 1990, these laboratories may receive a Community financial aid for fulfilling tasks and functions specified in legislation. Source: European Commission Internet site “Community Reference Laboratories in the field of Veterinary Public Health (Biological Risks)”. More information available at [http://europa.eu.int/comm/food/fs/sfp/crl\\_risk\\_en.html](http://europa.eu.int/comm/food/fs/sfp/crl_risk_en.html).

<sup>52</sup> Contribution of the Independent Consumers Union of Azerbaijan.

<sup>53</sup> Council Regulation 315/93/EEC of 8 February 1993. *Official Journal of the European Communities L 037*, 13 February 1993, pp. 0001-0003.

<sup>54</sup> RASFF is a system which has been in place since 1979 but which has been revised by the Regulation EC/178/2002 - Articles 50, 51 and 52. More information available at [http://europa.eu.int/comm/food/food/rapidalert/index\\_en.htm](http://europa.eu.int/comm/food/food/rapidalert/index_en.htm).

<sup>55</sup> Maximum levels are set for certain contaminants in foodstuffs in Commission Regulation 466/2001 of 8 March 2001 and in the subsequent amendments as follows: nitrate in lettuce and spinach (Commission Regulation 563/2002), aflatoxins in nuts, dried fruit, cereals, spices and milk (Commission Regulation 257/2002 and Commission Regulation 472/2002), the heavy metals lead, cadmium and mercury in a range of foods (Commission Regulation 221/2002), 3-monochloropropane diol (3-MCPD) in soy sauce and hydrolysed vegetable protein, Dioxins in a range of foods (Council Regulation 2375/2001), Ochratoxin A cereals and cereal products and dried vine fruit (Commission Regulation 472/2002), Patulin in apple juice and apple juice ingredients in other beverages (Commission Regulation 1425/2003). More information available at [http://europa.eu.int/comm/food/food/chemicalsafety/contaminants/legisl\\_en.htm](http://europa.eu.int/comm/food/food/chemicalsafety/contaminants/legisl_en.htm).

<sup>56</sup> The proposed Regulation is scheduled to go to the European Parliament for a second reading with a view to allow it to enter into force in 2005. It should replace and simplify the four existing basic Council Directives on pesticide residues, namely Directives 76/895/EEC, 86/362/EEC, 86/363/EEC and 90/642/EEC. Source: European Commission “Pesticides: consumer protection to be boosted via harmonisation of maximum residue levels”, Press Release, Brussels, March 14 2003, IP/03/383. Available at <http://europa.eu.int/rapid/pressReleasesAction.do?reference=IP/03/383&format=HTML&aged=0&language=EN&guiLanguage=en>.

<sup>57</sup> Regulation (EC) 852/2004 on the hygiene of foodstuffs, 29 April 2004. *Official Journal of the European Union L 139*, 30/04/2004 P. 0001 – 0054.

Regulation (EC) 853/2004 laying down specific hygiene rules for food of animal origin, 29 April 2004. *Official Journal of the European Union L 226*, 25/06/2004 P. 0022 – 0082.

Regulation (EC) 854/2004 laying down specific rules for the organisation of official controls on products of animal origin intended for human consumption, 29 April 2004. *Official Journal of the European Union L 139*, 30/04/2004 P. 0206 – 0319.

Directive 2004/41/EC repealing certain Directives concerning food hygiene and health conditions for the production and placing on the market of certain products of animal origin intended for human consumption and amending Council Directives 89/662/EEC and 92/118/EEC and Council Decision 95/408/EC, 21 April 2004. *Official Journal of the European Union L 157*, 30/04/2004 P. 0033 – 0044.

Regulation (EC) No 882/2004 on official controls performed to ensure the verification of compliance with feed and food law, animal health and animal welfare rules. *Official Journal of the European Union L 165*, 30/04/2004 P. 0001 – 0141.

<sup>58</sup> HACCP systems are already mandatory in certain sectors like in meat plants for example (Commission Decision 2001/471/EC. *Official Journal of the European Communities L 165*, 21/06/2001 P. 0048 – 0053).

<sup>59</sup> On 26 of April 2004, the Council adopted the Regulation of the European Parliament and of the Council laying down requirements for feed hygiene: “Regulation of the European Parliament and of the Council laying down requirement for feed hygiene”. The proposal will replace Council Directives 95/69/EC and 98/51/EC laying down the conditions and arrangements for approving and registering certain establishments and intermediaries operating in the animal feed sector. The new regulation introduces the following main elements:

- § compulsory registration of all feed business operators by the competent authority;
- § approval system for feed businesses that deal with higher-risk substances;
- § mandatory hygiene requirements for all feed manufactures;
- § mandatory good hygiene practice at all levels of agriculture production and use of feed;
- § Hazard Analysis Critical Control Point (HACCP) principles for the feed business operators other than at the level of primary production;
- § compulsory requirements for feed production at farm level;
- § a EU framework for guides to good practice in feed production.

Moreover, it endorses the principle that feed business operators must provide a financial guarantee in order to cover the risks related to their businesses.

Source: European Commission, DG Health and Consumer Protection Internet Site “Animal Nutrition –Feed Hygiene”. Available at <[http://europa.eu.int/comm/food/food/animalnutrition/feedhygiene/index\\_en.htm](http://europa.eu.int/comm/food/food/animalnutrition/feedhygiene/index_en.htm)>

<sup>60</sup> European Community “European Union Training Centre on Food Safety”, Second FAO/WHO Global forum of food safety regulators, Bangkok, Thailand, 12-14 October 2004, CRD 30.

<sup>61</sup> The report is compiled in accordance with Article 5 of Council Directive N° 92/117/EEC and it is based on annual reports submitted by the Member States and Norway. The report contains a valuable overview of the prevalence of zoonoses in the Community. Source: European Commission, DG Health and Consumer Protection, Food and Feed Safety Internet site “Salmonella and Food-borne Diseases-Introduction”. Available at <[http://europa.eu.int/comm/food/food/biosafety/salmonella/index\\_en.htm](http://europa.eu.int/comm/food/food/biosafety/salmonella/index_en.htm)>.

<sup>62</sup> Adopted on 29th September 2003:

- Regulation (EC) 2160/2003 of the European Parliament and of the Council of 17 November 2003 on the control of salmonella and other specified food-borne zoonotic agents, *Official Journal of the European Union L 325*, 12/12/2003 P. 0001 - 001, and

- Directive 2003/99/EC of the European Parliament and of the Council of 17 November 2003 on the monitoring of zoonoses and zoonotic agents, amending Council Decision 90/424/EEC and repealing Council Directive 92/117/EEC, *Official Journal of the European Union L 325*, 12/12/2003 P. 0031 - 004.

<sup>63</sup> Within those approved programs, the eradication of some *Salmonella* serotypes (*Salmonella* enteritidis and *Salmonella* Typhimurium) from fowl breeding flocks (*Gallus gallus*) has been co-financed by the European Community.

<sup>64</sup> Lindblad, Johan, “Animal Health and Food Safety in Swedish Chicken Production,” in “The Swedish Model of Animal Production,” (Ministry of Agriculture, Food and Fisheries, Sweden, Stockholm 3-4 September 1998), p.26.

<sup>65</sup> Ministry of Agriculture, Food and Fisheries (Sweden), *Country report on the Swedish experience relating to the control of Salmonella in the national herd, with specific focus on the salmonella policy related to poultry production, and the results regarding Salmonella prevalence and human salmonellosis incidence*, FAO/WHO Global Forum of Food Safety Regulators, Marrakech, Morocco, 28-30 January 2002.

<sup>66</sup> Lo Fo Wong DMA, Andersen JK, Nørrung B, Wegener HC, *Food contamination monitoring and foodborne disease surveillance at national level*, Second FAO/WHO Global Forum for Food Safety Regulators, Bangkok, Thailand, 12-14 October 2004.

## **CHAPTER 6: CENTRAL AND SOUTH AMERICAN REGION**

<sup>1</sup> World Health Organization, Pan American Health Association, 13th Inter American meeting, at the ministerial level, on health and agriculture “Proposed Plan of Action of the Pan American Institute for Food Protection and Zoonoses (INPPAZ), 2004-2005”, RIMSA 13/5, 17 March 2003, p. 1 [hereafter “*Proposed Plan of Action of INPPAZ*”].

<sup>2</sup> Pan American Health Association “Annual Report of the Director 2003”, at p. 72.

<sup>3</sup> *Proposed Plan of Action of INPPAZ*, p. 3.

<sup>4</sup> INPPAZ “International cooperation on food contamination monitoring and foodborne disease surveillance. A case study in the AMRO Region”, Second FAO/WHO Global forum of food safety regulators, Bangkok, Thailand, 12-14 October 2004, CRD 66 [hereafter “*International cooperation on food contamination monitoring and foodborne disease surveillance in the AMRO region*”].

<sup>5</sup> Data from 21 countries - SIRVETA, Outbreak Data for Latin America and the Caribbean, PAHO- From years 1993 – 2002.

<sup>6</sup> *International cooperation on food contamination monitoring and foodborne disease surveillance in the AMRO region*.

<sup>7</sup> *International cooperation on food contamination monitoring and foodborne disease surveillance in the AMRO region*.

<sup>8</sup> During the mid-1990s, the available epidemiology data showed that *Ciguatera* (a form of human poisoning caused by the consumption of marine fish that has accumulated naturally occurring toxins) was one of the main causes of disease from fish products in Cuba. Between 1993 and 1998, 1086 outbreaks of *Ciguatera* were recorded in Cuba, representing 3116 individual cases. Mortality attributed to *Ciguatera* during this period reached 6 percent of all recorded deaths resulting from food hazards. *Ciguatera* peaked in 1996 with 279 recorded outbreaks. Source: Based on data from the Cuban Ministry of Public Health and Ministry of Fishery Industries (FAO/MIP Workshop on Quantitative Risk Assessment in the Fishery Industry, Havana, March 2000). Available at <<http://www.fao.org/docrep/003/x8002e/x8002e05.htm>>.

<sup>9</sup> World Health Organization “Water for Health –Taking Charge”, 2001, p. 18-19. Available at <[http://www.who.int/water\\_sanitation\\_health/en/wwdreport.pdf](http://www.who.int/water_sanitation_health/en/wwdreport.pdf)>.

<sup>10</sup>

Which of the following circumstances have been influential in the appearance of outbreaks of foodborne illness in the Andean countries?

	Bolivia	Colombia	Peru	Venezuela
Population growth	I	I	I	P
Growth of vulnerable population groups	V	V	I	V

Increased urban living	I	P	P	P
Increased tourism	P	V	P	P
Intense international trade	I*	P	P	P
Use of new production techniques	I	I	P	V
Need for long distance transportation of food	P	V	P	P
Preference for processed foods	V	I	P	I
Increased food consumption in institutionalized cafeterias	V	V	P	P
Lack of food safety training for food handlers	V	V	V	V
Consumption of food on the street	V	V	I	I
Personal hygiene throughout the food chain	V	**	V	***
Minimal attention to hygiene in home kitchens	V	**	V	***
Excessive retention times (between preparation and consumption)	V	V	I	V
Inadequate refrigeration temperatures	V	V	V	V
Insufficient cooking times	I	V	I	I
Cross contamination	V	V	V	V
Presence of sick food handlers	V	V	I	V
Use of raw materials from uncertain sources	I	V	V	I

\* Contraband

V = Very influential

\*\* Lack of potable water

I = Influential

\*\*\* Others

P = Poorly influential

Source: FAO "Strengthening the management of the National Codex Alimentarius Committees in Andean Countries. Report from the Subregional Workshop for trainers on Good Manufacturing Practices and the HACCP system for food control", Bogota, Colombia September, 2003, Project TCP/RLA 2904.

<sup>11</sup> Brazilian beef is popularly known as "green beef" to indicate the fact that cattle feed in open pastures or in confined conditions but always with vegetable products.

<sup>12</sup> Technical Cooperation Program (TCP) from the Food and Agriculture Organization "Evaluación y Reforzamiento del Sistema de prevención de la Encefalopatía Espongiforme Bovina y el Sistema de Control de calidad de Piensos", TCP/RAL/0017. Available at <<http://www.rlc.fao.org/prior/segalim/animal/eeb/tcp0177/>>.

<sup>13</sup> Elisabete Salay "Food Safety in Food Security and Food Trade – Case Study Reducing mycotoxins in Brazilian crops", Brief 15, International Food Policy Research Institute, Focus 10, September 2003.

<sup>14</sup> Contribution of Mariso Caipo from Asociación Peruana de Consumidores y Usuarios (ASPEC).

<sup>15</sup> George W. Norton, Guillermo E. Sanchez, Dionne Clarke Harris, Halimatou Koné Traoré "Food Safety in Food Security and Food Trade – Case Study Reducing pesticide residues on horticultural crops", Brief 10, International Food Policy Research Institute, Focus 10, September 2003.

<sup>16</sup> Contribution of Mariso Caipo from Asociación Peruana de Consumidores y Usuarios (ASPEC).

<sup>17</sup> Total population and population that consulted a doctor in Peru in the year 2000:

Total	Ill	Consultation	No consultation
25,655,031	6,448,382	3,603,471	2,884,911
	Healthy	Consultation	No consultation
	19,176,649	526,205	18,650,444

Source: Instituto Cuanto: "Encuesta Nacional sobre Medicion de Niveles de Vida (ENNIV) 2000". From Webb, R. and Fernandez Baca, G. 2003. Anuario Estadístico: Peru en Numeros 2003. Instituto Cuanto Lima, Peru. p. 346.



<sup>18</sup> Registered cases of acute diarrheal disease in children younger than 5 years of age. 1997 – 2002. Peru:

	1997	1998	1999	2000	2001	2002
Total	607,871	606,544	515,424	553,854	538,245	665,624

Source: Peruvian Ministry of Health.

Webb, R. and Fernandez Baca, G. 2003. Anuario Estadisitco: Peru en Numeros 2003. Instituto Cuanto Lima, Peru. p. 351.

<sup>19</sup>Source: Instituto Cuanto: “Encuesta Nacional sobre Medicion de Niveles de Vida (ENNIV) 2000”.

from Webb, R. and Fernandez Baca, G. 2003. Anuario Estadisitco: Peru en Numeros 2003. Instituto Cuanto Lima, Peru. p. 346.

<sup>20</sup> Main causes for hospitalization at the Institute de Salud del Niño (Children’s Health Institute) 1992 – 2001. Lima, Peru:

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Total number hospitalized	6748	6627	6207	7042	7408	7504	11,160	11,543	12,093	11,619
Diseases of the digestive system	851	754	820	839	816	886	911	941	900	823
Other infectious and parasitic diseases	869	634	547	743	749	693	467	388	342	257
<b>DYSENTERY AND GASTROENTERITIS</b>	-	-	-	-	-	519	525	577	677	727

Source: Instituto de Salud del Niño – Oficina de Estadistica e Informatica.

From Webb, R. and Fernandez Baca, G. 2003. Anuario Estadisitco: Peru en Numeros 2003. Instituto Cuanto Lima, Peru. p. 274.

<sup>21</sup> *Proposed Plan of Action of INPPAZ*, p. 9.

<sup>22</sup> As of October 2004, INFAL was integrated by 54 laboratories from 28 countries. It was established in December 1997. *International cooperation on food contamination monitoring and foodborne disease surveillance in the AMRO region*. More information available at <<http://www.panalimentos.org/rilaa/ingles/index.asp>>.

<sup>23</sup> It was established by PAHO/WHO, in alliance with the U.S. Centers for Disease Control and Prevention - CDC and the National Institute of Infectious Diseases of Argentina. *International cooperation on food contamination monitoring and foodborne disease surveillance in the AMRO region*.

<sup>24</sup> More information available at <<http://www.panalimentos.org/salmsurv>>.

<sup>25</sup> Epi-ETA is an initiative of the WHO Collaborating Center for Foodborne Disease Surveillance at the Centers for Disease Control and Prevention (Foodborne and Diarrheal Diseases Branch and the Food Safety Office) in the USA and the Pan American Health Organization (PAHO) specialized center, INPPAZ (Pan American Institute for Food Safety) in Argentina. More information available at <<http://www.epi-eta.org/>>.

<sup>26</sup> SIRVETA has a web-based database where users enter queries about Foodborne diseases. PAHO Member Countries have agreed to report, at least once a month, the information related to cases/outbreaks, with information of patients in terms of place, time and person, the implicated food and the etiological agent. *International cooperation on food contamination on food contamination monitoring and foodborne disease surveillance in the AMRO region*. More information available at: <<http://www.panalimentos.org/sirveta/e/index.htm>>.

<sup>27</sup> *Proposed Plan of Action of INPPAZ*, p. 7.

<sup>28</sup> Contribution of the Brazilian consumer organization, PRO TESTE.

<sup>29</sup> Law no. 8078 as of September 11, 1990.

<sup>30</sup> Government of Brazil “Assembling Effective Food Safety Systems - The Official Strengthening of Food Safety Control Services”, Second FAO/WHO Global forum of food safety regulators, Bangkok, Thailand, 12-14 October 2004, CRD 9.

<sup>31</sup> PRO TESTE, a Brazilian consumer organization, is currently conducting comparative tests in organic vegetables in order to verify such claims in large urban centers.

## **CHAPTER 7: NORTH AMERICAN REGION**

<sup>1</sup> Jose Luis Flores Luna, Ministry of Health, Amada Vélez Méndez, Ministry of Agriculture, Livestock, Rural Development, Fishery and Food of Mexico, “Communication and participation – The experience of Mexico”, FAO/WHO Global Forum of Food Safety Regulators, Morocco, January 2002, GF 01/6 [hereafter “*FAO/WHO Global Forum*”]; Population Resource Center, “Executive Summary: A Demographic Profile of Mexico” <<http://www.prcdc.org/summaries/mexico/mexico.html>>.

<sup>2</sup> Pan American Health Organization, “Core Health Data Selected Indicators. Data Updated to 2002; and the Health Situation Analysis and Trends Summary.” Available at <[http://www.paho.org/English/DD/AIS/cp\\_484.htm](http://www.paho.org/English/DD/AIS/cp_484.htm)>.

<sup>3</sup> Health Canada, “Health Canada Policy - Food Program - Food Safety Assessment Program”, January 2nd, 2002. Available at <[http://www.hc-sc.gc.ca/food-aliment/fsa-esa/e\\_policy.html](http://www.hc-sc.gc.ca/food-aliment/fsa-esa/e_policy.html)>.

<sup>4</sup> Mead PS, Slutsker L, Dietz V, et al., Centers for Disease Control and Prevention, “Food-Related Illness and Death in The United States,” *Emerging Infectious Diseases*, 1999, Vol.5, No.5, pp. 607-25.

<sup>5</sup> Centers for Disease Control and Prevention “Preliminary FoodNet Data on the Incidence of Infection with Pathogens Transmitted Commonly Through Food - Selected Sites, United States, 2003,” *Morbidity and Mortality Weekly Report*, April 30, 2004/53(16);338-343.

<sup>6</sup> Center for Science in the Public Interest, “Outbreak Alert! Closing the Gaps in Our Federal Food-Safety Net,” March 2004. Available at <<http://cspinet.org/new/pdf/outbreakalert2004.pdf>>.

- CSPI tracked a total of 3,500 outbreaks, representing 115,700 individual cases of foodborne illness that occurred between 1990-2003. The top five single-food vehicles of outbreaks were:
  - Seafood and seafood dishes, with 720 outbreaks and 8,044 cases of illness.
  - Produce and produce dishes, with 428 outbreaks and 23,857 cases.
  - Poultry and poultry dishes, with 355 outbreaks and 11,898 cases of illness.
  - Beef and beef dishes, with 338 outbreaks and 10,795 cases of food poisoning.
  - Eggs and Egg dishes, with 306 outbreaks and 10,449 cases.
- Multi-ingredient foods (such as salads, pizza, and sandwiches) where the contaminated ingredient was not identified were linked to a total of 591 outbreaks and 17,728 cases of food poisoning.
- Foods regulated by the Food and Drug Administration (FDA) were the vehicles in two-thirds of the outbreaks in CSPI’s database, while foods (meat, poultry) regulated by the U.S. Department of Agriculture (USDA) were the vehicles in one-fourth of the outbreaks.

<sup>7</sup> *Campylobacter* (all serotypes), *Salmonella* (nontyphoidal), *Escherichia coli* O157, *Escherichia coli* non-O157 STEC, and *Listeria monocytogenes*.

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- <sup>8</sup> Data from the Economic Research Service of the United States Department of Agriculture (ERS), “Economics of Foodborne Disease: Feature.” Available at <<http://www.ers.usda.gov/briefing/FoodborneDisease/features.htm>>.
- <sup>9</sup> ERS Data, “Foodborne Illness Cost Calculator: *Salmonella*.” Available at <[http://www.ers.usda.gov/Data/FoodBorneIllness/salm\\_Intro.asp?pathogen=Salmonella](http://www.ers.usda.gov/Data/FoodBorneIllness/salm_Intro.asp?pathogen=Salmonella)>. This estimate is for all cases of salmonellosis, not just foodborne cases. The estimate includes medical costs due to illness, the cost (value) of time lost from work due to nonfatal illness, and the cost (value) of premature death. It excludes a number of other potential costs, such as those associated with chronic complications, disutility for nonfatal illness, pain and suffering, travel, childcare, etc.
- <sup>10</sup> Mead PS, Slutsker L, Dietz V, McCaig LF, Bresee JS, Shapiro C, Griffin PM, and Tauxe RV. Food-related illness and death in the United States. *Emerg Infect Dis* 1999 Volume 5, Number 5.
- <sup>11</sup> Bern C, Hernandez B, Lopez MB, Arrowood MJ, Alvarez de Mejia M, De Merida AM, Hightower AW, Venczel L, Herwaldt BL, Klein RE “Epidemiologic studies of *Cyclospora cayetanensis* in Guatemala.” *Emerging Infectious Diseases* 1999; 5:766-74.
- <sup>12</sup> CDC. Preliminary FoodNet data on the incidence of infection with pathogens transmitted commonly through food – 10 sites, United States, 2004. *MMWR* 2005; 54(14): 352-356.
- <sup>13</sup> FAO/WHO, “International cooperation on food contamination and foodborne disease surveillance,” Second FAO/WHO Global Forum of Food Safety Regulators, Bangkok, Thailand, October 12-14, 2004.
- <sup>14</sup> Center for Science in the Public Interest, Antibiotic Resistance Project, “Human-use antibiotics are used to treat animal disease”. Available at <[http://www.cspinet.org/ar/ar\\_animaldisease.html](http://www.cspinet.org/ar/ar_animaldisease.html)>.
- <sup>15</sup> GAO Report, “Antibiotic resistance: federal agencies need to better focus efforts to address risk to humans from antibiotic use in animals.” April 2004. GAO-04-490.
- <sup>16</sup> Sarah Sims, Leicester Royal Infirmary drug information pharmacist, “Underground Resistance,” Dot Pharmacy. Available at <<http://www.dotpharmacy.co.uk/upanti.html>>.
- <sup>17</sup> Kirk E. Smith and others, “Quinolone-Resistant *Campylobacter jejuni* Infections in Minnesota, 1992-1998,” *New England Journal of Medicine* Vol. 340, No. 20 (May 20, 1999), p. 1525-1532.
- <sup>18</sup> Health Canada, “The Canadian Integrated Program for Antimicrobial Resistance Surveillance (CIPARS) – Frequently Asked Questions.” Available at <[http://www.hc-sc.gc.ca/vetdrugs-medsvet/cipars\\_faq\\_e.html](http://www.hc-sc.gc.ca/vetdrugs-medsvet/cipars_faq_e.html)>.
- <sup>19</sup> Centers for Disease Control and Prevention, “FAQ: Antibiotic Resistance and Foodborne Illness,” December 29, 2003.
- <sup>20</sup> FDA, “NARMS Brochure - National Antimicrobial Resistance Monitoring System - Enteric Bacteria”, May 2003.
- <sup>21</sup> Food and Nutrition Board, Institute of Medicine, “Seafood Safety: Committee on Evaluation of the Safety of Fishery Products,” Ahmed FE (ed.), National Academy Press: Washington, DC, 1991, p. 117.
- <sup>22</sup> USDA and EPA “What you need to know about Mercury in Fish and Shellfish,” March 2004, EPA-823-R-04-005. Available at <<http://www.cfsan.fda.gov/~dms/admehg3.html>>.
- <sup>23</sup> W. Reed Moran, Stephen A. Shoop, M.D. “Robert F. Kennedy, Jr. votes against PCBs”, *USA Today*, 09/24/2001. Available at <<http://www.usatoday.com/news/health/spotlight/2001-09-24-kennedy-pcbs.htm>>.

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- <sup>24</sup> World Health Organization, Food Safety Department, “Food Safety Issues: Terrorist Threats to Good, Guidance for Establishing and Strengthening Prevention and Response Systems,” (2002), at p. 5.
- <sup>25</sup> Centers for Disease Control and Prevention, “Nicotine poisoning after ingestion of contaminated ground beef – Michigan, 2003,” *MMWR* 2003; 52(18): 413-16.
- <sup>26</sup> Emergencies plans such as the CFIA Emergency Book and the Functional Food Safety Emergency Plan.
- <sup>27</sup> Government of Canada “Prevention and Response to Intentional Contamination”, Second FAO/WHO Global forum of food safety regulators, Bangkok, Thailand, 12-14 October 2004, CRD 47.
- <sup>28</sup> Government of Canada “Canadian Approach to a More Responsive Food Safety Control System”, Second FAO/WHO Global forum of food safety regulators, Bangkok, Thailand, 12-14 October 2004, CRD 44.
- <sup>29</sup> Health Canada, “Bioterrorism and Emergency Preparedness”, June 2003. Available at <<http://www.hc-sc.gc.ca/english/protection/biotech/bioterrorism.htm>>.
- <sup>30</sup> Canadian Food Inspection Agency, “Enhancements to BSE Surveillance and Animal Tracking,” January 9, 2004. Available at <<http://www.inspection.gc.ca/english/anima/heasan/disemala/bseesb/bseesbsurvfs.html>>.
- <sup>31</sup> Canadian Food Inspection Agency, “Canada to enhance BSE feed controls”, July 9, 2004. Available at <<http://www.inspection.gc.ca/english/corpaffr/newcom/2004/20040709e.shtml>>.
- <sup>32</sup> More information available at <http://www.inspection.gc.ca/english/anima/heasan/disemala/bseesb/bseesbindexe.shtml>.
- <sup>33</sup> United States Department of Agriculture, “Joint Statement by the United States, Canada and Mexico,” News Release No. 0022.04, January 16, 2004. Available at <<http://www.usda.gov/Newsroom/0022.04.html>> [hereafter *Joint Statement*].
- <sup>34</sup> United States Department of Agriculture, “Veneman Announces Expanded BSE Surveillance Program,” News Release No. 0105.04, March 15, 2004. Available at <<http://www.usda.gov/Newsroom/0105.04.html>>.
- <sup>35</sup> United States Department of Health and Human Services, “Expanded “Mad Cow” Safeguards Announced To Strengthen Existing Firewalls Against BSE Transmission,” Jan. 26, 2004. Available at <<http://www.hhs.gov/news/press/2004pres/20040126.html>>.
- <sup>36</sup> *Joint Statement*.
- <sup>37</sup> The Cartagena Protocol on Biosafety was adopted on January 29, 2000 by the Convention on Biological Diversity. More information on the Protocol available at <<http://www.biodiv.org/biosafety/background.asp>>.
- <sup>38</sup> A Living Modified Organism (LMO) is defined in the Cartagena Protocol on Biosafety as any living organism that possesses a novel combination of genetic material obtained through the use of modern biotechnology. In everyday usage LMOs are usually considered to be the same as GEOs (Genetically Engineered Organisms).
- <sup>39</sup> Elisabeth Malkin, “Research Panel Warns Mexico of Threat from Modified Corn,” *The New York Times*, March 12, 2004.

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<sup>40</sup> Center for Science in the Public Interest, Biotechnology Project “Frequently-Asked Questions”. Available at <<http://www.cspinet.org/biotech/faq.html>>.

<sup>41</sup> Gregory Jaffe, “Planting Trouble: Are Farmers Squandering Bt Corn Technology? An analysis of USDA Data showing significant non compliance with EPA’s refuge requirements,” Center for Science in the Public Interest, 2003.

<sup>42</sup> U.S. Centers for Disease Control and Prevention (CDC), Frequently Asked Questions About Food Irradiation, <<http://www.cdc.gov/ncidod/dbmd/diseaseinfo/foodirradiation.htm>>; U.S. Food and Drug Administration (FDA), Food Irradiation: A Safe Measure, <<http://www.fda.gov/opacom/catalog/irradbro.html>>.

<sup>43</sup> Center for Food Safety, Facts and Issues, CFS Publications, CFS Winter 2002 Food Safety Review, “Irradiation Revisited: As FDA Considers Expanded Use, New Health Concerns Arise,” <<http://www.centerforfoodsafety.org> >; Center for Food Safety, facts and Issues, CFS Publications, CFS Winter 2002 Food Safety Review, “Irradiation Revisited: As FDA Considers Expanded Use, New Health Concerns Arise,” <<http://www.centerforfoodsafety.org/> >.

<sup>44</sup> Centers for Disease Control and Prevention, “Frequently Asked Questions about Food Irradiation: Which Foods Have Been Approved for Irradiation in The United States?,” September 29, 1999. Available at <<http://www.cdc.gov/ncidod/dbmd/diseaseinfo/foodirradiation.htm#foodapproved>>.

<sup>45</sup> These programs include:

- i) the “National Food Safety Education Month” taking place in September whose goals are to reinforce food safety education and training among restaurant and foodservice workers and to educate the public to handle and prepare food properly at home;
- ii) the USDA/FDA “Foodborne Illness Education Information Center” which provides information about foodborne illness prevention to educators, trainers, and organizations developing education and training materials for food workers and consumers;
- iii) the “Food Safety Training and Education Alliance for Retail, Food Service, Vending, Institutions, and Regulators (FSTEAL)” which coordinate efforts of government, industry, and academia in order to change behaviours at the retail level and to remove barriers to communication by facilitating information exchange, strengthening communications networks and alliances, and coordinating/supporting collaborative projects;
- iv) the “Primer”, developed by FDA, in collaboration with the American Medical Association (AMA), the CDC, and the USDA, and which is intended to provide physicians with current guidelines for the diagnosis, treatment, reporting, and prevention of foodborne illness ; it also provides physicians with information for patients on prevention of foodborne illness;
- v) the “Lose a Million (Bacteria)” game, developed by the FDA and the “National Science Teachers Association (NSTA)” which is a fun, interactive game based on the popular TV game show, “Who wants to be a Millionaire.”; the game begins with a million bacteria and the object of the game is to lose bacteria;
- vi) the “Science and Our Food Supply” program, developed by the FDA, the NSTA and the “Center for Food Safety and Applied Nutrition (CFSAN)” which is a public education program developed to teach middle and high school students about food safety and food science careers;
- vii) the “Senior and Food Safety” campaign developed by FDA and USDA, which informs senior citizens about foodborne illness and contain information on eating in and outside the home and

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address, among other topics, why some people are at greater risk for foodborne illness and how to recognize it.

<sup>46</sup> More information on the *FightBAC!*<sup>TM</sup> campaign available at <<http://www.fightbac.org>>.

<sup>47</sup> For example:

-“EdNet”, the National Food Safety Educator's Network, which is an electronic network for food safety educators intended as a one-way direct mail food safety education update from the FDA, USDA, and CDC; and

- “Foodsafe” which is an interactive electronic discussion group intended as a communication tool to link professionals interested in food safety issues.

<sup>48</sup> Health Canada, “The Canadian Partnership for Consumer Food Safety Education.” More information available at <[http://www.hc-sc.gc.ca/food-aliment/mh-dm/mhe-dme/e\\_fightbac.html](http://www.hc-sc.gc.ca/food-aliment/mh-dm/mhe-dme/e_fightbac.html)>.

<sup>49</sup> Associated Press, “Food safety mistakes caught on tape,” June 19, 2000.

<sup>50</sup> Government of Canada, “Canada’s Regulatory Framework and Food Safety Program,” country paper proposed by Canada, FAO/WHO Global Forum of Food Safety Regulators, Marrakesh, Morocco, January 2002, GF/CRD Canada-1.

<sup>51</sup> Pan American Health Organization, “Summary of information from the Core Health Data System updated in the year 2002, and the General Health Situation and Trends CANADA.” Available at <[http://www.paho.org/English/DD/AIS/cp\\_124.htm](http://www.paho.org/English/DD/AIS/cp_124.htm)>.

<sup>52</sup> Government of Canada “Defining the Responsibilities and Tasks of Different Stakeholders within the Framework of a National Strategy for Food Control”, Second FAO/WHO Global forum of food safety regulators, Bangkok, Thailand, 12-14 October 2004, CRD 43.

<sup>53</sup> *FAO/WHO Global Forum*.

<sup>54</sup> National Research Council, Institute of Medicine, “Ensuring Safe Food: From Production to Consumption”, National Academy Press, Washington, D.C. 1998, p. 9.

<sup>55</sup> General Accounting Office, “*Food Safety: Overview of Federal and State Expenditures*” 2-3 (2001) [hereafter *GAO Food Safety Expenditures*], available at <<http://www.gao.gov/new.items/d01177.pdf>>; U.S. Department of Agriculture, Office of Budget Program and Analysis, USDA FY 2003 Budget Summary, available at <<http://www.usda.gov/agency/obpa/Budget-Summary/2003/2003budsum.htm>>; Food and Drug Administration, FY2003 Budget Program Narratives, available at <<http://www.fda.gov/oc/oms/ofm/budget/2003/Narratives.pdf>>.

<sup>56</sup> This estimate is based on the new resources the FDA received in the FY2002 bioterrorism supplemental appropriations. “*Hearing on FY 2003 Food and Drug Administration Appropriations Before the Subcommittee on Agriculture, Rural Development, FDA and Related Agencies of the House Committee on Appropriations*” (written responses of Lester M. Crawford, Deputy Commissioner).

<sup>57</sup> *GAO Food Safety Expenditures*, at p. 12, 16.

Last accessed date of the webpages mentioned in the Endnotes: May 13, 2005.