

## **6. CENTRAL AND SOUTH AMERICAN REGION**



The Central and South American Region embraces some of the greatest biodiversity on the planet. The region's different climates set the stage for a wide range of food safety problems, resulting from the prevalence of certain pathogens, cultural practices that promote their growth and spread, the globalization of trade, and increased travel and tourism.<sup>1</sup>

### **6.1 Foodborne diseases in the Central and South American Region**

Diarrhea caused by contaminated food and water is a major challenge for health authorities in many countries and communities of the Central and South American Region that lack basic sanitary services.<sup>2</sup> In addition, outbreaks of foodborne disease affect tourism, a major revenue source. Published reports from the Caribbean countries indicate that 11 to 20 percent of tourists interviewed report becoming ill from food.<sup>3</sup>

Between 1993 and 2002, 21 Latin American and Caribbean countries reported 10,400 outbreaks of food- and waterborne illness, according to information gathered by the Pan American Health Organization (PAHO) and the WHO.

*The Central and South American Region contains the following countries:*

*Argentina, Bahamas, Turks and Caicos Islands, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, CPC Barbados, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana, Haiti, Honduras, Jamaica, Nicaragua, Panama, Paraguay, Peru, Puerto Rico, Suriname, Trinidad and Tobago, Uruguay, and Venezuela.*

Those outbreaks caused nearly 400,000 illnesses and 500 deaths. The most frequent bacterial agents involved were *Salmonella spp.* (20 percent of the reported outbreaks),<sup>4</sup> *Staphylococcus aureus*, and *Clostridium perfringens*.<sup>5</sup>

Another pathogen, *Escherichia coli* O157:H7, has increased dramatically in the Central and South American Region. Argentina has one of the highest incidences of HUS -- a serious complication of *E. coli* infection -- especially in the pediatric age group.<sup>6</sup>

Food items most commonly associated with the reported outbreaks were: fish/seafood (22 percent), water (20 percent) and red meats (14 percent).<sup>7</sup>

## ***6.2 Food safety concerns in the Central and South American Region***

### *6.2.1 Pathogens in food*

Geographic and cultural factors contribute to the large number of foodborne illnesses in the Central and South American Region. In the Caribbean, for example, food contamination may be caused by marine biotoxins.<sup>8</sup> In the Amazon jungle, the food safety concerns are often related to waterborne parasites and high levels of arsenic and mercury in local water and fish.<sup>9</sup> Among the Andean countries (Bolivia, Colombia, Ecuador, Peru, and Venezuela), however, outbreaks are attributed to handling practices and population issues that are also prevalent in North America and Europe, such as:

- the growth of vulnerable population groups
- lack of personal hygiene throughout the food chain
- excessive storage time of food
- inadequate refrigeration temperatures
- cross contamination of food
- improper handling by food service workers<sup>10</sup>

### *6.2.2 BSE issues*

No cases of BSE have been reported in the Central and South American Region. That is not surprising, as many beef producers rely on grass feeding or exclusively plant-based diets rather than diets supplemented with animal-derived proteins. In Brazil, for example, large pasture areas contribute to the inexpensive feeding of animals.<sup>11</sup>

Despite the absence of cases, efforts to evaluate and strengthen the BSE prevention systems, especially the feed quality control systems, were initiated in Argentina, Brazil, Chile, Colombia, Paraguay, Peru, and Uruguay in 2002.<sup>12</sup>

### *6.2.3 Mycotoxins*

In Brazil, companies and consumers alike have become increasingly concerned about the dangers of mycotoxins.<sup>13</sup> As a result, there is an ongoing effort by both the public and private sectors to control mycotoxins in foods consumed by humans and animals.

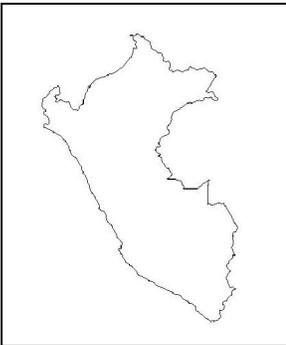
Because mycotoxin contamination can destroy the market for a specific product, incentives exist for industry-wide improvement. In Bolivia and Peru,

mycotoxins are an important consideration for certain export products. However, consumers in Peru and other countries in the Central and South American Region are largely unaware of this problem.<sup>14</sup>

#### 6.2.4 Reducing pesticide use

To reduce pesticide residues in food, many countries of the Central and South American Region are instituting pre-inspection programs that include both farm level Integrated Pest Management (IPM) and post-harvest monitoring programs.<sup>15</sup> Those programs help ensure that food that reaches consumers does not carry excessive pesticide residues. However, such programs are very difficult to implement for the thousands of small farmers involved.

**PERU<sup>16</sup>**



A national survey of Peruvian consumers found that approximately one-fourth of the population reported illnesses, but nearly half of those consumers did not seek medical attention owing to the lack of doctors or affordable healthcare.<sup>17</sup> Furthermore, in Peru, the medical establishment does not consider diarrhea as serious as other medical conditions.

There has been an increase in acute diarrheal disease in children under the age of five.<sup>18</sup> The Peruvian Office for General Epidemiology states that the main causes of diarrheal disease are pathogenic strains of *Escherichia coli*, *Campylobacter*, *Salmonella spp.*, and *Shigella*.<sup>19</sup> Twenty percent of hospitalizations at the Children's Institute of Health in Lima were the result of digestive system diseases, other infectious and parasitic diseases, and dysentery and gastroenteritis.<sup>20</sup>

More periodic surveys, along with better reporting of foodborne diseases from physicians, would greatly improve surveillance of foodborne illness at the local level.

#### 6.2.5 The Barter Network

The economic crisis in Argentina led to the emergence and expansion of a barter network, an informal production and marketing system. Approximately five to seven million people are involved in trading goods under that system, and food is one of the items most often traded. A high percentage of those foods are home-made and sold in open air markets or other locations where it

is difficult to prevent contamination.<sup>21</sup> As economic conditions improve, activity on the barter network is decreasing.

In Brazil, an informal work market employing 30 million people has developed in much the same way as that in Argentina. Food items usually are produced domestically and then sold in open-air markets, making the adoption of prevention measures difficult.

### **6.3 Policies and plans of action in the Central and South American Region**

International organizations have recognized foodborne diseases as a significant public health issue in the Central and South American Region, giving rise to a number of innovative programs to promote networking and collaboration among countries in Central and South America, such as:

- The Regional Foodborne Disease Surveillance Network, known by its Spanish acronym SIRVETA
- INFAL, a network integrating laboratories from the Americas, which has developed an information system for its member laboratories, and distributes reference manuals, promotes participation on proficiency tests, organizes training programs, and fosters exchange of experiences between laboratories<sup>22</sup>
- PULSENET for Latin-America, which aims to strengthen the surveillance of foodborne diseases in the region, by the use of biological molecular techniques<sup>23</sup>
- WHO-GLOBAL SALM SURV, a network to strengthen surveillance and response system capabilities, contributing to the global effort of containment of antimicrobial resistance of foodborne pathogens such as *Salmonella*, *Campylobacter* and *Escherichia coli* O157:H7<sup>24</sup>
- Epi-ETA, a network of foodborne disease epidemiologists, whose purpose is to enhance communication and collaboration among individuals involved in foodborne diseases through an epidemiologic network that provides information and scientific knowledge, an electronic communication forum, and a platform for training in foodborne disease epidemiology<sup>25</sup>
- Legalim, a computerized system of food legislation

Moreover, in 2001, the Pan American Commission for Food Safety (COPAIA) was established to provide expertise for national food safety programs and to promote collaboration within the Americas.

### *6.3.1 Epidemiological surveillance*



The SIRVETA represents one of the best regional surveillance systems worldwide. Even so, the foodborne disease reporting rates are still too low to have an accurate measure of disease across the Central and South American Region.<sup>26</sup>

Epidemiological surveillance would be improved if physicians and other public health officials were trained and then linked to laboratories to ensure that illnesses were being fully reported.<sup>27</sup>

Countries in the Central and South American Region could also ensure that comprehensive information is passed on to SIRVETA.

### *6.3.2 Legislation*

In 2002, as part of the effort to harmonize and develop food legislation in the Central and South American Region, a computerized system of food legislation (Legalim) was established. This database is designed to analyze the countries' laws to harmonize food safety regulations.

### *6.3.3 Consumer Education*

The Central and South American Region has developed an integrated system for educating consumers about food safety. In 2002, the Pan American Sanitary Bureau (PASB) developed a consumer Internet site to provide food safety information in English, Portuguese, and Spanish. However, most consumers in the Central and South American Region do not have access to the Internet and even many public and local government workers only have limited access to it.

## **6.4 Consumer organizations in the Central and South American Region**

Consumer organizations in the Central and South American Region address a variety of issues, including sustainable food production and consumption, comparative tests of food, strengthening food safety systems, food labeling policies of national governments, agricultural biotechnology issues, and consumer food safety education.

**BRAZIL**<sup>28</sup>*Foodborne diseases*

Diarrhea continues to be one of the most serious problems in Brazil. There are specific areas in Brazil, especially those removed from large metropolitan centers or those located on the periphery of cities, where basic sanitation (sewage and plumbing systems) is still insufficient and sometimes nonexistent.

*Consumer education*

In Brazil, consumer education is a cross-disciplinary subject involving the social sciences, like history and geography (economic and social), as well as physics, biology, and mathematics. Numerous civic entities deal with the subject of consumer defense, among which consumer organizations play an important role. For example, the non-profit Brazilian consumer organization PRO TESTE has a strong presence in consumer education; its journal enhances consumers' knowledge of the quality of food products and services.

*Legislation*

In 1990, Brazil adopted the code for consumers' defense (CDC),<sup>29</sup> which is considered one of the most modern and efficient laws in this field. The CDC is used systematically and effectively by both consumers and non-governmental organizations working for consumers' rights. That legislation permits public civil actions by organizations working for consumers' defense. These actions can determine responsibility for damages to consumers and the environment.

Moreover, the Brazilian government is developing more efficient forms of organization for the management of its actions in the public health sector. In 1999, the National Health Surveillance Agency, ANVISA, was created to protect and promote public health and ensure the safety of products and services. Risk analysis procedures in health surveillance activities have been one of the milestones in the management of the Agency. Thanks to those new procedures, the Agency has been able to deregulate a significant number of food groups, assessed as being of low risk for human consumption, and concentrate its efforts on higher-risk products. The Agency also is trying to encourage the participation of food producers, consumers, and professional associations in public open consultations.<sup>30</sup>

***BRAZIL (CONT.)***

Nevertheless, related legislation such as rules and regulations designed for government bodies involved in "sanitary vigilance and normalization" have not always integrated the most desirable levels of security for consumers.

***Mycotoxins***

Mycotoxins, including aflatoxins and ocratoxins, are still a significant concern for Brazilian consumers. A test of 14 brands of desserts containing roasted peanuts showed that 12 brands were barely acceptable in terms of toxin levels and the other two brands were completely unacceptable.

Brazil does not set limits for each aflatoxin (B1, B2, G1, and G2) and the maximum accepted levels for each of those are quite high, especially in comparison to the limits set in the European Union. Consumer organizations in Brazil are demanding revisions of those standards.

***Reducing pesticide use***

Brazil requires that the purchase and use of pesticides be documented, and requires that the type, quantities and applications of pesticides be provided to government agencies before products can be obtained and their use authorized. Despite these legal requirements, it is not unusual to find pesticide residues in agricultural products. Organic food is available, theoretically free of pesticides, but it is too expensive for the average consumer.<sup>31</sup>