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The hidden costs of food-borne diseases

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KEY WORDS
Food safety
Quality
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The right to food

At the 1996 World Food Summit, government leaders called attention to the right to food, which, according to FAO, is "the right of everyone to have access to safe and nutritious food" (FAO n.d.), as recognized in the 1948 Universal Declaration of Human Rights (U.N. n.d.). This right is not limited to freedom from hunger, but also includes the obligation for States "to promote full enjoyment of the right of access to adequate nutrition for each individual." Adequate nutrition, in turn, was described at the World Food Summit as "food that is adequate in quantity and quality for a healthy and active life." Therefore, food quality (including nutritional quality and protection for consumers against fraudulent practices such as the use of false or deceptive labeling) and food safety are concepts that are rooted in the most basic rights of humanity, and are so recognized by the world community.

Governments, through the relevant institutions and agencies, are responsible for safeguarding the health of the people. This includes ensuring that enough food is available (food security) and that it is safe for human consumption. Because this requires the participation of all links in the agrifood chain, it is no easy task.

The food safety and quality system

If the national food safety and quality system is to be effective, laws and regulations must be in place that cover production, handling, transportation, processing and distribution systems. Additionally, at the commercial level, food safety and quality systems are expected to cover the food preparation and service sectors; in other words, the system must extend from the farm or pond to the tables of consumers. This modern concept of food quality and safety assurance throughout the agrifood chain is known as **"from farm to table."**

In addition to the legal framework, food quality and safety systems must include a mechanism for effective enforcement of relevant laws and regulations. The effectiveness of a legal framework depends on its enforceability. Therefore, national food safety and quality systems must include appropriate national laws and regulations, inspection, analytical laboratories, and management of the system. Further, it is essential that the system include proper channels for information and communication between the system and stakeholders in the agrifood chain, with a view to facilitating intersectoral dialogue and continually improving the safety and quality of food products through education, training and the understanding and adoption of good practices (FAO 2003).

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The contrasts: export quality or for domestic consumption?

Due to the globalization of trade, which has had a particularly significant impact on the trade of food products, developing countries are paying more and more attention to the need to assure the safety and quality of food imports and exports. Food imports can be considered as part of the domestic food supply and, therefore, must comply with the same norms and standards set for those produced locally. Food exports, on the other hand, are subject to a regulatory regime no longer based on national laws but on international standards.

These standards, called for in the Agreement on the Application of Sanitary and Phytosanitary Measures (ASPM) of the World Trade Organization (WTO n.d.), include the Codex Alimentarius (FAO and WTO n.d.), the most important collection of standards, norms and procedural guidelines recognized by the ASPM, as well as the norms and standards of blocs of countries or trading blocs. The latter vary in terms of their severity and application by authorities in importing countries. In other cases, they are part of a new set of demands imposed on suppliers by private marketing chains, in addition to the international norms.

As a result, many developing countries which have developed systems, often equivalent to the best in the world, for fresh and processed food products for export, have only a fledgling or no system in place to control the safety or quality of food for domestic consumption.

In this context, the incentives offered by external markets to consolidate a culture of quality and safety contrast sharply with the lack or inadequacy of such incentives in domestic markets (Unnevehr and Jensen 1998). The local population is often unaware of the regulations that govern the quality and safety of foods, and does not have the wherewithal to be too selective in terms of what to buy. Both consumers and producers lack timely and accurate information on practices that can contribute to food safety. Consumers seldom have the technical and scientific knowledge they would need to differentiate between safe and contaminated food, and the safety of a product cannot be seen with the naked eye. As a matter of fact, the way consumers handle food products is one of the main causes of intoxication or infection caused by food (Redmond and Griffith 2003). Given this inability of consumers to differentiate, there is no pressure placed on producing and processing firms to adopt norms or practices that will improve the safety and quality of their products (FAO 2000).

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As a result, two levels of food safety and quality control co-exist:

a) **A relatively advanced control system** which ensures compliance with international norms and standards of quality and safety applicable to food products for export.

b) **A weak, abandoned or non-existent parallel system**, applicable to the local food supply. Ironically, it is under this system (if its exists) that the foods consumed by producers, processors and exporters themselves, as well as those in charge of developing policies and programs, politicians, their families and the rest of the population, are produced and handled.

In many countries there is a **third food safety and quality control system**, located between the two above, which applies regulations to and inspects only large- and medium-scale processors of foods marketed locally under a brand name or packaged in some way. This third level, while necessary, actually penalizes the organized industrial sector while rewarding the huge informal sector, which operates with no supervision. It is in this informal sector where most of the population obtain their food. Although this sector is very difficult to regulate, some success has been reported in improving sanitary conditions in municipal markets and food stands (FAO 2000).

The hidden social and economic costs of the lack of food safety and quality control

In most cases, the limited importance many developing countries attach to controlling the safety and quality of food for domestic consumption can be attributed to:

a) The lack of consumer organizations capable of exerting pressure on governments. In developed countries, consumer protection organizations have played a decisive role in the development of national food quality and safety control systems.

b) National planning organizations frequently are unaware of the immense economic and social implications of food-borne diseases (FBDs) because their costs are difficult to determine or even estimate (Angulo *et al.* n.d.).

c) It is very difficult to quantify the number of cases and to classify them in terms of type of FBD for several reasons:

- The national health system may not have the means to diagnose, via lab tests, which etiological agent is involved in every visit to a public health facility. In other words, the country lacks an epidemiological surveillance system. As a result, cases are not reported by specific FBD (for example, salmonellosis, campylobacteriosis, etc.).
- Physicians in private practice do not conduct a qualitative diagnosis in most cases and are not required to report cases of FBDs to public health authorities.
- Even in countries with an efficient epidemiological surveillance system and laws the require all cases of serious FBDs to be reported, only some 10% of the people who become ill with a FBD seek medical attention (FAO 2002). This is due to the fact that those affected frequently recover in less than 48 hours. Furthermore, given the paperwork involved, physicians often fail to report such cases. An example of how data can vary greatly, for the reasons mentioned above, is the case of the United States, where the number of cases of FBDs has been estimated at between 6.5 and 33 million annually (Segerson 1999).

When the number of cases is known and it is possible to identity the etiological agent, the cost of FBDs in a country can be estimated. Thus, for example, the estimated cost of 5.4 million annual cases of FBDs in Australia is 1.2 million Australian dollars (Abelson 2006). Also, some 120 thousand cases of FBDs in New Zealand in 2000 were estimated to have cost US$88 million (Scott et al. 2000). In the United States, the cost of 6.5-33 million cases of FBDs caused by the six bacteria most commonly involved was estimated at between US$9.3-12.9 billion (Buzby *et al.* 1996).

These figures include medical and hospitalization costs, loss of productivity (absenteeism, poor on-job performance), as well as a complicated quantification of the economic cost of the loss of each life. The study did not address the social cost of the suffering of the sick and their families and the fact, now confirmed, that FBDs can produce short- and long-term aftereffects (leading to early death and causing chronic diseases such Guillain-Barre syndrome, in 2-3% of the cases, arthritis, autoimmune diseases, etc.) which increase the total cost of such diseases (Busby and Roberts 1996; Lindsay 1997). The fact that an FBD, bacterial dysentery, is the main cause of infant mortality in many developing countries and can impact negatively on many children for life, is also not considered in the few existing studies on the quantification of the economic costs of FBDs (Alam *et al.* 2000).

Therefore, the common result of this "invisibility" of the economic and social cost of FBDs is the absence of a national policy on food safety and quality, and thus, of food safety as part of national development plans and budgets. This, in turn, is reflected in neglect or abandonment of the national food control system.

Therefore, it is important to develop and adapt an effective methodology for estimating the true cost of FBDs, even in the absence of a national epidemiological surveillance system. It is necessary to determine the national cost of FBDs if planners are to be able to weigh the costs and benefit for the country of investing in improvements in the national food safety program.

Tourism and food safety

Every year, FBDs can have important indirect, as well as direct, effects on the economies of the countries of the Americas, which can overload already strained public health systems, generate enormous medical costs, lead to lost productivity, and yet remain "invisible" to planners and decision makers. One is the devastating impact FBDs could have on tourism, an important source of revenue for many countries.

People will not want to return to a place where they became sick, or for their friends and relatives to get sick. Tourists who are unhappy because they fell ill while on vacation can be expected to speak badly of the place they visited. For example, repeated incidences of gastroenteritis caused by Norwalk-like viruses have had a serious impact on the cruise ship industry in recent years (Undated Sea Sick, n.d.). However, on land, it is the image of the country that is damaged, since tourists usually consume the same food as the local population, which is produced and handled under equal or similar conditions, even though they appear to be "better quality."

In many countries, water, one of the most common sources of FBDs, is no exception and must be included in any effort aimed at improving food safety in order to protect the health of local consumers and tourists (CSIRO n.d.).

Conclusions

The economic and social cost of FBDs is probably very high in most countries of the hemisphere. If this cost were visible, or at least estimated, governments would certainly take immediate steps to lower it. Therefore, estimation of the cost of the FBDs must be given serious consideration by national authorities and regional and international organizations as a first step in tackling the safety and quality problems of food for domestic consumption.

IICA's efforts to contribute to the modernization of national food safety services should focus on food both for export and for domestic markets, with a view to ensuring that the benefits of a growing culture of quality focused on exports are extended to foods consumed locally, to the benefit of consumers throughout the Americas.

Bibliographic references

Abelson, P. 2006. The cost of foodborne illness in Australia. Department of Health and Ageing, Canberra.

Alam, D.S.; Marks, G.C.; Baqui, A.H.; Yunus, M.; Fuchs, G. 2000. Association between clinical type of diarrhoea and growth of children under 5 years in rural Bangladesh. Int. J. Epidemiol. 29: 916-921.

Angulo, F.; Voetsch, A.; Vugia, D.; Hadler, J.; Farley, M.; Hedberg, C.; Cieslak, P.; Morse, D.; Dwyer, D.; Swerdlow, D. s.f. FoodNet working group. Undated. Determining the burden of human illness from foodborne diseases: CDC´s Emerging Infectious Disease Program Foodborne Disease Active Surveillance network (FoodNet). (on line). Centers for Disease Control and Prevention (CDC). Accessed April 16, 2007. Available at http://0-ww.cdc.gov.mill1.sjlibrary.org/foodborne/publications/1_angulo_1998p.pdf

Buzby, J.C.; Roberts, T. 1997. Guillain-Barré syndrome increases foodborne disease cost (on line). Accessed April 20, 2007. Available at http://ers.usda.gov/publications/foodreview/sep1997/sept97h.pdf

_____.; Roberts, T.; Jordan Lin, C.T.; McDonald, J.M.. 1996. Bacterial foodborne disease: Medical costs and productivity losses. (on line). Agricultural Economics Report No. (AER 741). Washington, D.C., Economic Research Service, U.S. Department of Agriculture. Accessed April 19, 2007. Available at http://www.ers.usda.gov/Publications/aer741/

CSIRO (Scientific and Industrial Research Organization) n.d. Economic costs of water pollution in Rarotonga, Cook Islands. (on line). Accessed April 24,l 2007. Available at http://www.csiro.au/science/ps1uc.html

FAO (United Nations Food and Agriculture Organization, IT.) n.d Food: a fundamental human right. (on line). Accessed April 20, 2007. Available at http://www.fao.org/FOCUS/E/rightfood/right1.htm

_____. 2000. Capacitación de vendedores callejeros – Guía Didáctica.

_____. 2002. Global Forum of Food Safety Regulators. Agenda Item 4.2a), GF-CRD WHO-2. (on line) Accessed May 17, 2007. Available at http://www.fao.org/DOCREP/MEETING/004/AB524E.HTM

_____. 2003. Assuring Food Safety and Quality. Guidelines for Strengthening National Food Control Systems. FAO Food and Nutrition Paper 76. (on line). Accessed April 11, 2007. [Available at ftp://ftp.fao.org/docrep/fao/006/y8705e/y8705e00.pdf].

_____; OMS (Organización Mundial de la Salud) n.d. Normas alimentarias FAO/OMS. Codex Alimentarius (on line). Accessed April 11, 2007. Available at http://www.codexalimentarius.net/web/index_es.jsp

Helms, M.; Vastrup, P.; Gerner-Smidt, P.; Mølbak, K. 2003. Short and long term mortality associated with foordborne bacterial gastrointestinal infections: registry based study. p. 326-357.

Lindsay, J.A. 1997. Chronic sequelae of foodborne disease. Emerging Infectious Diseases 3 (4) (on line). Accessed April 18, 2007. Available at http://www.cdc.gov/ncidod/eid/vol3no4/lindsay.htm

OMC (Organización Mundial de Comercio) n.d. Acuerdo sobre medidas sanitarias y fitosanitarias. (on line). Accessed 20 abril 2007. Available at http://www.wto.org/spanish/docs_s/legal_s/ursum_s.htm#bAgreement

ONU (Organización de las Naciones Unidas) s.f. Declaración de los derechos humanos. (on line). Accessed April 20, 2007. Available at http://www.un.org/spanish/aboutun/hrights.htm

Redmond, E.C.; Griffith, C. J. 2003. Consumer food handling in the home: A review of food safety studies. J. Food Prot. 66 (1): 130-161.

Scott, WG; Scott, H, M; Lake, R.J.; Maker, M.G. 2000. Economic cost to New Zealand of foodborne infectious disease. N Z Med J. 113(1113):281-284.

Segerson, K. 1999. Mandatory versus voluntary approaches to food safety. Agribusiness 15 (1): 53-70.

Undated. Sea Sick - Infection Outbreaks Challenge the Cruise Ship Experience. Water Quality and Health Council (on line). Accessed April 25, 2007. Available at http://www.waterandhealth.org/newsletter/new/winter_2004/sea_sick.html

Unnevehr, L. J.; Jensen, H.H. 1998. The Economic Implications of Using HACCP as a Food Safety Regulatory Standard. (on line).Center for Agricultural and Rural Development. Iowa State University, Ames. Accessed April 16, 2007. Available at http:/www.card.iastate.edu/publications/DBS/PDFFiles/99wp228.pdf

Resumen / Resumo / Résumé

Enfermedades transmitidas por alimentos Invisibilidad de los costos

El derecho de cada persona al acceso a una alimentación nutritiva y sana es parte de la Declaración Universal de los Derechos Humanos. No obstante, muchos países tienen un incipiente o ningún sistema de control de calidad e inocuidad para alimentos de consumo interno, a pesar de que han diseñado estos sistemas para productos alimentarios de exportación. Otros países aplican regulaciones sólo a alimentos comercializados localmente bajo marca, pero no al vasto sector informal.

Existen diversos factores por los que muchos países del hemisferio otorgan poca importancia a este tema: a) ausencia de asociaciones fuertes de consumidores capaces de influenciar al sector público; b) carencia de elementos de juicio o recursos económicos por parte del consumidor que le permita ser selectivo y así generar fuerzas de mercado; y c) invisibilidad del enorme costo económico y social de las enfermedades transmitidas por alimentos (ETA).

Particularmente, la estimación del costo de las ETA debe recibir seria consideración por parte de las autoridades nacionales y de los organismos regionales e internacionales, como preámbulo para enfrentar seriamente este problema. Los beneficios de una creciente cultura de calidad enfocada hacia el exterior deben extenderse también a los alimentos de consumo interno, para beneficio de los consumidores de las Américas.

O custo invisível das doenças transmitidas por alimentos

O direito de cada pessoa ao acesso a uma alimentação nutritiva e saudável está presente na Declaração Universal dos Direitos Humanos. Não obstante, em muitos países os sistemas de controle de qualidade e inocuidade dos alimentos de consumo interno são incipientes ou mesmo inexistentes, embora estejam organizados para produtos alimentícios de exportação. Outros países aplicam normas apenas no caso de alimentos comercializados localmente sob marca, mas não no vasto setor informal.

São diversos os fatores pelos quais muitos países do Hemisfério atribuem pouca importância a este tema, como por exemplo: (a) falta de associações fortes de consumidores, capazes de influenciar o setor público; (b) carência de elementos de juízo ou recursos financeiros por parte do consumidor que lhe permita ser seletivo e, assim, gerar forças de mercado; e (c) invisibilidade do enorme custo econômico e social das doenças transmitidas por alimentos.

Les coûts invisibles des maladies transmises par les aliments

Le droit de chaque personne d'avoir accès à une alimentation nutritive et saine est inscrit dans la Déclaration universelle des droits de l'homme. Néanmoins, de nombreux pays ne disposent pas de système de contrôle de la qualité et de l'innocuité des aliments destinés à la consommation intérieure, ou ont un système embryonnaire, alors qu'ils ont conçu de tels systèmes pour les produits alimentaires d'exportation. D'autres pays ont établi des règlements qui s'appliquent seulement aux aliments commercialisés localement sous une marque, mais pas au vaste secteur informel.

Plusieurs facteurs expliquent pourquoi de nombreux pays du continent accordent peu d'importance à cette question: a) absence de puissantes associations de consommateurs capables d'avoir une influence sur le secteur gouvernemental; b) manque de ressources économiques ou d'éléments permettant de porter un jugement chez le consommateur, ce qui l'empêche d'être sélectif et de donner ainsi naissance à des forces de marché, et c) caractère invisible de l'énorme coût économique et social des maladies transmises par les aliments (MTA).

Il importe tout particulièrement que les autorités nationales et les organismes régionaux et internationaux accordent une attention réelle à l'évaluation du coût des MTA, comme premier pas en vue d'affronter sérieusement ce problème. Les bénéfices d'une culture de la qualité axée sur les produits d'exportation, qui s'impose de plus en plus, doivent s'étendre aux aliments destinés à la consommation intérieure, au profit des consommateurs des Amériques.