Economic Development, Food Safety, and Sustainable Export Market Access: The Case of Snow Peas from Guatemala[1]

Introduction

In the interconnected, interdependent world of today, the safety of a nation's food supply is one of the most important duties a government owes its citizens. Officials in Canada and the United States have been among the most successful in meeting this duty, in large part due to stringent regulations and timely action to address emerging problems. The Canadian and US markets are also among the most lucrative and rewarding to shippers from around the world. For most products, market-access conditions are among the most open; not only are tariff and other formal barriers relatively low and transparent, but access to distribution channels are straightforward and competitive. Gaining access is thus relatively easy for new shippers, including from developing countries.

Keeping that access, however, is another matter. As growers and exporters of snow peas from Guatemala discovered, nothing is more destructive of international commerce than a loss of reputation. Having introduced and developed an interesting new market in the United States for snow peas, Guatemalan farmers, exporters, and officials discovered that sustaining and increasing that market required careful attention to the issue of risk management and food safety. The pay off from investment in snow pea production was high, but could only be sustained in the long run if every step in the production and distribution chain was carefully managed with a view to satisfying a demanding market. It was not an easy lesson but, as we shall see, it could be learned and applied, even in a country without many of the institutional mechanisms that make compliance with food safety standards a matter of routine for growers and shippers in Canada and the United States.

Snow peas have become one of Guatemala's most important non-traditional agricultural exports (NTAEs), potentially worth more than US $50 million annually. NTAEs, i.e., crops that have not previously been central to a country's export profile, seek to increase export earnings by capturing new, more specialized and, often, more lucrative, markets; nearly all of Guatemala's snow peas, for example, are destined for the US fresh vegetable market. In addition, due to the high intensity of production per acre of land, NTAEs promote economic development by increasing income opportunities for small-scale farmers and their families and communities.

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[1] This case was prepared by Michael Hart, Simon Reisman professor of trade policy in the Norman Paterson School of International Affairs at Carleton University, and a distinguished fellow of its Centre for Trade Policy and Law. Research assistance was provided by Brendan Sutton. The case updates, and modifies for use in trade policy courses, a case developed by the TED program at American University (case Number 416: *Snow peas and pesticide residues in Guatemala*), the original of which can be accessed at http://www.american.edu/TED/SNOWPEA.HTM.

Guatemala: Economic Profile

Area: total: 108,890 sq. km (water: 460 sq. km and land: 108,430 sq. km)

Climate: tropical; hot, humid in lowlands; cooler in highlands

Terrain: mostly mountains with narrow coastal plains and rolling limestone plateau

Natural resources: petroleum, nickel, rare woods, fish, chicle, hydropower

Land use: arable land: 13%; permanent crops: 5%; other: 82% (1998 est.)

Population: 13,314,079 (July 2002 est.); below poverty line: 60% (2000 est.)

Economy: The agricultural sector accounts for about one-fourth of GDP, two-thirds of exports, and half of the labor force. Coffee, sugar, and bananas are the main products. Ongoing challenges include increasing government revenues, negotiating further assistance from international donors, and increasing the efficiency and openness of both government and private financial operations. Despite low international prices for Guatemala's main commodities, the economy grew by 3% in 2000 and 2.3% in 2001.

GDP: approx. US$ 23 billion or, at purchasing power parity - $48.3 billion (2001 est.); real growth rate: 2.3% (2001 est.)' per capita: purchasing power parity — $3,700 (2001 est.)

Labor force - by occupation: agriculture 50%, industry 15%, services 35% (1999 est.)

Industries: sugar, textiles and clothing, furniture, chemicals, petroleum, metals, rubber, tourism

Agriculture — products: sugarcane, corn, bananas, coffee, beans, cardamom; cattle, sheep, pigs, chickens

Exports: $2.9 billion (f.o.b., 2001). Commodities: coffee, sugar, bananas, fruits and vegetables, cardamom, meat, apparel, petroleum, electricity. Partners: US 57%, El Salvador 8.7%, Costa Rica 3.7%, Nicaragua 2.8%, Germany 2.6% (2000)

Imports: $4.9 billion (f.o.b., 2001). Commodities: fuels, machinery and transport equipment, construction materials, grain, fertilizers, electricity. Partners: US 35.2%, Mexico 12.6%, South Korea 7.9%, El Salvador 6.4%, Venezuela 3.9% (2000)

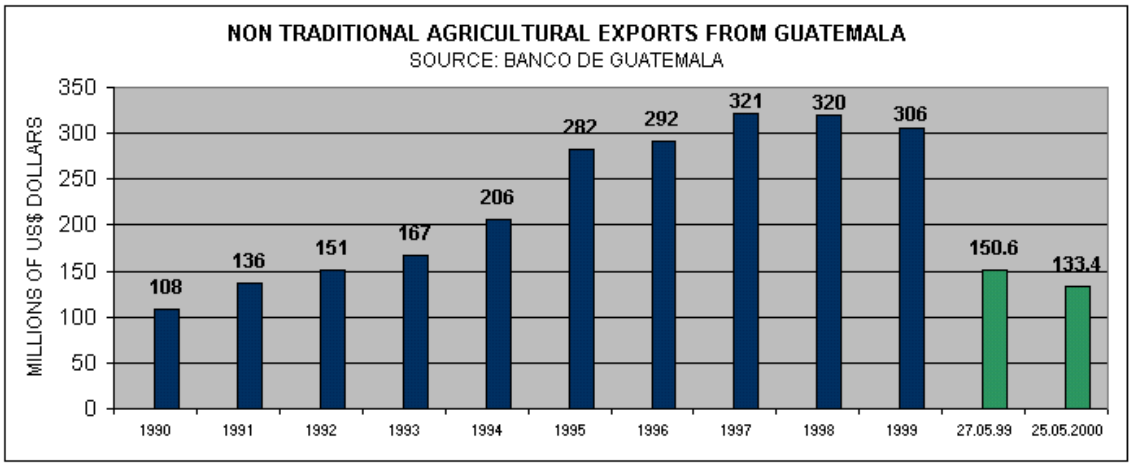
Source: http://www.cia.gov/cia/publications/factbook/geos/gt.html

When the new crops were introduced in the early 1980s, pesticides were promoted as critical to ensuring high yields and unblemished products acceptable to US consumers. But, with increasing concern over the health impact of pesticide residues, the US Food and Drug Administration (FDA) increased its monitoring of food imports. Snow peas were found to be Guatemala's most serious violator, leading to automatic detention of that country's exports and serious losses to its farmers. Additionally, reliance on a single crop and pesticides created a pesticide treadmill, increasing costs and reducing incomes.

Guatemala's problems were compounded in 1996-97 when widely circulated media reports attributed an outbreak of intestinal ailments to shipments of raspberries from Guatemala. The US Food and Drug Administration and the Canadian Food Inspection Agency banned imports of Guatemalan raspberries for the 1998 season, citing continued concerns over the protozoan parasite, cyclospora, believed to have caused the outbreaks of illness in the United States and Canada in 1996-97. Most of these are thought to have been associated with the consumption of fresh raspberries from Guatemala.

In order to protect the integrity of its exports of snow peas, raspberries, and other important new export crops, Guatemala set out to ensure that it not only lived up to the requirements of US import regulations by improving farming and export handling techniques, but also to find better ways to ensure that Guatemalan small-scale farmers continue to benefit from new export opportunities and their contribution to the economic development of their communities. An important dimension of Guatemala's campaign was 'branding' Guatemalan fresh food exports among US distributors and consumers as meeting high standards of quality, safety, and environmental responsibility. This case study traces the story of Guatemala's efforts and assesses their success.

Chart 1: Non-traditional agricultural exports from Guatemala



Source: http://www.arveja.agexpront.com/statistics14.htm

Main facts in the case

Over the past decade, Guatemalans have been working hard to put their economy back on its feet. For some 35 years, Guatemala was ravaged by a brutal civil war that disrupted and savaged all development efforts. Progress over the past few years, however, suggests that Guatemala is now on a much more sustainable development path, and the cultivation and export of non-traditional crops like snow peas are making an important contribution. (See Exhibit 1: an excerpt from the WTO's most recent trade policy review of Guatemala.)

Agriculture is the backbone of Guatemala's economy, representing about a quarter of its GDP, employing about half of its labour force, and earning about two-thirds of its total export value. Starting in the 1950s, traditional crops of coffee and bananas began to be supplemented by such non-traditional crops as cotton, beef, and sugarcane. In the early 1980s, a new group of non-traditional exports — including snow peas, broccoli, berries, and melons — was introduced with the support of multilateral and bilateral aid programs. With the drop in international prices for traditional exports and increasing costs of cotton cultivation, the new, non-traditional agricultural exports expanded rapidly as farmers sought to increase income and the country attempted to expand export earnings.

The value of Guatemala's NTAEs grew rapidly over the first decade, and continued to do well throughout the 1990s (see chart 1), as small-scale farmers warmed to the new opportunities and US consumers expanded their menu choices, particularly during the winter months. While non-traditional crops still constitute a minority of Guatemala's total agricultural exports, net revenues and returns per hectare tend to be quite high and far exceed those of traditional crops, thus offering many advantages, particularly for small holders. The new crops continue to have significant growth potential, particularly if problems of sustainable production and appropriate post-production handling are resolved.

The snow pea is generally regarded as a Chinese vegetable, despite the fact that it originates from the Mediterranean region, and can be grown in numerous climates world-wide. It is most commonly used in salads, soups, steamed, or lightly stir-fried in chicken, fish, pork, or beef dishes. Chinese consumers also eat it raw, topped only with lemon or lime juice. It is a low yield, light-weight crop, and can command a steep price. It is highly perishable, and shelf life at the retail level is limited to about three or four days, making shipment by air the only viable mode of transportation for export, and making them vulnerable to detention for health and food safety reasons.

Snow peas became Guatemala's leading NTAE primarily due to their high returns to farmers, although input costs tend to be higher than for other crops (due to pesticide costs) and export losses can be greater if shipments do not meet stringent pesticide-residue standards and fail to reach the market. However, demand for snow peas has generally been strong and prices remain attractive for producers. The United States produces only a small amount of snow peas and relies on imports to meet the bulk of its domestic consumption, with Guatemala being its principal supplier.

The WTO Agreement on Sanitary and Phytosanitary Measures

Problem: How do you ensure that your country's consumers are being supplied with food that is safe to eat — 'safe' by the standards you consider appropriate? And at the same time, how can you ensure that strict health and safety regulations are not being used as an excuse for protecting domestic producers?

The Agreement on the Application of Sanitary and Phytosanitary Measures sets out the basic rules for food safety and animal and plant health standards.

It allows countries to set their own standards. But it also says regulations must be based on science. They should be applied only to the extent necessary to protect human, animal, or plant life or health. And they should not arbitrarily or unjustifiably discriminate between countries where identical or similar conditions prevail.

Member countries are encouraged to use international standards, guidelines and recommendations where they exist. However, members may use measures which result in higher standards if there is scientific justification. They can also set higher standards based on appropriate assessment of risks so long as the approach is consistent, not arbitrary.

The agreement still allows countries to use different standards and different methods of inspecting products.

Source: http://www.wto.org/english/tratop_e/sps_e/spsund_e.htm.

For Guatemalan snow peas to succeed on the international market, they must meet stringent health, sanitary, and aesthetic standards in the United States, Canada, Europe, and elsewhere. Health and sanitary requirements are strictly enforced in these high-value markets, consistent with the rules of the WTO Agreement on Sanitary and Phyto-sanitary Measures (the 'SPS Agreement' — See Box above and Exhibit 2). Cosmetic standards are set by importers, brokers, wholesalers, and retailers responding to market signals from increasingly demanding consumers. On both counts, a reputation for high compliance is critical to commercial success. The long-term success of snow pea cultivation, therefore, required the application of controls and procedures along the full chain from field to table geared to ensuring compliance with stringent safety and cosmetic standards.

Snow pea cultivation is ideally suited to labour-rich and land-poor small holders

The expansion of non-traditional crops in Guatemala has brought important advantages to the country and particularly to its small-scale farmers in the country's highland regions, including greater returns to producers, enabling small-holders to switch from subsistence farming to cultivating a competitive cash crop. Net revenues and returns per acre of snow peas are on average substantially higher than those of corn, the most important traditional crop for small-scale farmers, as well as being significantly higher than returns of other non-traditional crops. Snow peas and other non-traditional crops also create local employment directly on farms and indirectly through forward and backward linkages and multiplier effects resulting from increased income spent locally.

The small farm's comparative advantage in snow pea production is due not only to the high labour intensity of the cultivation but also to the careful on-site management and supervision necessary for successful yields. The peas have a two-month growing period, after which harvesting begins and extends over 10-12 weeks. Two crops per year are normal, and staggered plantings provide scope for harvesting year round. Plants are tied to ropes stretched between sticks along rows of plants, a labour-intensive process. Tasks include weeding, tying the plants, spraying for pest control, and picking.

In Guatemala, 90 percent of snow peas are grown by an estimated 18,000 to 20,000 relatively poor farmers on very small farms, typically less than two acres. Competitiveness of the most successful of these small-scale farmers in snow-pea cultivation is largely due to the fact that they are organized in associations or cooperatives, allowing them to share costs and risks and have more access to technical assistance. In addition, their large families help cover the high labor input.

Role of exports and exporters

Most non-traditional crops, and particularly snow peas, are grown for the export market; local consumption is minimal. Export prices have generally been favourable to farmers. Although snow pea prices have shown a high degree of short-term price fluctuations on the international market, the fact that harvesting is stretched out over a three-month period enables farmers to realize acceptable average returns. In addition, crops are cultivated in phases on different plots at different times during the year to further reduce risk. Thus, the danger of losses from cyclical international price drops, comparable to those which occur in traditional export crops such as coffee, is less of a threat.

Small-scale and resource-poor farmers do not export themselves, but sell their produce either on the 'night' market to brokers or 'coyotes,' or directly to export companies, or through cooperatives. Those associated with export companies or cooperatives often engage in a system known as 'satellite farming.' Typically, the export company or cooperative advances seeds, fertilizers, and chemicals to the farmer, who agrees to pay for them when the crop is harvested. In essence, the farmer receives a loan and promises to sell his crop to the export company or cooperative. The exporter or cooperative can refuse to purchase the crop on delivery if its quality will cause it to be rejected at the US border for either health or cosmetic reasons. Thus, most of the risk of a poor harvest is borne by the farmer, who suffers high losses if he can not sell his crop. At the same time, the system creates high incentives to maintain quality standards.

Export companies and cooperatives of various sizes were initially able to thrive under the satellite farming system. However, with the increasing detentions of snow peas at the US border by the early 1990s due to pesticide residues, larger, better-resourced companies working with fewer and larger-scale growers, were able to introduce stricter production controls and thus meet US requirements. Such a system of 'contract farming' already dominated Guatemalan melon production. Using elaborate written agreements, farmers receive technical packages including seed, fertilizers, pesticides, and regular visits by company technicians. Following the harvest, they are paid a percentage of net earnings after the costs of these inputs are subtracted. The pesticide residue problem thus affected the structure of production, tending to push some small-scale and resource-poor farmers out of snow pea production, and others to consolidate into becoming contract farmers.

About half of Guatemala's snow peas are marketed either through well-resourced companies on the basis of contract farming or by export companies and cooperatives relying on satellite farming. The remainder is grown by small, independent farmers selling their product at the end of the day in the 'night' market to brokers and exporters. Most of the problems experienced by Guatemala with US standards originate in this sector of the industry, including spillover effects on the better managed contract and satellite systems. Mixing yields from high-pesticide farms, for example, with peas grown on low-pesticide farms can disqualify a whole shipment.

Pesticide problem for snow pea producers

Snow peas and other non-traditional crops are native to temperate climates and proved sensitive to tropical pest problems. The absence of a real winter allows planting year round, but also denies the natural pest control that comes with cold weather and fallow cycles. In a tropical environment, insects are more numerous and varied, plant diseases are more prevalent, and damp conditions are especially hospitable to fungi. Pest problems also arose from the increasingly monocultural nature of cultivation. Finally, use of fungicides and insecticides with a wide-spectrum and high toxicity to eliminate a wide-range of pests tend to eliminate 'good' pests along with the 'bad' ones, creating natural imbalances and making the plants more vulnerable to other problems. To overcome these problems, farmers initially relied on increasing pesticide applications to replace the reduction in natural environmental controls. Additionally, US markets demand unblemished produce, requiring more pesticide applications to pass stringent aesthetic standards to ensure market appeal.

Food safety and trade

Highly publicized international food safety incidents may change consumer perceptions about food safety and consumers' food purchasing patterns. In some instances where the public outcry has been particularly strong, there have been changes in government regulations affecting domestic and/or imported food products. Even after a problem has been resolved regarding the safety of an imported food, consumer perceptions about the implicated food product and about the exporting country's ability to produce safe food may be slow to change, and these perceptions may have a lasting influence on food demand and global trade.

What countries accept, in terms of food safety risks in food imports, depends not only on their perception of risks but also on what they are willing and able to pay to avoid risky foods. Wealthier countries, with more information about food safety risks (even if sensationalized), demand not only year-round access to a wider variety of internationally traded foods but also tend to demand more stringent food safety standards on both domestically produced and imported foods. And, they are generally willing to pay more for these higher levels of food safety.

Source: USDA, http://www.ers.usda.gov/Emphases/SafeFood/featuring/perceptions.htm

Pesticide residues and US import restrictions

Heavy pesticide use not only led to higher growing costs for Guatemalan farmers, but also to increased pest resistance, impaired health of farm workers, contamination of the environment, and increased scrutiny by the US Food and Drug Administration. The most serious and frequent residue detention problems in shipments of produce to the United States from Latin America during the 1990s were from Guatemala. In 1992, the FDA set up an automatic detention program for snow pea imports from Guatemala. This meant that the Guatemalan grower or exporter had to present a valid certificate of analysis showing that the product is free from pesticide residues considered illegal under US regulations. The analysis must be performed by an independent laboratory, at the exporter's expense. This procedure must be successfully followed for 5 consecutive shipments before an exporter will be able to ship freely, subject of course to periodic sample testing. Subsequent shipments of the same products remain subject to frequent sample inspections, and if another violation is detected, the former procedure is reinstated.

Acceptability of pesticide residue levels is determined by the US Environmental Protection Agency (EPA) and administered by the US Food and Drug Administration and the Customs Service. There are essentially three types of restrictions: pesticides that are tolerated for use on the crop but whose detectable residues must not be above a certain defined level; pesticides for which there is no acceptable tolerance for the particular crop, although acceptable tolerance levels may exist for use with other crops; and pesticides whose use is now entirely banned in the United States (though they may persist in the environment). Detentions of snow peas have primarily been due to Chlorothalonil (a fungicide) and Methamidophos (an insecticide), both of which have no established tolerance levels for use on snow peas, but which may be used on other crops imported into the United States.

US rules and procedures are strict, but they are applied on a non-discriminatory and transparent basis. Nevertheless, they are not invulnerable to challenge under international agreements, including the WTO's SPS Agreement. Under SPS rules, the US government needs to be able to demonstrate that the restrictions are applied to achieve a legitimate purpose (e.g., health and safety) and in a manner that is no more restrictive

than necessary to meet that purpose. If challenged, US officials would need to be in a position to demonstrate that imports of contaminated snow peas from Guatemala pose a risk and that they had made a science-based risk assessment. Based on available evidence, it is not clear that the United States would have succeeded in defending all of its restrictions. The government of Guatemala, however, chose not to mount such a challenge, making the calculation that even if successful, the impact of such a challenge would risk creating buyer resistance in the future. Instead, it concentrated on addressing and remediating the problems that had led to the US border measures.

The FDA and the Enforcement of Food Safety

The US Food and Drug Administration (FDA) mission is to enforce the Federal Food, Drug, and Cosmetic Act and other laws designed to protect consumers' health, safety, and pocketbook. These laws apply equally to domestic and imported products.

To ensure that FDA is notified of all regulated products imported into the United States, the importer must file an entry notice and an entry bond with US Customs pending a decision regarding the admissibility of the product. FDA inspection and enforcement procedures for imports rely on coordination with Customs.

FDA is notified by Customs of the entry and makes a decision as to the article's admissibility. If FDA does not wish to examine the entry, the product is allowed to proceed into United States commerce.

Generally, if FDA decides to examine an entry, an FDA representative will collect a sample from the shipment for laboratory evaluation. If the analysis indicates the product is in compliance, the shipment may be released into US commerce. If there is a violation, the product will be refused admission.

If the product is refused, the importer is required to either re-export or destroy the article under US Customs or other approved supervision. If the refused product is not destroyed or re-exported, Customs issues a notice for redelivery to the importer of record. Failure to redeliver the refused product may result in Customs assessing liquidated damages against the importer's bond.

In some instances a product may be detained as soon as it is offered for entry into the United States. This procedure is the administrative act of detaining a product without physical examination and is based on past history and/or other information indicating the product may be violative. A product may be subject to a detention without physical examination recommendation until the shipper or importer proves that the product meets FDA guidelines or standards.

Source: http://www.fda.gov/ora/import/ora_import_system.html

Response in Guatemala to losses due to pesticide residue detentions

Due to serious losses to farmers, various initiatives were undertaken in the early 1990s to resolve the pesticide-residue problem. Efforts focused particularly on snow peas, aimed at stopping application of chemicals not registered by the EPA for use on that crop, and were carried out under Guatemala's Agricultural Development Project, financed by the US Agency for International Development. As part of this endeavor, the Integrated Pest Management (IPM) project was launched in 1991 with the collaboration of several public and private sector institutions in Guatemala and the United States (See Exhibit 3). Several other efforts were undertaken as well. The Integral Program for Agricultural and Environmental Protection was set up to reduce pesticide residue problems and promote compliance with pesticide and sanitary standards. It works with US government agencies

and trade associations to provide technical services and to develop laboratory capacities for residue analysis. The International Pesticide Trade Association and Guatemala's National Committee on Snow Peas, as well as the US Peace Corp in conjunction with the Panamerican Agricultural School, have all developed programs for training and education to improve farming and handling practices and reduce pesticide hazards and residue problems.

One of the central efforts, the IPM project, set out to research and apply integrated pest and pesticide management methods and to reduce pesticide inputs and detentions. Beginning with two years of research on the main pest and disease problems related to snow peas, the project generated new alternatives for integrated pest management, including solarization, the use of plastic 'traps,' the destruction of crop residues, crop rotation, and the more rational use of pesticides that can meet EPA requirements. The project also included training and technical assistance for personnel of export companies, chemical salesmen, farm managers, and both small and large-scale farmers, along lines similar to the programs managed at many state universities in the United States to improve farm management practices in the United States.

Initially, studies undertaken to assess the impact of the IPM project in Guatemala's major snow-pea producing areas showed disappointing results. While most farmers had adopted some new practices, only half were following pesticide residue precautions, a significant number continued to use unregistered pesticides, and very few had embraced key recommended practices for successful functioning of an integrated pest management system. Lack of sufficient knowledge of methods, time constraints, and expense were cited as reasons for failure to adopt IPM. However, studies suggested that the methodology used for training and education, its top-down approach and lack of participatory methods, was responsible for the project's low success rate. By adapting the project to local needs and requirements, better results began to be recorded, indicating that the basic goals were attainable and sustainable among small-scale farmers.

The program was handed a major setback in 1995 when an eruption of leaf miners provoked the US Department of Agriculture (USDA) to impose a plant protection quarantine. It took US and Guatemalan scientists two years to establish that the leaf miner problem was not the result of an exotic species and thus did not pose a threat to US producers. USDA lifted the quarantine in 1997, restoring prospects for the industry. Again, it is not clear that the US quarantine would have survived a challenge under the terms of the WTO SPS Agreement. As is often the case, a precautionary approach led to measures that subsequent analysis indicated were not warranted. Guatemala, however, again decided that challenging the US action might prove counterproductive. The leaf miner crisis had the unintended side effect, however, of underlining the importance to all growers and handlers of complying with US import requirements if they wanted to maintain a viable industry by now worth close to $35 million a year.

A decade of research and experimentation has now clearly established that snow peas — and other non-traditional crops — can be successfully and economically cultivated in Central America using practices that fully comply with US health and cosmetic requirements, but that are also compatible with local needs and capacities. When properly implemented, farmers using these techniques achieve more effective insect and disease control with less reliance on chemicals, generating higher marketable yields, safer food supplies, and greater economic sustainability at all levels.

Plant Protection and Quarantine

The Plant Protection and Quarantine (PPQ) Bureau of the US Animal and Plant Health Inspection Service (APHIS) safeguards agriculture and natural resources from the risks associated with the entry, establishment, or spread of animal and plant pests and noxious weeds. Fulfillment of its safeguarding role ensures an abundant, high-quality, and varied food supply, strengthens the marketability of US agriculture in domestic and international commerce, and contributes to the preservation of the global environment.

PPQ's success in excluding harmful exotic species plays a vital role in support of US national objectives to protect the environment. It takes an active role in protecting the environment and improving the quality, safety, and security of the Nation's food supply, as well as educating the public in environmental stewardship. Compliance with environmental statutes and other requirements, along with the active development and use of alternative control methods are integral parts of PPQ's planning process, and allow for the mitigation of potential adverse impacts on the environment.

Source: http://www.aphis.usda.gov/ppq/ppqmission.html

Small-scale farmers suffer greatest losses

Pesticide residue problems, therefore, do not need to push small-scale, resource-poor farmers out of snow pea cultivation, even though they suffered the bulk of early losses resulting from export rejections due to residue violations. Changing their pesticide use habits, using crop rotation, and relying on non-pesticide alternatives have all proven feasible. Various studies suggested that the relationship between exporter and grower was an important determinant of pesticide-related practices. Growers associated with companies and cooperatives having better resources and extensive US contacts used pesticides and cultivation techniques more likely to result in compliance with US requirements than did independent growers selling their crops on the night market.

Other non-traditional crops in Guatemala have seen structural changes in production to growers more directly controlled by exporters through contracts, in order to reduce pesticide-residue and similar problems. While snow pea cultivation is still characterized by a variety of forms of production, when small-scale and independent farmers are able to obtain effective assistance and resources to reduce their pesticide dependence, these farmers are capable of meeting higher standards. An important lesson slowly being learned along the full chain from field to export is that higher returns come to those prepared to take greater care. The continued presence of less careful cultivators, however, continues to pose a threat to reputation and acceptance that needs to be addressed by growers, cooperatives, brokers, export companies, and government officials.

Importance of post-harvest handling practices

Success in addressing problems at the farm level exposed the additional importance of addressing sanitary and phyto-sanitary quality controls in the post-harvest distribution channels. Since more than half of snow peas originate from small farms selling their produce on the open 'night' market, failure to address weaknesses in post-harvest handling practices would undermine the gains made elsewhere. Again, the combined and cooperative efforts of US and Guatemalan scientists and officials were able to demonstrate that failure to maintain high standards that segregated US-compliant from non-

compliant product risked whole shipments. On balance, crops harvested on the basis of strong grower-shipper relationships showed higher levels of compliance and thus export success, suggesting the need for more stringent controls by both the industry and the government. As one study concludes, 'exporters who obtain snow peas primarily from open market supply channels will continue to be at a competitive disadvantage in the export market for snow peas.' [2]

Cyclospora Outbreak Affects Guatemala's Economy

A recent rash of intestinal illnesses in the United States and Canada has caused extreme concern among local raspberry growers. The Center for Disease Control and Prevention (CDC) reports that nearly 850 people became ill because of cyclospora infection in 20 US states, the District of Columbia, and the Canadian province of Ontario during May and June of this year [1996]. The CDC and the FDA reported that consumption of Guatemalan raspberries was a possible source of the illness based on statistical correlations and probabilities after interviewing people who were contaminated with cyclospora. Neither CDC nor FDA had encountered any empirical evidence to substantiate the statistical indications.

Investigators from the FDA and CDC arrived in Guatemala in June to evaluate the production, packing, and shipping of Guatemalan raspberries since the specific mode of contamination has not been fully determined. During their visit the team received the full cooperation of the Government of Guatemala, the Berry Commission of the Guatemalan Association of Exporters of Non-Traditional Products (GEXPRONT), raspberry producers, and packers. The team found no positive isolation linking raspberries produced in Guatemala and cyclospora.

Raspberries are produced in Guatemala in some 200 hectares and are harvested by hand from October to May, where as many as 30,000 workers are employed in the production. Export volume for the 1995-1996 season reached 350,000 flats and exports of raspberries provide nearly US$5 million in foreign income. Three quarters of the Guatemalan production is exported to North America and the rest to Europe and local consumption. The raspberry industry has been expanding significantly in the last few years at a yearly rate of between 25 and 30 percent.

Source: http://www.quetzalnet.com/newswatch/GNW1996/edition11-7.html#h3

A good reputation or 'brand' is hard to gain and easy to lose

The Guatemalan NTAE industry was handed a further set back in 1996-97 when an outbreak of gastrointestinal illnesses in the United States and Canada was epidemiologically linked to the presence of cyclospora in some shipments of raspberries from Guatemala. The result was again renewed scrutiny and import detentions at US and Canadian ports of entry. Imports of fresh berries were banned for the 1998 season and then restored in 1999. The Canadian Food Inspection Agency has now determined that the presence of cyclospora is seasonally sensitive, and have opened the Canadian market only for the period 15 August to 14 March, while keeping it closed for the period 15 March to 14 August of each year.

Once again Guatemalan authorities were faced with a choice: challenge the US measures as either unwarranted or excessive or take remedial measures. Again, based on con-

[2] James W. Julian, Glenn H. Sullivan, and Guillermo E. Sánchez, 'Future Market Development Issues Impacting Central America's Nontraditional Agricultural Export Sector: Guatemala Case Study,' *American Journal of Agricultural Economics* 82(5), 1180.

cerns about Guatemala's future as a reliable supplier of safe and wholesome fresh fruits and vegetables, the choice was to resolve the issues that had given rise to the restrictions rather than challenge them.

The Guatemalan berry industry reacted swiftly to the reputational issue created by the ban and succeeded in re-opening the US market on the basis of improved cultivation and post-harvest handling practices. Officials were able to determine that the problem was probably due to the use of 'night-soil' for fertilizer by isolated producers, whose product then contaminated whole shipments. In response, both the industry and government introduced much stricter quality controls to ensure there would not be a repeat. Both took the view that regardless of whether there was any truth to the allegation of contaminated product from Guatemala, the industry could not survive if it did not restore confidence among US and Canadian importers, officials, brokers, retailers, and, ultimately, consumers.

Epidemiology

Epidemiology, traditionally, is the description of epidemics, which are occurrences of diseases that significantly affect various groups of people. It studies such factors as an illness attack rate, which describes the number of people ill in a population at risk of being ill. Historically, epidemiology has been applied to studies of infectious diseases, but in more recent times epidemiologists have also studied major noninfectious diseases, such as cancer and heart disease, and other important health problems. Pandemics are epidemics that encompass large regions or large numbers of people.

Epidemiology involves various techniques, the foremost being the descriptive approach, in which the disease or situation is defined in terms of time, place, and person. Long-term and short-term trends in the occurrence of the disease are considered. The geographic area where the causative agent and the ill person had contact is noted; for example, someone may eat a contaminated meal in a restaurant and become ill the next day at home, but the contact point was the restaurant. The patient's age, sex, socioeconomic status, occupation, nutritional status, and other factors are also recorded.

In an epidemiologic investigation, the existence of an epidemic first must be confirmed by examining individual cases and verifying the diagnosis. The number of cases is then estimated, and the clinical data are collected and analyzed. A case definition is developed that is then used to identify other cases. Appropriate laboratory specimens are obtained and processed, and the data are analyzed in terms of time, place, and person. The source of the causative agent, its mode of transmission, and the risk factors that explain why certain people became ill and others did not are determined. A hypothesis is formulated as to why the outbreak occurred, and specific investigations are conducted to prove or disprove the hypothesis. Once the cause of the outbreak is identified, appropriate control and prevention measures are usually instituted. Such public-health organizations as the Centers for Disease Control and the World Health Organization investigate and attempt to control epidemics.

Source: Grolier's Encyclopedia, Copyright 1995 by Grolier Electronic Publishing, Inc.

The lesson painfully learned by the raspberry sector was not lost on the other NTAE industries: reputations in the perishable and competitive fresh food sector are difficult to establish and easy to lose. While there may be some grounds for believing that developed country safety standards and inspection practices are set and administered with more zeal than may be warranted, consumer attitudes in advanced market economies are, if

anything, even more demanding. Experience suggests that, when it comes to food safety, pursuing a case under the WTO's SPS Agreement may lead to a phyrric victory.

Snow pea production and economic development

Now that non-traditional crops have had two decades to establish themselves in Central America, various researchers have followed up by examining not only the commercial success of the venture, but also its longer term developmental impact. Environmental and other groups in the United States, Canada, and elsewhere have proven inveterate opponents of the non-traditional agricultural industry in Central America and elsewhere, claiming that such industries rely on the export of unsafe industry practices to countries not able to regulate them to the same extent as developed countries. They also assert that these industries represent important markets for chemicals now banned in the United States and elsewhere. Agri-food companies are alleged to promote the continued use of these chemicals by exploited peasants preparing exotic foods for rich Americans when they should be concentrating on feeding their own populations with crops more suited to local conditions

> The success of liberalizing trade to integrate economies into the world economy depends not only on trade policies but also on a host of companion policies. A trade liberalization attempt without appropriate companion policies is unlikely to succeed. Studies of trade liberalization done since the 1980s, show that trade liberalization has failed in many instances due to lack of appropriate companion policies rather than due to the faulty design of trade policies themselves.
>
> WTO official Chiedu Osakwe.
>
> Source: www.southcentre.org/info/southbulletin/ bulletin07/bulletin07-04.htm.

There is little more than anecdotal evidence to back up these claims. Nevertheless, these claims are frequently repeated on the myriad of web sites maintained by well-meaning but uncritical non-governmental groups. Research pursued by groups such as the Purdue University IPM CRSP project has found that 'small-scale producers view NTAE production as a viable opportunity for economic advancement, one that works more to their advantage than against it, and that most have managed to stay in the market for several years following initial adoption.'[3] Most were able to increase family income, not only by successfully cultivating a cash crop but also through off-farm employment in packing plants and other pre- and post-harvest activities. Hamilton, Barrios, and Sullivan report that 'NTAE production can contribute to genuine rural development and poverty alleviation. In highland Guatemala, NTAE production has offered viable opportunities for local producers to control their own means of production and has provided employment for farm families and other community members.'[4]

Follow-up studies of small-scale farming in the Guatemalan highlands over the course of the past twenty years have demonstrated a number of positive indicators of socio-economic development and poverty alleviation, including:

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3 Sarah Hamilton, Linda Asturias de Barrios, and Glenn Sullivan, 'Non-traditional Agricultural Export Production on Small Farms in Guatemala: Long-term Socio-Economic and Environmental Impacts,' IPM CRSP Working Paper 02-1 (May 2002).

4 Ibid.

- ✓ Improved housing;
- ✓ Improved educational achievements as a result of increased funds to pay for it and an ability to keep children in school longer;
- ✓ Improved nutrition and health care; and
- ✓ Greater mobility due to more cash to pay for transport.

In sum, respondents among small-scale growers in the Guatemalan highlands generally associated their improved, more stable family economic situation and improved quality of life to the introduction of non-traditional agricultural export crops.[5]

Fears that non-traditional crops would crowd out traditional ones — which hold both cultural and nutritional value — have not proven well-founded. Most small-scale farmers continue to produce traditional, as well as non-traditional crops. Indeed, plant scientists have successfully demonstrated to many of these farmers the benefit of crop rotation and of inter-planting both types of crops. Experience has taught small-scale farmers that such combined production practices provides a viable means to achieve maximum benefit from their small holdings.

Lessons learned

Standards are key to the effective functioning of the global economy. In an earlier, simpler era, when people procured most of their everyday needs from individuals and firms close to them, reputation alone was often enough to ensure quality and safety. Today, when the goods we consume and the services we trust can come from anywhere on the globe and are provided by people we do not know, the maintenance of high standards and the assessment of acceptable risks are critical factors in providing consumers with the confidence to take advantage of the cornucopia of goods and services the world has to offer. Reputation remains important, but it is a much broader and much less personal form of reputation, and it relies importantly on the enforcement of government rules and procedures.

In this case, Guatemalan peasants thousands of miles from their ultimate customers, learned the hard way that the success of their venture depended on meeting exacting health, safety, and cosmetic standards. The intermediaries on whom they relied to bring their products to the lucrative markets of Canada and the United States equally had to learn that if they wanted to profit from the new venture, they had to be vigilant in maintaining quality control. Their teachers were the officials and rules used by the United States and Canada to protect the safety of the US and Canadian food supplies, as well as US and Canadian brokers, importers, distributors, and retailers responding to the exacting standards Americans and Canadians have come to expect.

Guatemala faced the choice of challenging US restrictions under the terms of the WTO's SPS Agreement. Since its entry into force in 1995, a number of countries have successfully challenged SPS measures adopted by others as deficient in various respects, including failure to demonstrate reliance on a valid, science-based risk assessment and failure to demonstrate that the measure was no more restrictive than necessary to meet a valid public purpose. Canada, for example, successfully challenged Australian restric-

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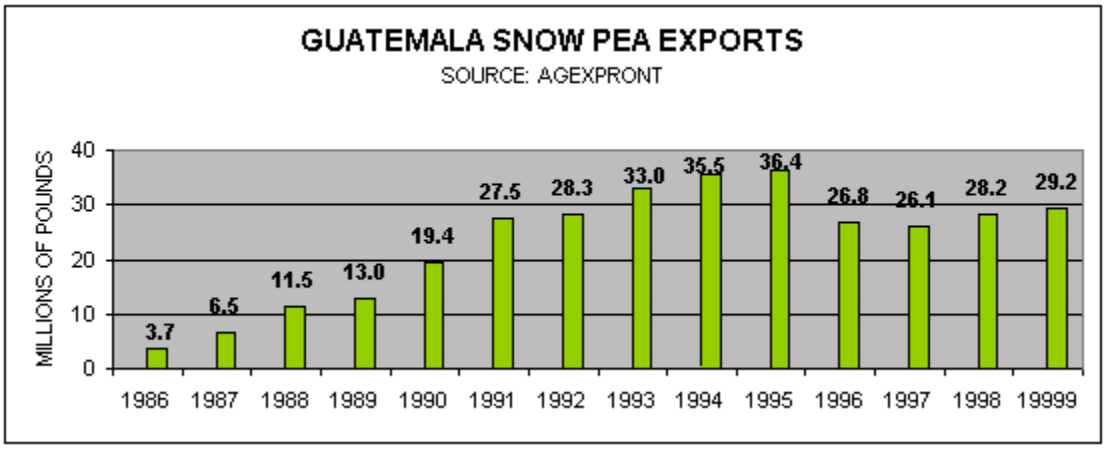
5 Sarah Hamilton, Glenn Sullivan, and Linda Asturias de Barrios, 'Economic and Social Impacts of Non-traditional Export Crop Production in Highland Guatemala: Impact Perception Survey,' IPM CRSP Working Paper 01-3 (October 2001).

tions on imports of fresh, frozen, and chilled Pacific salmon. Cases such as this give rise to concerns about the abuse of SPS measures to meet protectionist ends.

Over the course of the 1990s, however, as it faced repeated restrictions on its exports of NTAEs to the US market, Guatemala decided not to act on any suspicions that it might have had about the US measures. Instead, it concentrated on remedial measures and efforts to safeguard its long-term reputation as a reliable supplier of fresh fruits and vegetables to the North American market

Chart 2: Guatemala Snow pea Exports



Source: http://www.quetzalnet.com/N_Trad_Inv.html

Table 1: US Imports of Fresh Peas, HS 07-08-10 (000 Metric Tonnes)

Year	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Guatemala	7.2	8.8	11.1	10.4	9.0	8.5	8.8	6.2	7.8	8.6	7.0	9.7	10.2
Mexico	4.1	4.8	3.1	2.5	2.4	2.6	2.6	4.6	5.0	5.5	6.3	4.7	5.7
Peru	0.0	0.0	0.02	0.0	0.01	0.04	0.2	0.1	0.04	0.3	0.6	0.9	1.0
Others	2.4	1.2	0.5	0.2	0.3	0.5	0.4	0.1	0.3	0.4	0.2	0.2	0.1
Total	13.7	14.4	14.7	13.1	11.7	11.6	11.8	11.0	13.1	14.8	14.1	15.5	17.0

Source: www.fas.usda.gov Data Source: Department of Commerce, U.S. Census Bureau, Foreign Trade Statistics.

It took a while for remedial measures to take hold and for highland peasants to accept the critical importance of compliance with US standards. As chart 2 and table 1 illustrate, non-traditional agricultural exports from Guatemala generally, and snow peas in particular, steadily grew into the 1990s, but then hit snags after 1992 that needed to be addressed. Exports of snowpeas fell significantly in subsequent years. It has taken almost a decade of steady re-building since then to address reputational and safety issues. By 2001, however, US imports of snow peas from Guatemala had once again reached the levels attained in 1991-2. Success was neither haphazard nor incidental, but the result of deliberate action and follow through.

Food for Thought from the Sierra Club

So-called nontraditional agro-exports are booming, spurred by US foreign aid policy and international lending institutions, which see them as a convenient source of debt repayment. These crops are 'nontraditional,' of course, only from the point of view of the producing country: the fruits, vegetables, and flowers being grown are standard varieties familiar to North America. Fields that once produced a mix of indigenous crops for local people are turned to monoculture. … .

It isn't easy to grow huge quantities of a single product of uniform size, color, and appearance. The trick is accomplished through liberal use of chemical pesticides, 20 percent of which, according to Cornell University agricultural scientist David Pimentel, are employed solely to improve the product's appearance. … For agribusiness, the attraction of growing food in the south for markets in the north — aside from rock-bottom wages and off-season sunshine — is freedom from pesticide regulation. … The potpourri of pesticides slathered on export crops in Latin America includes many of those associated with the disruption of human and animal reproductive systems. In 1994, at least 52 tons of such substances were shipped out of U.S. ports every day. … These poisons take their toll, primarily on farm laborers.

A crude poetic justice is achieved when many of these poisons return to the United States as residue on export crops. From 1985 to 1995, more than 14,000 produce shipments were stopped at the US border because of excess pesticide residue, the most frequent culprits being from Mexico and Guatemala. … Even if the United States stopped its scandalous export of banned poisons, however, there would still be good reasons for eating close to home. The farther away the produce is grown, the greater the environmental effects: from unknown pesticide practices beyond the reach of US law to the energy required to transport an Australian apple halfway around the world. As a consumer, you can help shape the global economy by what you buy. If you must shop in a supermarket, you can at least choose what's in season — a good indicator that it was produced domestically. … Better yet, buy organic foods from your local farmer's market. Best of all, grow your own. Remember what your mother used to tell you — you should always know what you're putting in your mouth.

Source: Excerpted from 'Food for Thought,' by Paul Rauber in Sierra Magazine

The larger story that emerges from this case is that good trade policy practice alone is not enough. Sound trade rules and practices need to be integrated into a broader development plan and reinforced by a range of other regulatory safeguards and good governance practices by both the public and private sector. Multilateral and bilateral aid agencies, working with local institutions, can help to create the institutional and regulatory infrastructure required to provide these safeguards and governance practices, but in the end, it requires broad acceptance by all involved. The pay off from adopting such a holistic approach is the development of export industries that are sustainable within the local context and that are sensitive to environmental, developmental, and other local needs.

Issues for discussion

Definition of the Problem

Intersection of sustainable economic development, good trade policy practice, and gaining and defending market access.

Analysis

- Economic
- Policy
- Political
- Commercial

Alternative and Preferred Solutions

Challenge US import measures in US courts and under the WTO

Resolve problem areas and strengthen confidence in Guatemala as a reliable, compliant supplier

Required means

General background issues for discussion

- Object and purpose of GATT/WTO
  - ✓ Role and interests of developing countries
- Market access
  - ✓ Economics
  - ✓ Politics
  - ✓ Gaining and keeping it
- National Treatment and Product Standards
  - ✓ WTO SPS Agreement
  - ✓ Economic and legal issues
  - ✓ Challenges for developing countries

Case-specific background issues

- The Guatemala Snow Pea Industry
  - ✓ Agricultural issues
  - ✓ Commercial issues
  - ✓ Development issues
  - ✓ Environmental issues
- The US Phyto-Sanitary Regime
- The players and their perspectives
  - ✓ The Guatemala Snow Pea Industry
  - ✓ Government of Guatemala officials
  - ✓ US government officials — regulatory, policy
  - ✓ US distributors and retailers
  - ✓ Intermediaries: shippers, brokers, etc.
  - ✓ US consumers

Exhibit 1

WTO Trade Policy Review Body: Guatemala
Report by the Secretariat — Summary Observations[6]

In recent years, trade has played an important role in promoting growth and development in Guatemala. Increases in exports have outpaced GDP each year since 1996. There has been considerable progress in reducing tariff and non-tariff trade barriers, although protection remains significant in a few areas. Most restrictions to foreign investment have also been eliminated, and a wide-ranging privatization program has led to reduced state involvement in production activities and increased efficiency in key activities. Moreover, legislation to improve government procurement regulations and the protection of intellectual property rights has been adopted. These efforts have been part of a multi-pronged strategy that encompasses unilateral, regional, and multilateral initiatives aimed at achieving sustainable economic growth through economic liberalization and public-sector modernization.

Economic growth in Guatemala has been steady but will need to be stepped up to effect a significant improvement in living standards. This will require in particular a consolidation of, and further forward movement in, Guatemala's liberalization efforts. In trade-related areas, further initiatives may be required to achieve greater efficiency in the domestic market, including by continuing with the privatization program and strengthening pro-competitive policies and regulations. Non-distortionary sectoral policies will need to be favoured, bearing in mind that export-promotion programs often result in discrimination against domestically oriented activities. Consolidation of Guatemala's liberalization efforts would also be aided through specific capacity-building programs. Ultimately the success of these efforts is contingent upon securing lasting institutional stability. In all these areas the international community can continue to play an important role.

Guatemala has Central America's largest economy, with a population of 11.4 million and a per capita GDP of close to US$1,700. Since the signing of the Peace Accords in December 1996, which ended 36 years of internal armed conflict, one of the main objectives of the authorities has been to achieve stable and sustainable economic growth. Between 1995 and 1998 real GDP grew at an average annual rate of about 4.4%; subsequently, stagnant private consumption and reduced investment spending led to a slowdown in 1999 and 2000, with GDP growth rates of 3.6% and 3.3% respectively. Despite this relatively solid growth performance, due to Guatemala's strong population growth, per capita GDP has expanded too slowly to improve living standards significantly; poverty thus continues to be a serious problem.

In order to meet an agreed Peace Accords target to fund social programs, efforts are being made to expand tax revenue; for this purpose, the value-added tax was increased to 12% in mid 2001. The Government has also undertaken efforts to strengthen the tax administration and broaden the tax base, although tariffs and value-added tax on imports still account for a large part of state income. The fiscal deficit has ranged between 0.1% and 2.8% since 1995.

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6 Source: http://www.wto.org/wto/english/tratop_e/tpr_e/tp184_e.htm

Guatemala maintains a flexible exchange rate system; the Central Bank intervenes in the market only to moderate exchange rate fluctuations. A law passed in late 2000 allows the free circulation of machinery and transport equipment, food products, fuels, and chemicals. The upward trend in the share of fuels in total merchandise imports reflects the increases in world prices of foreign currency, with a view to increasing confidence in the banking system. Disciplined financial policy has contributed to a reduction in inflation from double-digit rates at the beginning of the 1990s to 5% in 2000, and has played a role in keeping the exchange rate to the U.S. dollar relatively stable since 1999. Real interest rates have shown a rising trend in recent years and reached almost 15% in 2000.

Guatemala's current account has registered important deficits in recent years, due mainly to persistent and growing trade deficits. The deficit has been financed largely by remittances and privatization income. Returning capital and privatization inflows increased international reserves to nearly US$1.9 billion in 2000, equivalent to five months of total imports.

The United States is Guatemala's most important trading partner, being the market for 36% of Guatemalan exports and the source of 40% of its imports. Other important trading partners are other members of the Central American Common Market, the European Union, and Mexico. Between 1995 and 2000, the U.S. dollar value of Guatemalan imports grew at an average rate of 8.2% annually, well above the 6.9% growth rate of exports, reflecting in great part unfavourable terms of trade.

Agricultural goods (WTO definition) account for about 60% of Guatemalan exports. Despite their declining shares in total exports, coffee, sugar, and bananas continue to be Guatemala's strongest export products. Over the past years, tourism and exports of apparel and non-traditional agricultural products have increased in importance. Intermediate and capital goods dominate Guatemala's imports.

Guatemala is in the process of consolidating its legal and institutional framework; the strengthening of governance is a priority and a necessary condition for Guatemala to achieve its ambitious development objectives. The Ministry of Economy is the lead agency for all issues related to foreign trade. Guatemala joined the GATT in 1991 and became a WTO Member in July 1995. As an international treaty, the WTO Agreements take precedence in Guatemala over domestic legislation. Guatemala has been active in the multilateral trading system, taking part in the negotiations on telecommunications services, and making use of the dispute settlement mechanism on a few occasions. Guatemala has also participated in the mandated negotiations on services and, as a member of the Cairns Group, on agriculture.

Guatemala has increasingly participated in preferential trade arrangements; the Central American Common Market is at the centre of its regional trade relations. Guatemala has a Free Trade Agreement (FTA) with Mexico, now supported by new initiatives for closer physical integration between the two and with other countries in the region. Negotiations for FTAs with Canada, Chile, the Dominican Republic, and Panama have been initiated or concluded; the Agreement with the Dominican Republic was expected to enter into force in late 2001. Further negotiations with El Salvador, Honduras, and Nicaragua on the formation of a customs union, and an agreement on trade in services and investment are under way. Guatemala also has Partial Scope Agreements with Colombia, Cuba, and Venezuela, and participates in the negotiating groups of the Free Trade Area of the Americas.

The number and scope of these preferential initiatives, each imposing its own negotiating and implementation demands, combined with Guatemala's institutional weaknesses, raises questions about its capacity to participate effectively in all such initiatives. New FTAs are compounding trade policy implementation difficulties by, inter alia, requiring the administration of different tariff-reduction programs and rules of origin. Incompatibilities between agreements may also emerge, for example with respect to customs valuation or safeguard measures; provisions in some of Guatemala's FTAs take precedence over multilateral rules.

Between 1996 and 1998, Guatemala implemented an ambitious privatization program; however, the program has since slowed considerably and a number of enterprises, mostly in the services sector, remain state-owned. The privatization program was accompanied by the enactment of new telecommunications and electricity laws that ended state monopolies in these sectors and opened them to private-sector participation. The Foreign Investment Law of 1998 grants national treatment to all foreigners with only few sectoral exceptions, notably transport.

Guatemala grants at least MFN treatment to all its trading partners. Tariffs are Guatemala's main instrument of border protection; the average applied MFN rate is 7.0%. Agricultural imports (WTO definition) are levied an average tariff of 10.2%, while non-agricultural products excluding petroleum are levied a 6.4% tariff on average. Alcoholic beverages and spirits face the highest tariffs with an average rate of 24.8%. Guatemala maintains import tariff quotas for a number of agricultural products under its Uruguay Round minimum access commitments.

In the Uruguay Round, Guatemala bound all its tariffs. While non-agricultural products were bound at a ceiling rate of 45%, Guatemala's final bound rates for agricultural products range from 10% to 257%. Closing the wide margin between applied and bound rates would further increase the predictability of market access conditions.

Tariff reductions under preferential agreements have contributed to improved access to the Guatemalan market for partners. Duty-free access is offered to most imports from the Central American Common Market. Preferential tariffs are also offered to Mexico under a bilateral free-trade agreement, and to Colombia, Cuba, Panama, and Venezuela.

Irrespective of their origin and in accordance with the national treatment principle, imports are subject to domestic taxes, most notably a 12% value-added tax, applicable on the c.i.f. value of imported goods. In addition, various goods, such as alcoholic beverages, cement, and vehicles, are subject to specific consumption taxes.

In order to strengthen customs procedures, Guatemala obtained a delay until November 2001 on the application of the WTO Agreement on Customs Valuation. Minimum import prices for customs valuation purposes are in place for rice, used clothes, and second-hand vehicles. A new customs law is expected to be enacted in 2002.

The use of non-tariff trade barriers appears limited. Guatemala maintains various import restrictions and prohibitions, which apply equally to all trading partners, for reasons of security, health, and environmental protection. Guatemala has not taken recourse to contingency measures, with the exception of one anti-dumping case, which was withdrawn by the authorities after a panel was established to examine its WTO consistency.

Legislation on free-trade zones and maquila enterprises constitute Guatemala's main instruments for export promotion. Pursuant to these arrangements, exporting enterprises may, under certain conditions, benefit from exemptions from import duties and various internal taxes. Guatemala does not make use of official export credits or insurance programs to promote exports.

Guatemala benefits from various GSP schemes and the unilateral U.S. Caribbean Basin Initiative. Guatemalan raw cane sugar exports to the United States benefit from preferential tariff quotas. Guatemala's textiles and clothing exports to the United States are also subject to quotas. Export quotas are in place for products covered by the WTO Agreement on Textiles and Clothing. Guatemala maintains export taxes only for the coffee sector.

Government procurement is regulated by the Government Contracts Law of 1992, which accords national treatment to foreign suppliers of goods and services. Guatemala does not have a comprehensive legal framework for competition policy but the authorities are preparing such a framework. Although there are sector-specific regulations to ensure that domestic markets remain competitive, the information available suggests that competition is restricted in some key sectors, such as financial services.

The WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) became part of Guatemala's legislation through its ratification of the Marrakesh Agreement. Subsequently, Guatemala has undertaken legal and administrative reforms to facilitate the protection of intellectual property rights, such as the enactment of new copyright and industrial property laws. Annual registrations of intellectual property rights have increased substantially since 1995.

Agriculture generates about 23% of Guatemala's GDP. Despite its decreasing share in GDP, agriculture remains a central sector of the Guatemalan economy due to its contribution to employment and export earnings. However, Guatemala's two main agricultural exports, coffee and sugar, have come under considerable pressure in recent years due to adverse international market conditions.

The industrial sector, including manufacturing, construction, mining, electricity and water, accounts for 20% of GDP. Manufacturing, which accounts for some 13% of GDP, is largely concentrated in the processing of agricultural products, geared to the domestic, Central American and U.S. markets. Other important manufacturing subsectors are footwear, textiles, metals, and chemical products.

Guatemala's special fiscal arrangements for free trade zones and maquila enterprises appear to have favoured particularly the production of various non-traditional goods, although no precise estimates exist. These goods comprise agricultural products such as cut flowers and specialty vegetables, fishery products such as shrimps, and manufactures, in particular textiles and apparel. As foreign trade under these special arrangements is not recorded, actual exports in these sectors as well as imports of necessary inputs may be underestimated in official trade statistics.

The services sector contributes some 57% to GDP, with commerce being the dominant subsector. Pursuant to the Foreign Investment Law, market access to most services sectors on a non-discriminatory basis is guaranteed to foreign investors. Market access to financial services is regulated by specific sectoral legislation. Subject to approval of the

regulatory authorities, insurance companies and banks may incorporate a Guatemalan enterprise; foreign banks may also establish branches or subsidiaries.

Guatemala's commitments under the GATS are relatively limited, covering only five service categories, as they bound the policy framework in place before the beginning of Guatemala's privatisation program and the enactment of the Foreign Investment Law.

State-owned enterprises continue to operate in financial services, maritime transports and telecommunications; however, they represent only a minor share of the respective sector's output. Minimum local capital requirements are in place only in the transport sector. The enactment of a new Telecommunications Law in 1996, together with the privatization of the state-owned telecommunications company, prepared the ground for the rapid growth observed in this sector in recent years. Tourism has developed into an important source of foreign exchange, generating more than US$500 million annually. Despite the significant improvement made in upgrading the Guatemala's infrastructure, problems remain in certain sectors, such as financial services and port facilities.

Exhibit 27

Understanding the WTO Agreement on Sanitary and Phytosanitary Measures

Key Features

All countries maintain measures to ensure that food is safe for consumers, and to prevent the spread of pests or diseases among animals and plants. These sanitary and phytosanitary measures can take many forms, such as requiring products to come from a disease-free area, inspection of products, specific treatment or processing of products, setting of allowable maximum levels of pesticide residues or permitted use of only certain additives in food. Sanitary (human and animal health) and phytosanitary (plant health) measures apply to domestically produced food or local animal and plant diseases, as well as to products coming from other countries.

Protection or protectionism?

Sanitary and phytosanitary measures, by their very nature, may result in restrictions on trade. All governments accept the fact that some trade restrictions may be necessary to ensure food safety and animal and plant health protection. However, governments are sometimes pressured to go beyond what is needed for health protection and to use sanitary and phytosanitary restrictions to shield domestic producers from economic competition. Such pressure is likely to increase as other trade barriers are reduced as a result of the Uruguay Round agreements. A sanitary or phytosanitary restriction that is not actually required for health reasons can be a very effective protectionist device, and because of its technical complexity, a particularly deceptive and difficult barrier to challenge.

The SPS Agreement builds on previous GATT rules to restrict the use of unjustified sanitary and phytosanitary measures for the purpose of trade protection. The basic aim of the Agreement is to maintain the sovereign right of any government to provide the level of health protection it deems appropriate, but to ensure that these sovereign rights are not misused for protectionist purposes and do not result in unnecessary barriers to international trade.

Justification of measures

The SPS Agreement, while permitting governments to maintain appropriate SPS protection, reduces possible arbitrariness of decisions and encourages consistent decision-making. It requires that sanitary and phytosanitary measures be applied for no other purpose than that of ensuring food safety and animal and plant health. In particular, the agreement clarifies which factors should be taken into account in the assessment of the risk involved. Measures to ensure food safety and to protect the health of animals and plants should be based as far as possible on the analysis and assessment of objective and accurate scientific data.

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7 Source: http://www.wto.org/english/tratop_e/sps_e/spsund_e.htm.

What the WTO rules do not require

Do not prevent, define or seek to curtail Member countries from establishing their own trade or non-trade policy objectives, or prevent Member countries from applying regulatory measures necessary to achieve those objectives.

Do not require Member countries to eliminate all barriers to imports of goods or services.

Do not direct in detail, national administrative or procedural systems for the use of trade measures, nor require Member countries to adopt a uniform set of trade regulations.

Do not prevent Member countries from providing public funds for a broad range of domestic policy and regulatory reasons.

Do not require Member countries to accept each others' product or service quality or safety standards. Rather, the WTO provides rules for national products standards, including criteria for the preparation, adoption and application by each country measures used to fulfil its legitimate objectives. It also encourages, without mandatory regulatory co-operation aimed at the international harmonization of standards or the development of mutual recognition agreements.

OECD, *Markets Matter*

International standards

The SPS Agreement encourages governments to establish national SPS measures consistent with international standards, guidelines and recommendations. This process is often referred to as 'harmonization.' The WTO itself does not and will not develop such standards. However, most of the WTO's member governments participate in the development of these standards in other international bodies. The standards are developed by leading scientists in the field and governmental experts on health protection and are subject to international scrutiny and review.

International standards are often higher than the national requirements of many countries, including developed countries, but the SPS Agreement explicitly permits governments to choose not to use the international standards. However, if the national requirement results in a greater restriction of trade, a country may be asked to provide scientific justification, demonstrating that the relevant international standard would not result in the level of health protection the country considered appropriate.

Adapting to conditions

Due to differences in climate, existing pests or diseases, or food safety conditions, it is not always appropriate to impose the same SPS requirements on food, animal, or plant products coming from different countries. Therefore, SPS measures sometimes vary, depending on the country of origin of the food, animal, or plant product concerned. This is taken into account in the SPS Agreement. Governments should also recognize disease-free areas that may not correspond to political boundaries, and appropriately adapt their requirements to products from these areas. The agreement, however, checks unjustified discrimination in the use of SPS measures, whether in favour of domestic producers or among foreign suppliers.

Alternative measures

An acceptable level of risk can often be achieved in alternative ways. Among the alternatives — and on the assumption that they are technically and economically feasible and provide the same level of food safety or animal and plant health — governments should

select those which are not more trade restrictive than required to meet their health objective. Furthermore, if another country can show that the measures it applies provide the same level of health protection, these should be accepted as equivalent. This helps ensure that protection is maintained while providing the greatest quantity and variety of safe foodstuffs for consumers, the best availability of safe inputs for producers, and healthy economic competition.

Food Exports, SPS, and Developing Countries

Food export markets present a somewhat different set of challenges from domestic food safety regulation. Exports of fresh food products such as meat, fish, fruit, and vegetables represent a growth opportunity because these products have a high income elasticity of demand and fewer trade barriers than traditional agricultural exports. Fresh food products are more likely to encounter sanitary and phytosanitary barriers to trade. Delivering safe food to distant markets requires process controls throughout the production process and mechanisms to certify to buyers that such controls are effective. Developing-country exporters need to know how to meet standards in different markets and how to meet the increasing demand for product trace-back and certification of production methods.

Source: http://lnweb18.worldbank.org/ESSD/essdext.nsf/26DocByUnid/EE637B121E97CDD285256BA00068D262/$FILE/Food_Safety.pdf

Risk Assessment

The SPS Agreement increases the transparency of SPS measures. Countries must establish SPS measures on the basis of an appropriate assessment of the actual risks involved, and, if requested, make known what factors they took into consideration, the assessment procedures they used and the level of risk they determined to be acceptable. Although many governments already use risk assessment in their management of food safety and animal and plant health, the SPS Agreement encourages the wider use of systematic risk assessment among all WTO member governments and for all relevant products.

Transparency

Governments are required to notify other countries of any new or changed sanitary and phytosanitary requirements which affect trade, and to set up offices (called 'Enquiry Points') to respond to requests for more information on new or existing measures. They also must open to scrutiny how they apply their food safety and animal and plant health regulations. The systematic communication of information and exchange of experiences among the WTO's member governments provides a better basis for national standards. Such increased transparency also protects the interests of consumers, as well as of trading partners, from hidden protectionism through unnecessary technical requirements.

A special committee has been established within the WTO as a forum for the exchange of information among member governments on all aspects related to the implementation of the SPS Agreement. The SPS Committee reviews compliance with the agreement, discusses matters with potential trade impacts, and maintains close cooperation with the appropriate technical organizations. In a trade dispute regarding a

sanitary or phytosanitary measure, the normal WTO dispute settlement procedures are used, and advice from appropriate scientific experts can be sought.

Canadian Food Inspection Service Import Restrictions on Berries from Guatemala

In September 1998, the Canadian Food Inspection Agency (CFIA) restricted the importation of Guatemalan fresh raspberries in light of the 1998 spring outbreak of Cyclosporiasis in Ontario and the epidemiological link to Guatemalan fresh raspberries. In the spring of 1999, another cyclosporiasis outbreak occurred in Ontario. This outbreak was epidemiologically linked to Guatemalan fresh blackberries. On April 4, 2000, Health Canada (HC) asked CFIA to restrict the importation of Guatemalan fresh blackberries into Canada.

On December 6, 1999, the CFIA allowed the importation of Guatemalan fresh raspberries and blackberries grown in the 1999 fall season and which had been produced, harvested, packed and shipped under the Guatemalan Model Plan of Excellence. On March 15, 2000 and April 4, 2000, the CFIA introduced an import restriction on the Guatemalan fresh raspberries and blackberries respectively.

In December 2000, HC recommended the importation of Guatemalan cultivated fresh raspberries and blackberries into Canada for a period corresponding to August 15 to March 14 of each year. This decision was based on the HC Qualitative Risk Assessment and Management Options and on the fact that no Cyclosporiasis outbreaks have been reported during that period of time in Canada, United States, or other countries.

Source: http://www.inspection.gc.ca/english/plaveg/fresh/pol/berguatemalane.shtml.

Exhibit 3
Purdue University and the Integrated Pest Management Collaborative Research Support Program in Central America[8]

Purdue University serves as the lead US institution for the Central America site, with Guatemala acting as the regional host country for the integrated pest management Central America research and development programs. The Ministry of Agriculture (MAGA) and the Universidad del Valle operate as the lead collaborating institutions in Guatemala. The overall project seeks to:

- Develop fully integrated, holistic, environmentally safe, and socio-economically beneficial production management and export trade policies that enhance Central American access to US markets;
- Expedite scientific research and technology transfer to collaborating institutions in Guatemala and Central America;
- Identify 'market windows' and trade opportunities for Central American NTAEs, including joint-venture supply alliances with marketing institutions in the United States;
- Assist in establishing uniform regulatory and post-harvest handling policies that help assure long-term export market opportunity for Central American producers and safe food supplies for consumers in the domestic and international marketplace.

The primary goal for this site is to reduce pesticide residues on NTAE crops, which will bring greater trade and prosperity to the region by providing economic sustainability for small farmers. Not only does this project increase food safety for US consumers, it also aids the small farmers of Central America since they are at economic risk due to product detentions and/or rejections at US ports-of-entry.

Project Goals:

The overall purpose of this project has been to develop and implement replicable and sustainable approaches to integrated crop management (ICM) in the less developed rural small farm sectors of Central America. The objectives are to:

- Reduce agricultural losses due to insect, disease, and weed pests;
- Decrease reliance on pesticides and chemicals;
- Reduce damage to the environment and regional ecosystems;
- Enhance the socioeconomic welfare of small farmer households and rural communities;
- Achieve sustainable export trade development in NTAE crops; and
- Help assure safe food supplies for consumers in the United States.

In Central America, these goals are being accomplished through institutional research collaborations and the transfer of known US technology (production, postharvest handling, safe pesticide standards, etc.) to the site countries. This is accomplished

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8 Source: http://www.ippu.purdue.edu/news/old/program_fall2000.cfm.

through establishing programs for transferability to the new site, adapting the technology to the site country's resource base, and training technicians in the country for proper implementation and application. By incorporating 'total system' management strategies, greater sustainability at the producer level is achieved, food safety compliance is improved, and marketplace competitiveness for NTAE crops is increased.

The underlying premise of this project centers upon the scientifically proven fact that when current production technologies are properly integrated and precisely managed the production goals of immediate economic gain, long-term sustainability, and safe food supplies for consumers are mutually reinforcing.

Current Research:

Present project research is focused in its host country collaborations to achieve technology transfers, adoption, and implementation on a regional basis. Current research priorities focus target:

- Production of higher quality crops that are less susceptible to post-harvest degradation;
- Improvement of pest control strategies that help assure safe food supplies to consumers domestically and internationally;and
- Development of policies that consistently help producers meet established phytosanitary standards and regulatory compliance in export markets.

Project Accomplishments: Snow Peas

In 1995, APHIS/PPQ (Animal & Plant Health Inspection Service/Plant Protection Quarantine) took quarantine action against Guatemala for above threshold infestations of leaf miner (Liriomyza huidobrensis) in snow pea imports at US ports-of-entry. This action particularly impacted the economic welfare of over 20,000 small farm producers in Guatemala already experiencing FDA (Food and Drug Administration) automatic detention of snow peas for unapproved pesticide residues.

In 1997/98, the project fully established the production, handling, and shipping performances for the development of an APHIS-IS approved pre-inspection program for snow peas and sugar snaps from Guatemala to help achieve long-term economic and socioeconomic sustainability among small farm NTAE producers. Prototype programs developed and tested in 1998/99 also included HACCP (Hazard Analysis Critical Control Point) protocols for safe food handling and processing procedures in which the risk of food contamination was limited by analyzing and controlling points where a chance of contamination could occur.

These program initiatives are now being transferred to the community level for implementation throughout Central America, enabling NTAE growers throughout the region to enhance their overall economic sustainability and subsequently increase socioeconomic welfare at the rural household and community levels. During the period 1993-99 period, the economic and socioeconomic welfare of over 135,000 small farmer households throughout Central America was increased, thereby giving families in underdeveloped rural areas greater access to education, improved housing, and better health care. Overall, agricultural products account for about 61 percent of all exports from Central America, resulting in nearly 36 percent of all regional employment and about 20 percent of the region's GDP.

Cyclospora Problem in Raspberries

In 1998, the project provided the leadership to help resolve the Cyclospora problem in raspberries imported to the US from Central America. Cyclospora caused widespread illness among US consumers with nearly 2,500 confirmed cases in 1996/97. The project collaborators acted in an advisory role to the AGEXPRONT Raspberry Committee (a Guatemalan Agriculture export trade entity) to help establish science-based production performance protocols to eliminate the possibility of future contamination.

This problem has been solved, and fresh berries from the region are now safe and free from Cyclospora contamination. Bramble fruits (raspberries and blackberries) for fresh market represent one of the greatest NTAE opportunities for small family farming enterprises, in that since these crops demand the intensive cultural/management practices offered by such rural households.

Current and future IPM CRSP work focuses on establishing formalized pre-inspection and HACCP protocols for several NTAE crops to reduce product rejection, increase food safety, and enhance economic sustainability throughout the rural sectors of the region. In addition, Integrated Crop Management (ICM) programs promote the reduction of pesticide of pesticide usage and assess new crop opportunities for export. The Purdue IPM CRSP team has had a substantive impact on helping Central American NTAE producers and shippers achieve success in meeting U.S. food safety compliances, and achieve sustainability in their rural economic development initiatives. Since developing countries cannot acquire U.S. goods and services without first generating foreign exchange to make the purchase, These activities of the Purdue IPM CRSP team play an important role in helping to develop the capacity for long-term trading relationships between the United States and Central America.

Suggestions for further reading and useful additional sources of information

Asociación para el Avance de las Ciencias Sociales en Guatemala (AVANCSO) and Policy Alternatives for the Caribbean and Central America (PACCA), *'Growing Dilemmas: Guatemala, the Environment, and the Global Economy'* (Austin: Document Exchange, September 1992).

Cohen, Stephen D., Joel R. Paul and Robert A. Blecker, *Fundamentals of U.S. Foreign Trade Policy: Economics, Politics, Laws, and Issues* (Boulder, CO: Westview Press, 1996).

Dam, Kenneth W., *The Rules of the Global Game: A New Look at US International Economic Policymaking* (Chicago: University of Chicago Press, 2001).

Environmental Working Group, 'Forbidden Fruit' (http://www.igc.apc.org/ewg/ff) 1995.

Michalopolous, Constantine, *Developing Countries in the WTO* (London: Palgrave 2001).

Murray, Douglas L. and Polly Hoppin, *'Pesticides, Nontraditional Agriculture, and Social Equity,'* in Global Pesticide Campaigner (Pesticide Action Network North America Regional Center: October 1990). See Pesticide Action Network North America (http://www.panna.org/panna)

Murray, Douglas L. and Polly Hoppin, *'Recurring Contradictions in Agrarian Development: Pesticide Problems in Caribbean Basin Nontraditional Agriculture,'* in World Development, Vol. 20 No. 4 (1992): 597-608.

Murray, Douglas L., *Cultivating Crisis: The Human Cost of Pesticides in Latin America* (Austin: University of Texas Press, 1994).

Porter, Roger et. al., eds., *Efficiency, Equity, Legitimacy: The Multilateral Trading System at the Millennium,* (Washington: Brookings Institution, 2001).

Quershi, Asif H., *The World Trade Organization: Implementing International Trade Norms* (Manchester: Manchester University Press, 1996).

Rosenthal, Erika, *'U.S. Pesticide Policy: One Step Forward or Two Steps Back?'* in Global Pesticide Campaigner, Vol. 4, No. 4 (San Francisco: Pesticide Action Network North America, December 1994).

Tansey, Richard, et al., *'Eradicating the Pesticide Problem in Latin America,'* in Business & Society Review, No. 92 (Winter 1995): 55-59.

Thrupp, Lori Ann, *'New Harvest, Old Problems: Feeding the Global Supermarket'* in Global Pesticide Campaigner, Vol. 5 No. 3 (San Francisco: Pesticide Action Network North America, September 1995b). See Pesticide Action Network North America (http://www.panna.org/panna)

Thrupp, Lori Ann, *Bittersweet Harvests for Global Supermarkets: Challenges in Latin America's Agricultural Export Boom* (Washington D.C.: World Resources Institute, 1995a).

Trebilcock, Michael J. and Robert Howse, *The Regulation of International Trade,* 2d edition (London and New York: Routledge, 2000).

United States Food and Drug Administration (FDA) - Office of Regulatory Affairs, *'Import Alert #99-14'* (http://www.fda.gov/ora/fiars/ora_import_ia9914.html).

Von Braun, Joachim, David Hotchkiss, and Maartin Immink, *Nontraditional Export Crops in Guatemala: Effects on Production, Income and Nutrition* (Washington, D.C.: International Food Policy Research Institute, 1989).