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# Report on the Farm to Table Study Program: Costa Rica 2014

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This report provides a brief summary of the 2014 Costa Rica Farm to Table Study Program, and an analysis of the major learning objectives addressed by the site visits during the week.

I had three major objectives for participating in the 2014 Farm to Study Program.

- 1) Develop an understanding of food safety challenges with foods imported into the U.S. with an emphasis on fish and seafood products.
- 2) Compare and contrast tropical agricultural practices with domestic, U.S. production.
- 3) Identify challenges and opportunities of global agricultural trade on the agricultural workforce.

The Farm to Table Study program consisted of 10 major site visits. These site visits are listed below in sequential order. Following a description of the site, I've included a brief analysis of the impact of that site on the three objectives listed above.

**Site visit #1:** Pipasa Poultry Slaughterhouse. Pipasa is a large chicken processor near San Jose. The facility is licensed to export to the USA, and slaughter practices and food hygiene standards are essentially identical to U.S. standards. Pipasa is currently owned by Cargill, with most of the feed for contract growers coming from Cargill suppliers out of the U.S.

- **Impact on learning objectives:** Pipasa was an excellent example of a global food supply chain; feed is imported from U.S., chickens are grown and processed in Costa Rica, and at least some of the product being exported back to the U.S. Poultry processing is labor and water intensive, so it is not surprising that global livestock companies would consider off-shoring the water and labor intensive segments of the industry. Worker safety standards were high in this plant, but it was noted in our group the very high risk of repetitive stress injuries and lacerations inherent in a poultry processing plant environment.

**Site Visit #2:** Dos Pinos Milk Processing plant. Dos Pinos is a large milk processing facility and dairy cooperative with over 10,000 milk suppliers. Most of Dos Pinos product is consumed domestically, although they reportedly do meet FDA standards for export to the U.S. Dos Pinos exerts intense influence on milk producers and requires Brucellosis testing and vaccination as well as TB testing on all herds participating in the coop. Antibiotic residue testing is comparable to the US milk residue program.

- **Impact on learning objectives:** The influence of global markets is strongly apparent in Dos Pinos policies. Disease control programs of Dos Pinos likely exerts greater influence on producers than official government policies. There are presumably many small dairy cooperatives and home dairies in rural areas of Costa Rica that are not members of large dairy cooperatives and do not fall under the regulatory pressure of a processor. Most of

the zoonotic risks associated with milk products fall on low income rural producers and consumers of unpasteurized milk outside of the Dos Pinos cooperative.

**Site visit #3:** Ministry of Agriculture Laboratories: The ministry of agriculture laboratories is responsible for verifying antibiotic residue results as well as administering disease eradication programs. Brucella and Tuberculosis eradication programs have been well established for about 20 years.

- **Impact on learning objectives:** While official disease eradication programs exist, there is little systematic testing or enforcement in the country of Costa Rica. As noted above, the major beef and dairy companies likely exert stronger influence on producers due to EU and US export requirements. Thus global markets contribute significantly to overall food safety policy.

**Site visit #4:** Dinner at Don Fernando. The marketing director of Don Fernando's Beef Company discussed grass fed and fattened beef production.

- **Impact on learning objectives:** As our Costa Rican colleagues observed, average Costa Ricans eat beef relatively infrequently. Beef is expensive in Costa Rica as elsewhere, and high quality cuts are frequently exported to U.S. and Europe. Ironically, rice and beans, the staple of many Costa Rican meals, are often exported from Mexico and Asia.

**Site visit #5:** Swine and Cattle slaughter facilities "Coopemontecillos". These were large commercial cattle and swine processing facilities. These facilities are export certified to the U.S., so follow U.S. slaughter regulations closely.

- **Impact on learning objectives:** Of note, tropical grass fed cattle at the slaughter facility are highly variable compared to U.S. feedlot cattle. Many different ages, sizes, breeds, and conditions of cattle were presented at slaughter creating challenges for workers. As with other slaughter facilities observed, these are hazardous work environments. In addition to physical hazards of a slaughter environment, occasional brucellosis and tuberculosis positive animals represent infectious concerns for workers. While these were well run, well supervised facilities, there is concern that a globalized beef trade opens up opportunities for an exploitative environment for slaughter house workers.

**Site visit #6:** Solimar Beef Farm. Solimar is a large beef cattle breeding facility. This farm specializes in Brahman and Nalora cattle and their hybrids.

- **Impact on learning objectives:** Solimar is an excellent example of tropical cattle management with specialized breeding of *Bos indicus* cattle, and rotational, year round pasture management. As with most cattle in Costa Rica and Latin America, both breeding animals and animals intended for slaughter are almost exclusively grass fed.

This system has important implications for land, water and labor use in Latin America. While this extensive system has relatively low water and labor inputs, this system of cattle management requires large dedicated tracts of land. While few disease problems were reported at Solimar, extensively reared cattle have ample contact with wildlife raising the possibility of disease transmission between livestock and wildlife including Brucellosis, TB, and Leptospirosis.

**Site visit #7:** Terrapez is a large outdoor Tilapia facility raising both breeding stock and finisher fish. Terrapez is majority owned by a Chilean seafood company that has extensive holdings in diverse seafood and aquaculture businesses.

- **Impact on learning objectives:** Terrapez is a very productive facility, and in combination with its processing facility employs a large workforce. The production strategy is extremely space efficient and water intensive. Effluent water is used in irrigation increasing lifecycle efficiency of the process. Tilapia is moderately expensive for consumers, slightly higher in cost by weight than chicken, and comparable to pork. There is both domestic consumption and export of product. Overall, tilapia is an immensely important product for tropical countries, and this trend is likely to continue.

**Site visit #8:** Shrimp Processing Plant: Major plant that processes both domestically farmed product and wild caught shrimp. The processor is owned by a German company and ships frozen product to Germany and fresh product to the USA.

- **Impact on learning objectives:** This site employs a large number of workers, and processing involves a high level of manual labor with repetitive motion and laceration risk. Products from this site are almost exclusively for export, with little domestic consumption. Shrimp harvesting and processing is a highly globalized industry. Product can be shipped unprocessed to processing sites in Latin America or Southeast Asia and then shipped to the European Union and USA.

**Site visit #9:** Hacienda el Corso dairy farm. This dairy farm was a primarily pasture based dairy facility using Jersey cows.

- **Impact on learning objectives:** This dairy farm shared many similarities with U.S. and European dairies including European dairy breeds and milking technology. The relatively high altitude and high rainfall at this site allowed continuous grazing and use of European dairy cows. Of note, fat supplements fed on this farm consisted of Palm oil from Malaysia reinforcing that even production that appears local is dependent on foreign inputs.

**Site visit #10:** Meeting with Inter American Institute for Agricultural Cooperation (IICA) and U.S. FDA.

- **Impact on learning objectives:** IICA facilitates trade and disease response coordination between Latin American countries. A recurring emphasis during the IICA visit and U.S. FDA visit were efforts to standardize animal care, food handling, and export processes across the region to allow access to export markets.

In summary, these 10 site visits and ongoing interaction with multinational colleagues emphasize the importance of global food trade in economic development. While a tropical climate leads to some unique challenges and opportunities, overall production of most livestock species appears to be directly comparable to production in the U.S. and Europe. Finally, as our food system becomes increasingly globalized, it's important to realize the impacts on local economies, workplace safety, and social justice issues. Costa Rica has a well-developed publically accessible health care system, and global trade has likely had an overall highly positive effect on the lives and livelihoods of Costa Ricans. In other countries, though, with variable work place regulations and health care access, global trade may not always have such an equivocal positive impact on public health. Likewise, shifting from a local, domestic food production system to an export driven food system has profound impacts on an economy. In general the economic impacts are favorable for both importers and exporters, but care must be taken to avoid introducing food security issues because of an over-reliance on a single export product.

Costa Rica has managed to balance many of the conflicting pressures of economic factors, environmental factors, and social factors in developing its current food production system and is an excellent model both for regional neighbors and the U.S.