**IARD Reflection - A Summer in Cuba**

For my IARD international experience I traveled to Havana, Cuba to work with the System of Rice Intensification (SRI) and study urban agriculture. My interest in Cuba was rooted in literature heralding their innovative agro-ecological practices as well as a personal curiosity in a different social paradigm. Though there exists a great deal of misinformation regarding Cuba due to the political nature of their relationship with the U.S., I had a truly wonderful experience that certainly surpassed any expectations. The two months I spent there developed not only my academic and professional interests but moreover has had a tremendously positive impact on my personal development.

For the first month I was enrolled in an intensive Spanish language course at the University of Havana, which provided an opportunity to meet and study with students from all over the world. Such formal instruction provided a foundational base from which I improved upon by conversing with people. I was also able to arrange housing accommodations through the university which addressed a major logistical concern. I stayed with an older couple living close to the university and was provided with a room and two meals daily. I greatly enjoyed this living arrangement for the opportunity to engage and connect with a family which provided a sense home despite being in a different country.

Presently Cuba is one of the top importers of rice in the world, importing primarily from Vietnam and China. Imports of 600,000 tons of rice annually are just enough to meet domestic consumption demands for the nation’s most important staple food crop. With rice distributed
through government subsidized food rations, political legitimacy is closely tied to provisions of adequate and affordable food. Vulnerability resulting from an overdependence on imports for their principle staple food, as well as the increasing world price of rice has prompted the Cuban government to prioritize domestic production.

The System of Rice Intensification, known as *Sistema Intensivo de Cultivo Arrocer*o (SICA) in Spanish, is an agro-ecological methodology for increasing the productivity of irrigated rice by changing the management of plants, soil, water and nutrients. Cuba was the first country in the Americas to start working seriously on SICA owing to the initiatives of Dr. Rena Pérez, advisor on food security for the Ministry of Sugar. A government program, *Arroz Popular*, to encourage smallholder rice production has taken up SRI as part of its national strategy and since 2003 eight provinces in have initiated SRI trials, each reporting significant yield increases.

Working closely with Rena Perez, the main SRI promoter and coordinator in Cuba, I traveled to farm cooperatives and met with members to discuss their experience using the methodology or interests in implementing the system. I greatly enjoyed this aspect of my trip which served to confirm my professional interest to work directly with farmers. From these interviews I learned the value of incorporating farmer feedback into the development and technology transfer of new production methods. Additionally, though a technology or practice may perform well in field trials, performance in farmer’s fields is most important as is adapting recommendations to region and farm specific production constraints.

While in Cuba I also had the opportunity to attend the Fifth International Conference of Rice which provided useful insight into growing production trends in Cuba. Unfortunately, neither SRI nor other agro-ecological methods were discussed at the conference.
which I found to be a forum for more conventional agriculture. Discussion of mechanization, large scale irrigation systems, and chemical inputs dominated the conference material as multiple agro-tech firms took this opportunity to promote their products: Syngenta advertised a pre-seed treatment machine and complementary fungicide; Ampelos showcased a new seeder, planter, fertilizer applicator; and Tulsa displayed water efficient pumps and irrigation systems.

With a centralized government, limited resources are available for public agricultural investment in Cuba. As such, private companies like Syngenta are increasingly able to influence the sector due to their financial métier. For example, Syngenta had recently donated a seed pre-treatment machine (using their Celest fungicide to combat humidity related diseases) to each of the nine agricultural research centers throughout the country.

Cuba, though perhaps unsustainably reliant on imports of rice, is not in dire need of increased grain production in that the population is not food insecure. Cuba is a transitional economy looking to profit financially from improved domestic rice production with speculated hopes of becoming an exporter of rice. With the government agreeing to increase the amount of arable land in rice production, large scale mechanized agriculture was most attractive to farmers at this conference who are thinking beyond the small scale production systems SRI has traditionally been directed towards. Though a variety of innovative planting and weeding machinery has been developed by SRI farmers throughout the world, producers at this conference were excited by and interested in the type of purchasable machinery promoted by companies such as Syngenta. Though there certainly exists strong support for less input-intensive agriculture in Cuba, future promotion of conservation agriculture is threatened by private sector opportunism.
I greatly enjoyed learning about the varying attitudes towards production from the conference as well as ways SRI can adapt to the constraints of both large and small scale farmers. Agro-ecological methods through good for the environment must be sensitive to the fiscal and human capital constraints of producers. I look forward to further exploring means of adapting conservation agriculture to meet the socio-economic needs of farmers.

While abroad, my trip was also focused on surveying urban agriculture in Havana. Organopónicos, organic urban gardens, can be found throughout the urban periphery of Havana as well as in community centers throughout the country. These garden spaces provide fresh vegetables and fruits and implement a variety of innovative IPM techniques. Many had chickens, pigs or goats on site for manure and income, as well as a retail space for selling produce.

I believe the Cuban urban agriculture sector represents a very realistic model for both developing and developed nations. Rather than urban gardens merely being a community supported volunteer effort as is often the case, Cuba’s organopónicos are government supported operations run by a full time manager and employees. Fresh, quality produce is kept affordable due to the lack of incurred transportation and packaging costs; thereby precluding access to a healthy diet from being determined by income.

Overall, I found my international experience to be one of the most educational periods of my academic career thus far. So much of what we learn in the classroom is limited by an inability to translate material to real world applications. Furthermore, time abroad involved in agricultural in some capacity can help to direct academic and life goals. I am extremely grateful to the American Indian Program as well as CALS for the financial support that made this trip
possible. I hope one day to return to Cuba, and encourage other IARD majors to make the most of their international experience.
View of the Valley of Viñales

Organopónicos Alamar, outside Havana