

The Grand Botanical Chess Game

April 19, 2012

From Puerto Rican social ecologist Carmelo Ruiz-Marrero

All over the world, debates on the future of food and agriculture are dominated by one supreme subject: the seed. Its importance cannot possibly be overstated. Seed is, after all, the beginning of the human food chain. In the words of University of Wisconsin professor Jack R. Kloppenburg: “As both food and means of production, seed sits at a critical nexus where contemporary struggles over the technical, social and environmental conditions of production and consumption converge and are made manifest.”

Current debates on seed center around its appropriation and privatization through intellectual property laws and treaties, and around the growing power of corporations like Monsanto and Syngenta, which are bent on creating virtual monopolies over all seed germplasm. As we’ll see, attempts to take over the seed are not new at all.

Throughout all of human history, nations and empires have always had their agricultural programs. And in order to be viable, these programs have always depended on the acquisition of seed varieties from all over the world. As far back as 2,800 BC, Chinese emperor Shen Nung sent plant collectors to distant regions in search of specimens of agricultural or medicinal value, and already by the XVI century there were botanical gardens in France, England, Switzerland, the Netherlands, and present day Germany and Italy. Apart from their aesthetic function, these gardens were established to receive and systematize seed and plant samples of great economic value for the colonial empires.

According to Dartmouth University professor Michael Dorsey, botanical gardens “and their associated networks, including botanists and herborists moved species- to the Old World as well as in between the nascent colonies...

“The king of Spain, and other European monarchs, retained botanists and pharmacists to identify, collect, formulate and identify plant medicines for the royal family. The desire to expand personal pharmacopoeias legitimized financing for early exploration projects, especially those to the New World. According to Schultes and Reis, the King of Spain sent his personal physician

to live with the Aztecs and study their medicines, less than fifty years after Columbus' first voyages. Indeed it was rare that any ship to or from the New World- or anywhere outside of Europe in the Age of Exploration- did not have a person knowledgeable about plants and potentially capable of exploiting their medicinal properties.”

That's how the banana, originally from Southeast Asia, ended up in Africa and the Caribbean. Cocoa, a native of Brazil, traveled in the opposite direction, towards the fields of Africa and Southeast Asia. Coffee is from Ethiopia, and nowadays its production is extremely important for the economies of Latin America, the Caribbean and Asia's southeast. Cotton hails from Peru and Mexico, and the colonizers brought it to Africa and India, and in both places it is a crop of the highest economic importance for small farmers. Pineapple and rubber are both from Brazil and both were taken to Africa and Asia. Sugar cane, a crop associated with slavery and obscene profits for plantation owners in the Caribbean, came from Southeast Asia. Canadian theorist and visionary Pat Mooney, who won the 1985 Right Livelihood Prize for his historical and social research on seed, described this global movement of seed as an imperial botanical chess game.

Christopher Columbus returned from this first voyage to the Americas with corn seeds, something never before seen in Europe. It can be said that the seeds brought by the European colonizers from the Americas were a bigger treasure than the mountains of gold and silver that they took. After all, minerals and precious stones can only be taken once, but a seed gives birth to a plant that then produces seed, one season after another. This appropriated germplasm provided the basis for the great chemical, pharmaceutical, textile, lumber, food and biotechnology industries of today.

The arrival of corn and potato had a profound impact on Europe. Both provide more calories per hectare than any other crop planted in Europe. The ruling classes used these crops to feed their impoverished peasants and the growing industrial proletariat that lived in the urban slums. It has been said, perhaps as something of an exaggeration, that without the potato Germany's industrialization would not have been possible, but “new crops from the Americas certainly played an important role in feeding a European population that nearly doubled between 1750 and 1850”, according to Kloppenburg.

The European colonial empires developed their respective seed acquisition programs, which they jealously guarded. The Dutch, for example, cut down all nutmeg and clove trees in the Molucca (Maluku) islands, except in three isles

where they had their plantations, of course with considerable military protection. The French made the export of indigo seed from the Caribbean island of Antigua a capital offense. And Germany's Kaiser ordered the collection of seeds from the country's colonies in Africa and the Pacific, and to store the specimens he established a modern agricultural station in Gatersleben, which went on to become one of the world's premiere seed deposits.

Today the seed is no less important than in previous centuries. "Commercial seeds, the first link in the agroindustrial food chain, are the starting place for crop-based feedstocks that will be used to produce not just food, feed and fibre, but also energy, high-value chemical and consumer products (e.g., plastics, pharmaceuticals)", informs the ETC Group, a research and advocacy organization founded by Mooney. "Major seed/pesticide enterprises are already hopping on the bioeconomy bandwagon. Monsanto, Dow and Dupont are among those partnering with companies to develop new technology platforms to manufacture bio-based agroindustrial products."

According to the ETC Group, ten corporations control 74% of all commercial seed sales worldwide, a \$27.4 billion business. Only three of them- Monsanto, Dupont and Syngenta- have over half the global seed business. Monsanto alone has a 27% market share, plus 80% of the genetically engineered seed market.

But times are changing. Today there are new social actors and a critical consciousness that was not widespread even twenty years ago. In the Social Fora, Occupy and *indignados* movements, in the practice of food sovereignty, agroecological projects and within newly formed organizations, alternative visions are being brewed, and collective actions are being launched to protect farm seeds from those who would appropriate and privatize them.

We quote from a document of the Seed Campaign of the Latin American Coordinating Committee (CLOC) of Via Campesina:

"We affirm that the seed is so much more than a productive resource, that they are simultaneously the foundation and product of cultures and societies throughout history. Seeds incorporate values, affections, visions and ways of living that tie them to the realm of the sacred. Without them the peoples' livelihood and sovereignty are impossible... Therefore, seeds and the knowledge associated to them are a fundamental and irreplaceable part of people's food sovereignty. Seeds are not a heritage of humanity, but rather our heritage, of the peasant and indigenous peoples, who created, diversified and protected them through time and put them at the service of humanity... Seeds

cannot be appropriated. They must in every moment maintain their character of collective heritage... The campaign, therefore, opposes intellectual property and any form of appropriation of life.”

Now the great empires are not alone in the table. The diverse peoples and social movements of the world, armed with centuries of experience, intend to change the grand botanical chess game in a decisive way.

Carmelo Ruiz-Marrero is a Puerto Rican author, investigative journalist, environmental educator, a Research Associate of the Institute for Social Ecology, and director of the Puerto Rico Project on Biosafety (<http://bioseguridad.blogspot.com/search/label/en>). He has a MA in Social Ecology from Goddard College and is also a fellow of the Oakland Institute and a senior fellow of the Environmental Leadership Program. His Twitter feed is: [carmeloruiz](#).

SOURCES:

- CLOC/Vía Campesina. “Reunión de la Campaña de Semillas” Ecuador, July 22-24 2010. Subido el 16 de agosto 2010. http://viacampesina.org/sp/index.php?option=com_content&view=article&id=1051:reunion-campana-semillas-cloc-via-campesina&catid=15:noticias-de-las-regiones&Itemid=29
- Dorsey, Michael. “Shams, Shamans and the Commercialization of Biodiversity”. Published in “Redesigning Life?”, Brian Tokar, editor. Zed Books, 2001.
- ETC Group. “Who will control the green economy?” December 15 2011. <http://www.etcgroup.org/en/node/5296>.
- Kloppenburg, Jack. “First the Seed: The Political Economy of Plant Biotechnology”. University of Wisconsin Press. Second edition, 2004.