

Dave Schwerin, "Agriculture in Venezuela: Hopes for a Sustainable Future"

## INTRODUCTION

While the recent renewed food sensitivity in the United States has brought about new realizations about the nutritional and sociopolitical impact of sustainable agriculture, they come of something as a luxury. However, to developing countries these practices have a critical importance. Venezuela's unique global political situation as a function of their Bolivarian revolution provides an interesting lens through which to observe the value of sustainable agriculture. As the United States strategically paints the Chávez government as a threat due to their control of oil reserves, alternative ideology of Bolivarian social programs, and plans for Latin American integration,<sup>1</sup> Venezuela's development of a non-US dependent food system could be incredibly important if the United States employs economic trade sanctions in the future.

Though many different definitions of sustainable agriculture exist among not just agricultural farmers and scholars, but also economists and policy makers, the now emerging conceptions entail that to be sustainable, agricultural practices must be ecologically sound, economically viable, and socially responsible.<sup>2</sup> To begin, ecological soundness entails more than just refraining from using insecticides, pesticides, and high-nitrogen chemical fertilizers, and therefore incurring no environmental damage. To be ecologically sound, an agricultural system must improve ecological conditions by adding organic matter to soil which builds its structure, adds nutrients, and encourages microbial and insect activity. Zero impact farming exists neither in practice nor theory. Concentrated agriculture necessarily changes the flow of energy of the natural hunt-and-gather subsistence model, tipping the balance in humans' favor. Nevertheless, an agriculture can strive to maximize efficiency by replicating natural systems of food production.

While theorists do not as readily accept economic arguments as they do ecological ones, economic viability is important for reasons of both basic human nature and contemporary global economics. For humans to survive, they must undertake enterprises which allow their survival at a standard of living. This should not be confused with capitalist notions of maximizing profit for individuals gain, but merely account for self-interest in human nature. Also, highly subsidized United States agriculture, which generally produces crops for cheaper than developing countries can, will quickly outsource any economically unsustainable products. Neoconservative notions of economic sustainability often overlook long term costs, especially when considering agriculture. In the immediacy, using chemical insecticides to control disease and fungus and thereby prevent crop failure certainly makes the most economic sense. However, once the analyst accounts for the long term effects of the rise of chronic diseases, malnutrition, and addiction problems, all of which may be linked to insufficient nutrients in food, immediate solutions no longer suffice.

Finally, social responsibility may be the most ephemeral of the terms. However, food systems which not only meet ecological and economic needs but also maintain just labor practices, utilize local distribution networks, and create systems of social sustainability for current and future generations are just as important to maintaining ecologically and economically

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<sup>1</sup> Speech by Eva Gollinger, 5 June 2006

<sup>2</sup> John Ikerd. "On Defining Sustainable Agriculture." North Carolina Sustainable Agriculture Research and Education Program. (<http://www.sustainable-ag.ncsu.edu>) accessed 28 February 2007

sound ones. A food system cannot operate for any significant period of time without fulfilling all three of these categories.

Local food systems provide developing countries with an alternative to the United States' style of agriculture, which uses high petroleum input based agricultural practices and depends heavily upon subsidies. Venezuela's recent work towards creating a sustainable food system provide a lens through which to analyze broad features of the revolution which are transforming Venezuelan society as a whole. In this paper, I explain these areas and their relation to agriculture, including the country's long history of structural inequality, alliances with the Cuban revolution, contemporary social programs to equitably distribute the country's oil wealth, the social benefits and change in mindset associated with such programs, and the setbacks and obstacles facing the current administration. To determine the effectiveness and sustainability of Venezuela's new agricultural programs, I will evaluate, in terms of ecological soundness, economic viability, and social responsibility, three sites where I gathered data about different agricultural models in January 2007: the Organopónico Bolívar in Caracas, the Cooperativa WHAT in WHERE, and Cooperativa Alianza in Las Lajitas, Lara state. I find that Alianza has developed the most promising model for sustainability due to their thirty years of grassroots development.

Due to the international consistency of organic techniques and their benefits, and the ease of finding this information elsewhere, I will merely catalog the practices in use rather than describe the specific procedures. In other words, the practices I observed in Venezuela such as vermal composting and intercropping are not the focus of this study. Instead, I am concerned with how the Chávez government promotes these practices through economic and educational structures.

## A BRIEF HISTORY OF VENEZUELAN AGRICULTURE

Once Spanish and German colonial efforts at mercantilist exploitation failed, Venezuelan settlers turned to subsistence agriculture, from which the early economy developed into cattle production on the southwestern plains.<sup>3</sup> Throughout the early colonial period, exports mostly consisted of cacao and leather for export to the European market, lasting until the late nineteenth century, when coffee gradually gained economic importance, eventually comprising 80 percent of principal exports.<sup>4</sup> The transfer of agricultural production caused a shift in political power, enabling *caudillos* from the coffee-producing Andean highlands to take control of the state. As residue of the *encomienda* system, which remained in Venezuela for nearly a century after it had given ways to other exploitation strategies in Latin America,<sup>5</sup> the *latifundista/minfundista* land system maintained a solid grip on the country's agricultural landholdings, concentrating ownership in the hands of a very few. The petroleum boom turned Venezuela's economy from a multifaceted agricultural one to one almost solely supported by petroleum. As early as 1936, petroleum export earnings exceeded coffee exports by twenty-one times.<sup>6</sup> Although the Betancourt administration, a brief ruling period by the Acción Democrática party from 1945 to 1948, pursued a plan of "asembrando el petroleo," or "sowing the oil", through programs such as

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<sup>3</sup> Daniel C. Hellinger. 1991. *Venezuela: Tarnished Democracy*. Boulder: Westview Press, 16.

<sup>4</sup> Hellinger, 30.

<sup>5</sup> *ibid*, 16.

<sup>6</sup> *ibid*, 38.

import substitution and agrarian reform, the agricultural sector remained grossly underdeveloped.<sup>7</sup>

This power structure remained largely untouched, with conditions of rural poverty worsening, until the arrival of the Chavez government. To this day, Venezuela's food security is a precarious affair. Venezuela imports some 80% of its food,<sup>8</sup> an extremely high amount when compared with, for instance, the United States, which imports a mere 13%.<sup>9</sup> Though Venezuela has rich agricultural soils, the petroleum boom and urban migration have debilitated its agricultural sector, which is now the smallest out of all Latin American countries at 6% of GDP.<sup>10</sup> One study of recently-implemented agricultural techniques implicates Venezuela's severe lack of food production with not only the failure to establish national food independence, but also the perpetuation of the oligarchic political structure.<sup>11</sup>

## LAND REFORM IN VENEZUELA

Venezuela has a long history of structural inequality based on land ownership issues. An overview of Latin America's rural populations around the time Acción Democrática and COPEI undertook the first land reform effort in 1958 paints a bleak picture. Divided between landless and barely propertied holders, the rural poor lived under such squalor that statistics only begin to describe.<sup>12</sup> Land, however, was not a scarce resource. Instead it was concentrated in the hands of a very few ranchowners who had better access to markets, credit, machinery, irrigation resources, and other necessary means. About one percent of the population controlled 72 percent of the land,<sup>13</sup> a figure which may be confounded by the fact that many landholders owned more than one property.<sup>14</sup> In addition, the petroleum-based economy caused rapid urban development, especially in Caracas, leading to neglect of development of other sectors. As a result, the urban population skyrocketed, leading to the current level of 85% of the population residing in cities and large towns<sup>15</sup> and a 14% urban unemployment rate.<sup>16</sup> Acción Democrática and COPEI, the political parties sharing power from the late 1950s through the 1990s, worked to reverse this flow through agrarian reform by creating the Instituto Agrario Nacional (IAN). Unlike many Latin American agrarian reform programs, Venezuela's economy had already benefited from the petroleum boom, enabling the country to devote more resources to the reform program than other Latin American states. However, in order to avoid political conflict, IAN focused on distributing mostly state-owned lands, leading to a colonization rather than redistribution program.<sup>17</sup> The settlers received land unsuitable for farming, whether due to poor drainage, lack of access,

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<sup>7</sup> *ibid*, 55.

<sup>8</sup> Food and Agriculture Organization of the United Nations. 2002. "Feature: FAO in Venezuela". <http://www.fao.org> (accessed 30 November 2006), 2.

<sup>9</sup> FAO

<sup>10</sup> Mark Becker. Land Reform in Venezuela. Global Exchange. [www.globalexchange.org](http://www.globalexchange.org) (accessed 15 November 2006), 2.

<sup>11</sup> Agustín Morales Espinoza. 2002. El Sector Agrícola y el Abastacimiento Alimentario en los Países Exportadores de Petróleo: El Caso Venezolano. *Revista Venezolana de Economía y Ciencias Sociales* 8 (2): 125.

<sup>12</sup> Ernest Feder. 1971. *The Rape of the Peasantry: Latin America's Landholding System*. Garden City, NY: Anchor Books, 16.

<sup>13</sup> John Kirby. 1973. Venezuela's Land Reform: Progress and Change. *Journal of Interamerican Studies and World Affairs* 15 (2), 206.

<sup>14</sup> Feder, 53

<sup>15</sup> Jon Lamb. 2005. Cuba & Venezuela Lead Global Organic Revolution. *Green Left Weekly* 2 February, 4.

<sup>16</sup> Kirby, 207.

<sup>17</sup> Kirby, 212

absence of outbuildings, and in some cases, the presence of virgin forest. More than anything, the lack of markets limited the program's potential. As a result, many abandoned the resettlement plots in favor of returning to the city. In general, the IAN's attempts at agrarian reform "achieved relatively little in terms of the short-run improvement of living standards and production in rural areas".<sup>18</sup>

Chavez again took up the issue of land reform as part of the Bolivarian revolution. Under the "Vuelta al Campo" plan introduced in November 2001, the government limited the size of land holdings, taxed landowners for leaving fallow ground, and began appropriating large, uncultivated *latifundos* to be reimbursed at market value<sup>19</sup>. By 2004, around 2.2 million hectares had been distributed to Venezuelans who had gone through the cooperative program.<sup>20</sup> As well as rural reform, the government is tackling urban reform to give inner-city Venezuelans the titles to the land they live upon.<sup>21</sup> In the cases of the few plots which have been reclaimed so far, the would-be owners were unable to prove their titles to the land.

## THE CUBAN EXAMPLE <sup>22</sup>

A discussion of Venezuelan agriculture necessarily includes a treatment of Cuban agriculture, due to the exemplary food security the island has achieved and the two nations' similar placement, both geographically in Latin America and politically with a wary eye cast upon their leftist governments by the United States. The long-standing blockade from the US government and sudden collapse of Soviet support forced Cuban citizens to drastically reform their agricultural practices with the fall of the iron curtain in 1989. By collaborating traditional knowledge with biotechnical and agricultural research from the state-sponsored universities, Cuban citizens devised state-of-the-art urban agricultural techniques to drastically increase yields and bring food production into cities without the use of then-unavailable pesticides and petroleum chemicals. The program has been extremely successful from a variety of perspectives. The island has successfully devised an agricultural program far-removed from the United States' style of petroleum based, high-input, low labor farming strategies. The city of Havana now obtains 90% of its food comes from local sources, a rare level of food security and independence, and the quickly expanding urban agricultural sector employed 200,000 citizens in 2003.<sup>23</sup> The population has seen a 25% decrease in heart disease and now has available 2,600 calories and 68 grams of protein daily, exceeding the United Nations' Food and Agriculture Organization's (FAO's) estimations of an acceptable diet.<sup>24</sup> Cuba has also enjoyed other benefits associated with sustainable practices, such as decreased use of petroleum fuels, reforestation and soil improvement programs, and alternative energy programs.<sup>25</sup>

The Cuban and Venezuelan revolutions have enjoyed a more than amicable relationship, with Cuba sending doctors to aid the *Barrio Adentro* program to provide healthcare to

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<sup>18</sup> Kirby, 219

<sup>19</sup> Seth DeLong. 2005. Venezuela's Agrarian Land Reform: More like Lincoln than Lenin. [www.VenezuelaAnalysis.com](http://www.VenezuelaAnalysis.com) (accessed 31 May 2006), 3

<sup>20</sup> Lamb, 5.

<sup>21</sup> *ibid*, 4.

<sup>22</sup> Much of this information comes from Marcos Fernandez and Bryan Snyder, "Cuban Agriculture: Farming in the Midst of a National Crisis," Pennsylvania Association for Sustainable Agriculture 2006 Conference; State College, PA; 4 February 2006.

<sup>23</sup> Lamb, 2.

<sup>24</sup> *ibid*, 2.

<sup>25</sup> *ibid*, 2.

Venezuelan citizens. These alliances extend to the agricultural sector, where Venezuela has welcomed Cuban support and education in exchange for reduced oil prices. Cuba has been the primary source of inspiration and education for innovations in Venezuelan urban agricultural techniques.<sup>26</sup> Caracas' showcase garden, a 1.2 acre Organopónico named Bolivar I and located in the city's central Belles Artes district, is run by Noorali Verenzuela, who was inspired by a 2 month government-sponsored trip to study social work on the revolutionary island.<sup>27</sup> She has since made return visits to glean techniques, and Cuban scientists have in turn visited the Caracas garden. Two of the full-time staff are female agricultural engineers trained at the University of Havana.

As part of the FAO's Program for Food Security and Rural Development, started in 2002, Cuban agricultural experts collaborate with Venezuelans on work dealing with water management, crop production, and crop diversification. The Cuban government also partially funded the SPFS program.<sup>28</sup> The types of urban gardens which allowed the survival of the Cuban people have started appearing in Caracas since 2003 and are now expanding to other cities.<sup>29</sup> While the Venezuelan developments would not have been possible without Cuban support, the Chavez government is also taking a number of unique steps to ensue the success of sustainable agriculture in Venezuela.

## STRUCTURAL SUPPORT FOR SUSTAINABLE AGRICULTURE

The national cooperative movement, which undertakes organic agriculture and rural resettlement, as well as doctors, teachers, even cleaning crews, taxi drivers, and artisans, has been a crucial aspect of the endogenous development program. Borrowing from Osvaldo Sunkel's *Development From Within: Toward a Neostructuralist Approach for Latin America*, the endogenous program seeks a variety of ways to encourage the country's development of local businesses and resources rather than dependence on imported goods.<sup>30</sup> Though cooperatives existed before the Chavez presidency, they were few in number and poorly organized.<sup>31</sup> The current administration has supervised the advent of *misiones*, social programs funded by oil monies to promote health and education. Instead of employing the previously government's CORPOCENTRO, who made land ownership decisions serving the middle class with no accountability to the rest of the population, the Chavez government established the National Land Institute, or INTI, which spurred the creation of a number of new agricultural cooperatives.<sup>32</sup> The bureaucracy of the new cooperative structure allows for the training and education of laborers, promotes their organization into cooperatives, and allows for their receipt of government-distributed lands once they are so organized.

Previous attempts at urban relocation failed due to the colonized settlements' lack of access to developed rural infrastructure, irrigation, markets, and other essential equipment. The Vuelta al Campo program is a concerted effort to actively promote sustained settlement. This

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<sup>26</sup> Magdalena Morales. 2003. Cuba Exports City Farming "Revolution" to Venezuela. [www.cityfarmer.org](http://www.cityfarmer.org) (accessed 20 November 2006), 3.

<sup>27</sup> April M. Howard. 2006. Feeding Ourselves: Organic Urban Gardens in Caracas, Venezuela. [www.VenezuelaAnalysis.com](http://www.VenezuelaAnalysis.com) (accessed 11/13/2006), 3.

<sup>28</sup> FAO, 2.

<sup>29</sup> Lamb, 5.

<sup>30</sup> Camila Piñeiro Harnecker.. 2005. The New Cooperative Movement in Venezuela's Bolivarian Process. [www.VenezuelaAnalysis.com](http://www.VenezuelaAnalysis.com) (accessed 16 June 2006), 1.

<sup>31</sup> *ibid*, 1.

<sup>32</sup> David Raby. 2004. The Greening of Venezuela. *Monthly Review* November, 2.

includes education about appropriate agricultural techniques, promotion of cooperatives to organize and work land holdings together, and most importantly, the creation of markets to sell the agricultural product both domestically and abroad. Also, the government maintains ownership of the land to prevent settlers from simply selling their holdings back to the *latifundos*, as happened in previous reform eras.<sup>33</sup>

To promote access to credit, the administration has started the Banco Agrícola Venezolano, to which Chavez pledged 16,000,000 bolivares.<sup>34</sup> The BAV pledges as its mission:

Crear, promover y consolidar un sistema de producción de bienes y servicios, combinando las capacidades y los recursos con que cuenta el Banco, con el objeto de contribuir de manera eficaz al desarrollo agrario, a través de la asistencia financiera y el acompañamiento integral en el marco de las políticas gubernamentales, con la participación activa de la comunidad, para alcanzar niveles de crecimiento sostenido que permitan la seguridad alimentaria de la población.

To create, promote, and consolidate a system of production of goods and services, combining the capacities and resources provided by the bank, with the object of contributing efficiently to agrarian development, as well as the financial assistance and integral accompaniment in the framework of the political government, with the active participation of the community to reach new levels of sustainable growth to permit the food security of the nation.<sup>35</sup>

This statement uses the revolutionary rhetoric, stressing the bank's commitment to populist politics and realization of the part this institution will play in the nation's new levels of food security.

The Chavez government has also enlisted the use of international aid to accomplish its goals. The FAO's Special Program for Food security, ratified at the 1996 World Food Summit, aims to help 71 developing countries to establish greater agricultural independence. The Venezuelan application comes in the form of Program for Food Security and Rural Development, a three year program with a budget of 34.4 million dollars. Unlike other countries' versions of the program, the Venezuela government owns their SPS and was instrumental in its design and implementation. The largest in Latin America, the program focuses on four areas: managing water resources, increasing yields, diversifying product, and analyzing small farmers' economic constraints. Not only will these developments help end the economic dependence on oil, but also impart a strong degree of social benefit to Venezuelan society.

## SOCIAL BENEFITS

Venezuelan communities have already begun to experience positive benefits from the switch to the cooperative model. Most importantly, the movement will likely create a change in the mindset of the Venezuelan people. Echoing Marx's sentiment that economic conditions

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<sup>33</sup> DeLong, 5.

<sup>34</sup> Agencia Bolivariana de Noticias. 2006. Chávez: Banco Agrícola de Venezuela nace como motor de la revolución del campo. <http://www.aporrea.org/desalambrar/n85579.html> (accessed 1 December 2006).

<sup>35</sup> From [bav.com.ve](http://bav.com.ve) (accessed 19 November 2006), my translation.

create all others, the type of society created and perpetuated by US-style white, Christian male-centered capitalism will undergo serious changes if a new economic model, especially a cooperative rather than competitive one, is put into place. Members of agricultural cooperatives have already experienced such community benefits, even calling the cooperative mindset “una forma de vida,” a way of life, due to the change in mindset the model has produced.<sup>36</sup> As the Bolivarian revolution promotes changing conceptions about women, people of African descent, and indigenous peoples, the agricultural cooperatives also take part in this process. One participant noted that since the formation of her local agricultural cooperative, “things changed. There is still machismo but we are gradually getting rid of it...Now the men help with the housework, we’re both responsible for it”.<sup>37</sup> The programs also foster an increased sense of community in a country whose national identity has been at the mercy of global petroleum politics. The Organopónico Bolívar I, a garden in downtown Caracas, has created a safe space for neighborhood youths in a city plagued by problems with homeless children living in urban poverty (Marquez).<sup>38 39</sup>

Education is an important step in this process, as well as an ethic of the Bolivarian revolution. Theorists on cooperative movements have lauded educational gains as some of the project’s most important work:

“...la educación cooperativa se concibe como el medio de conectar la acción socioeconómica de las cooperativas con el proceso de formación de valores personales y colectivos generados por el cooperativismo a través de los cuales se expresa la idea de alcanzar una sociedad basada en la justicia social.”

“...cooperative education is conceived as the mode of connecting the cooperatives’ socioeconomic action with the formational process of personal and collective values generated by the movement to attain a society based in social justice”<sup>40</sup>

As part of the cooperative process, citizens must be trained in one of the *misiones* before organizing into a cooperative, a process which not just ensures their success in their profession, but generates a community connection.

Chavez’s Bolivarian revolution also functions as a critique of United States-dominated neoliberal global politics. The endogenous development strategy runs contrary to the types of market liberal global economics encouraged by US foreign policy and the World Bank. One author notes that the Ezequiel Zamora Agro-Industrial Sugar Complex in the central plains utilizes Cuban design and Brazilian equipment, reflecting a reach toward Latin American unity.<sup>41</sup> The plant is part of a settlement which will house 15,000 workers and include an agricultural cooperative as well be staffed by the literacy and health *misiones*. In addition, the FAO’s Program for Food Security and Rural Development includes an aspect called South-South Cooperation to encourage cooperation among developing countries in the southern hemisphere. One widely publicized part of this initiative is the Venezuelan seed bank, created to protect older

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<sup>36</sup> José B. Paredes R. 2001. Una Montaña Cooperativa. *CAYAPA Revista Venezolana de Economía Social* 1 (1), 4.

<sup>37</sup> Raby, 3.

<sup>38</sup> Howard, 4

<sup>39</sup> See Patricia Marquez. 1999. *The Street Is My Home: Youth and Violence in Caracas*. Stanford: Stanford University Press.

<sup>40</sup> Paredes, 5.

<sup>41</sup> Raby, 3.

seed varieties from the invasive genetics of genetically modified, copyrighted strains sold by American companies like Monsanto. Supported by the Venezuelan Ministry of Food and Nutrition,<sup>42</sup> the government has put aside land to develop these varieties for distribution to small scale Venezuelan farmers and those in developing countries such as Sierra Leon, Guinea, and Liberia, which share a similar climate.<sup>43</sup> On a larger scale, the *Vuelvan Caras* project inspired Chavez's ALBA, or Bolivarian Alternative for the Americas, a more progressive option of the US-sponsored Free Trade Area of the Americas, which bears a striking resemblance to NAFTA.

## DATA

The first site I visited was the Organopónico Bolívar in downtown Caracas (FIG 1). Four years ago, The Simón Bolívar Center, who owns the half acre plot where the garden is situated, converted the then-vacant lot to the garden in early 2003. The government pays an hourly rate to the garden's eight full-time workers, three of whom are women, and all profits from the on-site sales of crops such as carrots, onions, garlic, scallions, and lettuce go back to the government. While customers come from all parts of the city, the workers generally come via train and bus routes from the *barrios*. The garden employs all organic methods, using no chemical fertilizers or pest controls. One worker I interviewed formerly worked as a *campesino*, which required his taking month long trips to country sites for residential work. He prefers working in the garden, not only because he can now spend more time with his family, but because this work is "trabajo sano," or "clean work." As of now, the garden has no plans for expansion.

Unlike the Organopónico Bolívar, The Felix Ribas Center for Endogenous Development is a cooperative, albeit a young one. They hold the land conditionally under an arrangement known as an indefinite usufruct. An application of Bolivar's claim that "the land belongs to those who work it," this agreement guarantees the cooperative members' permanent rights to the land and its produce. In other words, though the government still holds the title to the land to preclude its resale, the cooperative members get whatever the land produces and cannot legally be removed. Also in contrast to the Organopónico, the workers gain direct economic benefit from their work. They sell their produce to local wholesalers and share all profits equally. The farm uses mostly conventional pest control methods, but most members expressed a desire to transition to organic methods at some point. They are currently using some modern innovations, such as cultivation shelters to protect plants to control stresses caused by wind, rain, and sun (FIG 2). Thanks to the vocational training provided by Mision Sucre, the cooperative members are now transitioning from their previously held vocational jobs to working full time at the agricultural cooperative. The cooperative provides fully furnished on-site housing to workers and their families, who can also access the local *Barrio Adentro* clinic and the community's Bolivarian school.

However, the corruption which plagues all levels of Venezuelan government has delayed their transition to the cooperative lifestyle. After the first year, the president of Felix Ribas stole all of the growing season's profits. Though members unanimously voted him out of office, officials did not pursue legal action, allowing the former President to avoid making economic reparations. As a result, cooperative members must continue splitting their time working at the Felix Ribas center and in their former trades, a stage that they had expected to move on from by

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<sup>42</sup> 59<sup>th</sup> session of the United Nations General Assembly. 2004. Statement by the Minister of Foreign Affairs Ambassador Jesus Arnoldo Perez, 6.

<sup>43</sup> FAO, 3.



this point. Still, the members I talked to remain hopeful that, with time, their endeavor will succeed.

The final site I studied holds the most promise for sustainable agriculture in Venezuela and should serve as a model for future development. In 1976, a group of landless farmers in Montecarmelo, Lara state met with a group of French priests to discuss community problems. The priests were missionaries, but respectful of local traditions and adapted their cooperative vision to the community's existing way of life. As a result of those meetings, twelve founding members signed a constitution that year to begin a cooperative whose goals included ending the isolation, disunity, and neglect of the region's campesinos, building a sense of community unity, and rescuing the Latin American people's sense of origin.<sup>44</sup> They formed two work groups, one at Boj6 and one at Las Lajitas, and immediately began work on borrowed lands until they were able to obtain a loan and purchase a permanent settlement. Like the members of Felix Ribas, the founding members worked half time at vocational jobs and half time to establish the cooperative. Until 1986, they worked to establish a basic agricultural system by purchasing land and equipment, stabilizing production, and training workers. By the late 80s, they had successfully established the cooperative and began expanding their work to health and education projects. Around this time, medical students visiting the community performed blood tests and found that as a result of the use of chemical pesticides, all the cooperative members had dangerously high levels of chemical exposure, even those not directly involved in agricultural work. They immediately began efforts to correct the situation by gradually phasing out conventional agricultural techniques.

The agricultural techniques which Alianza members use integrate both local traditional knowledge and internationally utilized state-of-the-art techniques. The centerpiece of their system is a vermal composting system using a series of concrete tubs (FIG 3). The workers have a meticulous formula for compost mixing, which includes adding certain amounts of manures and plant wastes to control nitrogen, phosphorous, and potassium contents, taking temperature readings, and introducing worms to build soil structure and aid in decomposition. The concrete tubs have drains which allow nutrient-rich liquid to drain off for later foliar application. Besides the compost program, information from the National Institute for Agricultural Investigation (INIA) has encouraged the practice of intercropping and companion planting. Alianza cofounder Padre Mario Gripo described the medicinal plants garden as "cultivaba mixta," translating roughly to intercropping, or planting a variety of species in one space rather than in concentrated, segregated fields (FIG 4). By replicating natural ecological systems, this practice benefits agricultural production by increasing yields and controlling pests and diseases.<sup>45</sup> One specific application of intercropping is companion planting, where two species planted together share a beneficial symbiotic relationship. At Alianza, for instance, planting a row of basil as a buffer between cash crop and greenhouse walkways prevents the Colorado potato beetle from attacking tomato plants (FIG 5). In addition, this photo shows the application of ashes on potato leaves to protect the plants from fungus in humid greenhouse conditions. These applications have resulted in the complete elimination of chemical farming techniques at the Alianza site. The Las Lajitas

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<sup>44</sup> Leonardo A. Salazar. El desarrollo sostenible en Las Lajitas: La innovaci6n en la cultura. Fundaci6n Polar de Agricultura Tropical Sostenible. <http://www.fpolar.org.ve/ats/salazar.html> (accessed 2 March 2007).

<sup>45</sup> For more information on intercropping, see Preston Sullivan. *Intercropping Principles and Production Practices*. Fayetteville, AK: Attra, 1998.

site is still transitioning to organic methods, a process that one member estimated is halfway complete.

Evaluating the second criterion of sustainability, Alianza is sustainable on both a micro and macro level. Alianza sells mixed vegetables, dairy products, and surplus compost and liquid compost to customers at Barquisimieto's *ferias de salud popular*. The cooperative consistently yields profit, enough that each member is paid a salary from the community funds at the *beginning* of the working year, a payment program referred to as an *anticipio*. When end of the year accounting determines profit margins, surplus is first invested in social funds benefiting education and health, then distributed to individuals according to their hours worked. A discussion of the microeconomics of Alianza brings about the most important facet of the cooperative which distinguishes it from the other two sites: Alianza does not benefit from the Chavez government's redistribution of petroleum wealth. Thirty years of trial-and-error have resulted in the development of sound economic policies within the cooperative.

Additionally, instead of keeping their success a secret, Alianza has used the Central Cooperative for Social Services of Lara (CECOSESOLA) to spread word of their successful economic model. Smaller cooperatives, civil associations, and even individuals compose this non-governmental statewide organization; it is, in a basic sense, a cooperative of cooperatives. In its initial stages, Alianza worked closely with the University in Barquisimieto to get technical support and find direct marketing venues to avoid profit loss to middlemen. The small scale farmers markets were so successful with students and faculty that Alianza members suggested expanding this model to the then-young CECOSOLA, who held their first *feria* in 1983. Now, approximately 55,000 families shop at one of Barquisimieto's five *ferias*. The cooperative also coordinates production among growers to prevent flooding of certain markets.

In addition to marketing and coordination, CECOSOLA provides credit. Members pay yearly membership fees which go to administrative costs as well as go to a communal fund, which members can later access for emergency funds or startup capital.<sup>46</sup> Other organizations I visited, such as a factory in Montecarmelo which produces biological pest controls, used startup credit from CECOSOLA and are still active members.

Besides maintaining environmental and economic standards, Alianza serves as a model for social sustainability both in the organization's internal structure and the social programs it has started. To exercise their democratic commitment, members change the Work Coordinator position, as well as most other positions, every 15 days. Also, participants make all choices by consensus. Administrative positions, such as president, secretary, and treasurer rotate every three years. But Alianza provides Montecarmelo and the rest of the country with more than just a model for participatory democratic socialism. In 2002, government officials visited to evaluate the vermal compost system, then comprised of only five concrete processing tubs. Alianza's system so impressed the inspectors that the government funded a massive expansion of the program to its current size at twenty five processing tubs. Committed to repaying the loan, Alianza members decided to hold educational workshops to teach vermal composting techniques to farmers from all over the country. Also, students from universities and even high schools come to learn techniques practiced by Alianza members. The members also proposed a Bolivarian school for the community to the Ministry of Education, who granted a three year trial period which went successfully enough to make the school a permanent institution. At their twenty five year reunion, members of Alianza met to review their progress as well as reaffirm

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<sup>46</sup> Michael Fox. CECOSOLA: Four Decades of Independent Struggle for a Venezuelan Cooperative. <http://www.venezuelaanalysis.com/articles.php?artno=1755>

their goals for the future, pledging their commitment to education, health, development of local economies, and participatory democracy.<sup>47</sup>

Still, some structural and cultural obstacles stand in the way of Alianza's success. For instance, no Venezuelan company has developed a local source of seed, so every farm must depend on the United States and Europe for this necessity. Also, the vast majority of consumers do not appreciate the health and community benefits of organic agriculture since it has been long displaced from cultural memory. Seeing no difference between cleanly raised and conventionally raised food, consumers are unwilling to pay more for products with higher nutritional value, even though these goods require more intensive labor to produce than chemical farming.

## ANALYSIS

Of the three systems I observed, the cooperative model in place at Alianza adheres most effectively to Ikerd's three criteria of sustainable development. As a result of three decades of trial-and-error, Alianza members have devised creative solutions to maintain ecological, economic, and social health for future generations. Their *anticipio* payment program equally spreads the cost of social programs while maintaining individual incentives to work. The Organopónico members, on the other hand, are the type of standard wage laborers which fuel capitalist systems. Also, Alianza avoids the type of corruption which set back the Felix Ribas center by having separate offices of treasurer and accountant. As one Felix Ribas member told me, white collar crime goes largely unpunished in many parts of Latin America. Alianza accounts for this reluctant-to-change history by using a microeconomic system based on individual accountability. In addition, their social programs benefit not just cooperative members, but are expansive and allow Venezuelans from all regions access to the knowledge they have developed. Finally, their participation in CECOSOLA insures long-term stability should their cooperative model experience unanticipated challenges.

## CONCLUSION: SUSTAINABLE ETHICS AND THE BOLIVARIAN REVOLUTION

Padre Mario Gripo, one of Alianza's founding members, told us that "Chávez is now spreading what we have been doing for thirty years", meaning that the oil money which the new government is finally distributing to the people will start sustainable cooperatives like Alianza all over the country. In other words, with time, the Felix Ribas center will be every bit as successful as Alianza without their thirty years of trial and error, and all cooperatives will sustain their own social and economic growth instead of using funding from oil revenues. The money should go to the establishment, but not perpetuation, of communities pledged to responsible social stewardship. Though many obstacles stand in the way of this goal, the Venezuelan people's mindset has changed, making them receptive to the adaptation of the types of communities enjoyed by the people of Montecarmelo. The funding for education, credit, land, equipment, and other costs which the Chávez government has started could finally "asembrar el petroleo", even if such sowing comes almost a half century after its promise. Venezuelan government officials and citizens should view individual cooperatives like Alianza and their umbrella organizations like CECOSOLA as the building blocks for the Bolivarian state and the key to the

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<sup>47</sup> Leonardo Salazar. Contribuciones a la gestion de una política de estado: Visiones de comunidades y organizaciones Larenses para la construcción de un desarrollo rural sostenible. Banco Interamericano de Desarrollo: 15 December 2003.

revolution's continued success. Indeed, even Alianza recognizes their potential fundamental position in the revolution by equating their goals with notable articles of the Bolivarian Constitution, including Articles 110, 305, and 306, which pledge the state's commitment to food security and rural development.<sup>48</sup>

Agricultural sustainability fits in well with the revolution's other programs to promote community health and education of an economic, physical, and political nature. The Chavez government has taken initiative to reduce air pollution in Caracas, improve protection of waterways, especially those polluted by oil operations, protect ecological areas and indigenous lands, provide assistance for conversion to the use of organic methods, and ban genetically modified seed.<sup>49</sup> The developments in Venezuela provide an exciting tonic to the inefficient, highly subsidized food system of the United States. Venezuela's potential success in this aspect could start an agricultural revolution which, with the help of Cuban and Venezuelan specialists, could take hold throughout the hemisphere.

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<sup>48</sup> Salazar, 3.

<sup>49</sup> Lamb, 6.



FIG 1: At the Organopónico Bolívar, in downtown Caracas, workers raise organic vegetables in formed beds amidst the urban landscape.



FIG 2: The government funded a test batch of protective shelters at the Felix Ribas Endogenous Center. If their benefits of providing protection from sun, wind, and rain stress to crops prove economically worthwhile, the government will invest in more of these structures.



FIG 3: Another program aided by the government, compost production operations at Alianza are the centerpiece of their soil fertility and economic activity.



FIG 4: Studies have shown that intercropping increases crop yields even after taking account for biochemical symbiosis and reduced pest and disease loss.



FIG 5: Though all levels of life form symbiotic relationships and the pattern is easily observable, companion planting is considered an innovative technique in organic agriculture.