ADVANCING TOWARDS FOOD SOVEREIGNTY IN EL ALTO, BOLIVIA: REVITALIZING THE CONSUMPTION OF NATIVE, NUTRITIOUS AND AGRO-ECOLOGICAL FOOD IN URBAN CENTERS

by

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ABSTRACT

Most field research on food sovereignty focuses on food production, circulation and consumption systems in rural communities and on the role of local organizations in sustaining local food systems, livelihoods and the environment. This thesis takes the question of food sovereignty into an urban, consumer-focused context in El Alto, a large city in Bolivia where traditional diets, based on foods of plant origin and low meat consumption, have been replaced by energy dense foods, the so-called “nutrition transition”. This thesis presents food sovereignty as a strategy to counteract the “nutrition transition” in El Alto. The thesis examines the local and structural factors that affect the viability of revitalizing the consumption of native, nutritious and agro-ecological food in the schools of El Alto.

Keywords: food sovereignty; nutritional transition; Bolivia; El Alto, urban markets; rural development, education for food sovereignty

DEDICATION

A mis abuelos Luis Carlos, Elsa, Gabriel y Carmen.

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1: INTRODUCTION/THEORETICAL FRAMEWORK

1.1 Situation of Food Insecurity in Bolivia

At the time of the Spanish conquest, the Incas cultivated almost as many species of plants as the farmers in all of Asia or Europe. On mountainsides up to four kilometres high, in climates varying from tropical to polar, they grew a wealth of roots, grains, legumes, fruits and nuts sufficient to provide abundant food for fifteen million or more people, roughly as many as inhabit the highlands today. Storehouses overflowed with grains and dried tubers. Andean cultures, based on highly developed agricultural and livestock systems had been able to feed and maintain healthy populations during several thousands of years (US National Research Council [NRC], 1989).

Today, the Andean country of Bolivia is undergoing what has been termed “the nutrition transition”, a dietary and lifestyle change where traditional diets based on foods of plant origin, low meat and moderate milk consumption that are still common in rural areas have been replaced by energy-dense and cheaper food sources such as processed foods. This is particularly the case in large cities (Pérez-Cueto et al 2006; Pérez-Cueto & Kolsteren 2004). The high consumption of energy dense food in urban centers while leaving aside traditional diets has translated into increasing rates of obesity, diabetes and other non-communicable disease (FAO 2009).

Decreasing levels of consumption of traditional diets in urban centres is linked to the unfavourable conditions of food production and social inequalities that affect the capacity of small-scale farmers to supply food to urban markets[1]. In the highlands, where most food for national consumption is produced, plots are very small, especially compared with the export oriented production in the eastern plains, home of only 18 percent of Bolivian landowners but representing 75% percent of the surface area exploited (World Bank, 2006a).

Agro-industrial complexes of Eastern Bolivia have expanded production for local consumption, but are mainly oriented to export markets. Foods such as rice, soy, sorghum, vegetable oil, sugar cane, sunflower seed, tobacco, wheat, cocoa, and coffee are produced in the Eastern plains, but its production is primarily destined to export markets. For instance, about 70% of soy bean production is exported for use abroad (Euromonitor International, 2009). While Andean agriculture is fundamentally linked to local consumption, the production of certain grains in the highlands such as quinoa has grown in Bolivia's export markets. According to the Bolivian Center for Promotion (CEPROBOL), between the years 2005 and 2006, exports of quinoa increased in 61.8% due to increased demand in international markets (CEPROBOL, 2007).

[1] Although the indigenous populations, peasants and small/scale producers benefited somewhat from the 1953 Agrarian Reform, which had the aim of giving peasants title to land previously held by landlords, 1953 Agrarian Reform led to an enormously unequal distribution of the land (Kohl & Farthing, 2006). The mutual dependence between landlords and peasant households is a key factor in explaining the persistence of landlords (Goudsmit, 2008). Peasants received small landholdings, which have been divided among their heirs for two or three generations, creating several smallholdings known as *minifundio*. Around Lake Titicaca or in the Cochabamba valley a share of a family's land can be as little as 300 square meters (Kohl & Farthing, 2006). The 600.0000 families of the Andean communities were given a total of 4 million hectares while a small group of big landowners appropriated about 32 million hectares (FIAN, 2001).

Agro-industrial production often occurs through ecologically unsustainable methods with a substantial part of the soil in the highlands being eroded or losing its fertility.[2] The unsustainable production of food, which is also affected by minimal infrastructure for water irrigation, limited access to credit, seeds and technology, little systematic access to information, technical assistance, and productive training; limits the supply of healthy, nutritious, and ecologically sustainable food to urban markets (CEBIAE, 2008b).

This thesis considers to what extent the application of a food sovereignty model is one way to reverse the "nutrition transition" through the revitalization of traditional diets in urban contexts while enhancing rural development. The findings of this thesis suggest, however, that revitalizing the consumption of native and nutritious food in urban contexts faces several local and structural obstacles. La Via Campesina and the People´s Food Sovereignty Network define this new paradigm for food and agriculture as follows:

> "Food Sovereignty is the right of peoples to define their own food and agriculture, to protect and regulate domestic agricultural production and trade in order to achieve sustainable development objectives, to determine the extent to which they want to be self reliant; to restrict the dumping of products in their market; and to provide local fisheries-based communities the priority in managing the use of and the rights to aquatic resources. Food Sovereignty does not negate trade, but rather it promotes the formulation of trade policies and practices that serve the rights of peoples to food

[2] The document "National Policy of Agricultural and Rural Development" (Política Nacional de Desarrollo Agropecuario y Rural), published by the Bolivian Ministry of Agriculture, Livestock and Rural Development (MAGDR), estimated that there are 16.4 millions of hectares adequate for agricultural utilization; hardly 3.4 millions of hectares (i. e. 20 %) of these soils are effectively cultivated. Taking into account that in the east, a considerable part of the production of the cultivated soils is meant for export purposes, the total area used for food production for local consumption is about little more than 1 million of hectares - a figure that is close to the surface cultivated by the small peasants per year.

> and to safe, healthy and ecologically sustainable production" (La Via Campesina, 2003).

This somewhat cumbersome definition opens the door to a profound social change that can address the confluence of malnutrition, obesity and environmental degradation by enabling urban groups and communities to reclaim control over markets that are supplied with healthy, nutritious and agro-ecological food. The proposal for food sovereignty pushes for action to fight the unfavourable conditions in the countryside not only from the rural end, but also from the urban, for what happens in the fields is intimately related with the food that is consumed in the city. Food sovereignty implies a variety of solutions: "it's a set of ideas, policies and ways of eating that are sensitive to history, ecology and culture, and that respect human rights" (Patel, 2007, 317). From an urban perspective, a commitment towards food sovereignty could signify revitalizing the consumption of native, nutritious and agro-ecological food, while also challenging the overwhelming presence of " junk food". However, various local and structural factors play a role in revitalizing the consumption of native and nutritious food.

The revitalization of the consumption of food that is healthy and nutritious is important given the significantly high incidence of health conditions associated with the consumption of unhealthy food with little nutritional value. Secondary analysis of the Bolivian Demographic and Health Surveys of 1994, 1998 and 2003 revealed a steadily rising trend in levels of overweight and obesity in urban areas among women 20-45 years, reaching 30% in 2003. Higher indices of overweight and obesity are mainly found in urban areas, affecting 19 percent of adolescents (Pérez-Cueto, Bayá Botti & Verbeke, 2009). Paradoxically, the

increasing rates of obesity in Bolivia run parallel with significantly high rates of malnutrition. The rates of malnutrition in Bolivia have historically been high, however in the period from 1989 to 1998 there was a significant decrease as the rates of chronic malnutrition felt from 38 percent to 27 percent (Larrea et al, 2005). However, the current rates of chronic malnutrition in Bolivia remain significantly high. According to the latest estimates, 22 percent of Bolivian children experience chronic malnutrition while 5% have severe chronic malnutrition (Bolivian Demographic and Health Survey [ENDSA], 2008). While the prevalence of malnutrition in rural areas remains the highest (Ministerio de Salud y Deportes, 2009), in urban centres the percentages of malnutrition are also significantly high. In the city of El Alto malnutrition affects 32 percent of children under five years of age (Nutrinet.org, 2008). Malnutrition in Bolivia has its origins in the caloric and protein deficit in children under five years old, and affects rural as well as urban populations (Programa Especial para la Seguridad Alimentaria [PESA], 2009).

The magnitude of high levels of malnutrition, and its concurrence with increasing levels of obesity in urban centres is a contradictory reality that results from shifting traditional diets towards dietary patterns of higher energy intake (Popkin, 2001). Raj Patel refers to this reality as “one big fat contradiction” by indicating that “in the world the hunger of 800 million happens at the same time as another historical first: that they are outnumbered by the one billion people on this planet who are overweight” (Patel 2007, p. 1). These changes have been identified as predictors of the increase of chronic non-communicable diseases,

which are taking on epidemic proportions (Monteiro et al, 2004; Caballero, 2005). The most significant factor that explains the concurrence of high frequency of malnutrition and obesity are low levels of consumption of nutritious food (FAO 2006).

A local context, the Bolivian city of El Alto, a vast urban settlement on the outskirts of the capital city La Paz, illustrates this contradictory reality. A survey conducted in 2008 by the Bolivian Society of Endocrinology concluded that El Alto is the city with the most overweight population in Bolivia ranging from 64.7% in women to 56.6 % in men (La Razón, 2009). However, in the schools of districts 2 and 3 in El Alto, the percentage of students that experience chronic malnutrition reaches 36% (Centro Boliviano de Investigación y Acción Educativas [CEBIAE], 2008a), which is higher than the national average (ENDSA, 2008). Inadequate diets and low consumption of nutritious food are exacerbated by the consumption of food high in energy, but with little nutritional value and negative health effects. In the schools of El Alto, where a significant part of students' food consumption of food takes place, the current sale of food is dominated by "junk food". Junk food refers to "food that is high in calories relative to nutrients or in calories that are relative empty of nutrients" (Albritton, 2009, 93).

While the consumption of native, nutritious and agro-ecological food in urban areas is undermined by the unsustainable production of food and the abandonment of traditional diets, soaring food prices is also an important factor. Inflation is a major economic indicator that has worsened recently in Bolivia (Weisbrot & Sandoval, 2008). Food price inflation was high worldwide in 2007,

and Latin America and the Caribbean was no exception (World Food Program, 2009). Since 2007, the prices of bread, beef, chicken, all dairy products, and most fruits and vegetables have risen dramatically in most departments in Bolivia. In Cochabamba, for example, the price of bread has risen from 65%-100%, and in La Paz, the price of both beef and milk has risen 4 Bs/kilo ($0.50 USD). In 2008 there was an acute rise in overall inflation (17%) with the increase being especially high for food (32%) (Ringold, 2008).

The food price inflation is a global problem due the increase in oil prices which elevates the cost of agriculture and transportation (Trostle, 2008), the global warming phenomenon which has dramatically affected food production (Patel, 2008), the global increase in food production destined to bio-fuels which increases the prices of food for basic consumption (Patel 2008, Mitchell 2008, Abbott et al, 2008) as well as the increasing demand for food in fast-growing economies such as China and India (Patel, 2008). The increase in prices in Bolivia was also severely affected by a series of adverse climatic events known as “La Niña” between December 2007 and March 2008, which damaged crops and reduced yields as a result of flooding, drought, frost and hail storms (FAO, 2008).

The synergic effect of these trends and especially the consequences of “La Niña” in Bolivia has been the increase in the price of locally produced food to a greater extent than imported food prices. Bolivia’s population has a strong grain diet, and bread is one of the most important food products. Due to price rises of all grains in Bolivia, bread prices have seen significant increases. In 2008, the

biggest national dairy industrial company PIL Andina SA announced a price increase across its entire portfolio. Due to the floods and loss of cattle, as well as increased prices for grain to feed livestock, production costs increased and the manufacturer passed some of this on to the consumer. Pasteurised milk increased by as much as 20%, making it almost impossible for the most vulnerable populations to purchase milk on a regular basis (Euromonitor International, 2009).

Increasing food prices puts the poor especially at risk of food insecurity (Clave Consultores, 2008). Rising food prices reduce the real income of the most vulnerable people, with serious nutritional and health consequences (World Bank, 2009). In Bolivia, of its 9.5 million population, two thirds overall – 80 percent in rural areas – live below the poverty line (World Food Program, 2009). Although an overwhelming portion of the rural populace lives in poverty, there are also large pockets of urban poverty. Poverty is concentrated in the valleys and the central highlands, especially in Potosi and Chuquisaca, followed by Beni, La Paz and Oruro (World Bank, 2006a). The income of 40 percent of the total population -59 percent in rural areas- is insufficient to meet basic food needs. According to a 2005 vulnerability analysis and mapping (VAM) report, 72 percent of households in the most food-insecure municipalities cannot provide the minimum caloric intake. While the minimum salary is 550 Bs per month, the cost of the basic food basket by June 2009 for a family of five in El Alto is 900 Bs per month. In this reality, even if two members of the family work for the minimum salary, there is not sufficient income to cover the cost of the basic food basket, in

addition to other essential expenses such as health, education and housing (CEBIAE, 2008b). Thus, soaring food prices and high levels of poverty are fundamental aspects that affect the accessibility of urban populations to healthy and nutritious food.

Poverty, high food prices, unsustainable food production and the overwhelming presence of junk food are factors that affect the consumption of native, nutritious and agro-ecological food in urban contexts. The lack of consumption of native and nutritious food resulting from changing dietary patterns towards a higher intake of energy dense food is a factor that exacerbates the contradictory reality of malnutrition/obesity. This thesis examines the local and structural factors that affect the consumption of native, nutritious and agro-ecological food in educational settings in El Alto. The findings improve understanding of the local and structural limitations to revitalizing the consumption of native and nutritious food in urban contexts such as schools as a way to contribute towards food sovereignty.

1.2 Emergence of a Global Discourse of Food Security/Food Sovereignty

Friedmann (2005) argues that the post-war industrial model of food production involved a period of relatively stable sets of relationships. In Bolivia, and in most governments and international aid agencies, the discourse on food security was rooted in the ideology of the post-war food regime that emphasized reasonable prices and ensuring the availability of adequate food supplies

(Fairbairn, forthcoming). Food Security is a “situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life” (FAO, 2001).

In the late 1970s and 1980s the food security frame in Bolivia as well as internationally was coupled with policy prescriptions that further liberalized agricultural markets and favoured a decreased role for national governments. Proponents of neoliberal globalization proposed an economically orthodox approach to consumer policy through advocating the liberalization of the food regime. Advocating free markets as a way to ensure economic growth and increase household incomes, the neoliberal food regime sees liberal trade policies and consumer choice as the model to improve household food security (Fairbairn, forthcoming 2009). In this ideology, consumer choice becomes the driving force of capitalism that ultimately ensures the maximization of every individual’s desires. Consumers interacting in a free market guarantee greater economic efficiency and faster growth as private firms wrest control of the economy away from governments that are incapable of matching the efficacy of multiple individual economic actors (Friedman 1962; Fukuyama 1992). Thus, there is a strong link between the notion of food security and the neoliberal discourse (McMichael, 2005) as the focus on the market decisions of individuals is part of the neoliberal ideology (Peck & Tickell, 2002).

Critics of the neoliberal/food security framework maintain that the focus on the individual and on consumer choice assumes that individual’s choices

originate purely internally as a preference that the individual rationally follows from knowledge of each commodity. Instead, they argue that “consumer choice” is shaped by consumers’ needs, wants and desires which are socially constructed and reflect historical specificity (Albritton, 2009). These needs, wants and desires are constructed by the actual array of commodities available, by their price, by the consumer’s socio economic status and by the marketing or socio cultural practices that shape desires. Thus, individuals are socially conditioned from infancy to need or want certain things while it is extremely rare that consumers are fully informed about the commodities they are consuming. Consumers can only cast “dollar ballots” for commodities that are offered for sale and that they can afford while they are rarely fully informed about the human or environmental costs in producing and using the commodity (Albritton, 2009, 197).

The neoliberal focus on individual and consumer choice and the dominance of food security within this framework did not include reference to a more just and sustainable system that reverses social injustice, environmental degradation and the loss of traditional knowledge (Fairbairn, forthcoming). Indeed, food security discourse is agnostic about the production regime and about the social and economic conditions under which food ends up on the table (Patel et al, 2007). While access to food is governed essentially by the same rules that govern access to any other commodity in the market, the treatment of food as a commodity translates into a drive towards lower costs, higher production scales and larger markets. Attributes such as mass productivity, uniformity and heavy processing are valued by the neoliberal food regime as

indicators of ‘efficiency’; however, these are not necessarily the attributes that work best for people eating the food, the environment where food is produced and the culture where food is consumed. The treatment of food as a commodity and not as a biological phenomenon brings perverse consequences to the soil, water, seeds, ecosystem services and cultures that sustain humans’ means of existence (Roberts, 2008).

In an important departure from orthodox thinking since 1993, the international peasant organization La Vía Campesina, a coalition of farmer, indigenous and fisherfolk movements, has proposed food sovereignty as an alternative model of agrarian development. Peasants and farm leaders no longer saw the potential of policies oriented towards “food security” to ensure local access to culturally appropriate and nutritious food. They believed that the causes of social and environmental destruction of the countryside are linked to existing inequitable structures and policies, which were not challenged by contemporary policies aimed at food security (Wittman et al, forthcoming).

This sentiment is articulated by proposing Food Sovereignty as the pillar of a new agricultural policy. La Vía Campesina first discussed food sovereignty at its Second International Conference in Tlaxcala, Mexico in 1993. The framework for food sovereignty was further elaborated with other organizations and civil society actors. Important events were the World Forum on Food Sovereignty held in Cuba in 2001 and the NGO/CSO Forum on Food Sovereignty (2002) held in Rome. International coalitions such as Our World is Not for Sale (OWINFS) and the International Planning Committee on Food Sovereignty (IPC) form an

international food sovereignty network of social movements, research institutions and non-governmental organizations. The movement is gaining support from scholars, consumers, progressive policy makers and activists and has gained prevalence in debates about the Human Right to Adequate Food, Food Security and environmental sustainability (Cohn et al, 2006).

Food Sovereignty involves a rejection of the "mercantile-industrial" food regime, arguing against the idea that food can be treated as a commodity. The Havana Declaration of the 2001 World Forum on Food Sovereignty states "we affirm that food is not just merchandise and the food system cannot be viewed solely according to market logic" (WFFS 2001, 2). Described by Desmarais (2007) as an "alternative modernity", food sovereignty is a new paradigm that links local food systems to local consumers. The importance of linking local food systems to urban consumers who recognize and demand access to local and nutritious food was clearly expressed in the Nyéléni International Forum on Food Sovereignty held in Mali in 2007. The forum moved food sovereignty beyond the producer's perspective and production to include consumers associations and consumption. The forum reached consensus on a vision of food sovereignty that sees food as being integral to local cultures, a vision that closes the gap between production and consumption (WFFS, 2007).

The distinguishing feature of most field research on food sovereignty, however, is that it focuses on food production, circulation and consumption systems in rural communities and on the role of local organizations in sustaining local food systems, livelihoods and the environment. This thesis takes the

question of food sovereignty into an urban, consumer-focused context in Bolivia analyzing the extent to which the revitalization of the consumption of native and nutritious food can support a food sovereignty model.

1.3 Application of Food Sovereignty in Bolivia

Seen through the lens of food sovereignty, access to a variety of nutritious and healthy foods for consumption in urban areas goes in hand with ecologically sustainable and productive small-scale family agriculture. However, in Bolivia, the concentration of agrarian property, exhausted soils, adverse climatic conditions and the lack of support from the state have never been conducive to food sovereignty. Since the 1950s, the Keynesian model of national development which entailed government intervention through land reform programs did not improve legal security for the small land/owners or their possession of land titles, nor have they had any influence for achieving more equal land redistribution (FIAN, 2001). State policies have traditionally kept food prices in cities low, while not guaranteeing farmers fair prices (Lipton 1977). Population pressure on the land and poverty in the countryside has also meant a steady increase in migration to the cities: since the 1960s a third of peasants migrate temporarily, mostly to urban areas (Kohl & Farthing, 2006).

The state traditionally assumed that low production was caused mainly by the technological backwardness of family agriculture in the Andean region. State programs for agricultural assistance privileged technologies that require high capital investment and external inputs, which are only accessible to agricultural entrepreneurs, and not to the farmers and family agriculture (FIAN, 2001). This

model perceives family farmers as a quaint but inefficient anachronism that should disappear with development (Rosset, 2009). Despite the 1953 Agrarian Reform, agricultural estates in the eastern lowlands received over 50 percent of all credit from the state's Agricultural Bank. In the 1970s, General Banzer funnelled credits to lowland export crops. These policies led the country to increasing imports of food, a paradoxical situation given Bolivia's ecological diversity and the fact that a third of its population is employed in agriculture (Kohl & Farthing, 2006).

Historically the contribution of small-scale producers to agricultural production in Bolivia had been very high, reaching about 76% of total agricultural production in Bolivia in the mid 20th century. The majority of highland farmers engaged in labour intensive production on smallholdings while accounting for a significant percentage of the economically active population (AIPE, 2007). The contribution of small-scale and family agriculture to the domestic market was affected by the economic policy established in the 1980s, the beginning of the neoliberal phase in Bolivia. Departing from the principle of "substituting food imports" which characterized the previous Keynesian model, Paz Estenssoro initiated South America's second most radical neoliberal restructuring program after Chile (Kohl & Farthing, 2006). The political and economic model adopted by the Bolivian State since 1985 (the New Economic Policy NEP) did not impose any custom duties for the protection of national agricultural products and reduced import regulations and tariffs on private business (FIAN, 2001). In the context of the NEP food imports increased from 10% in 1980 to 30% in 2000. As the

internal market was flooded with increasing food imports, since the 1980s the share of small producers who live in the Bolivian highlands has been diminishing, a factor that negatively affects regional food sovereignty. In 1980 the contribution of small producers to the internal food market was 70 percent, but by the year 2000 their contribution to the internal food market was reduced to 50 percent. The contribution of Bolivian agribusiness remained stable at 20 percent of the food supply for local consumption since 1980 until the year 2000 (FIAN, 2001), with the increase in food imports making up the difference.

In addition to increasing food imports which increased food options for urban consumers, the structural adjustment program of the NEP weakened the institutional apparatus of the food regime by reducing the reach of institutions that previously channelled resources to small-scale family agriculture that supplied food to urban markets. The National Council on Food and Nutrition (Consejo Nacional de Alimentación y Nutrición CONAN), the National Council on Food Security (Consejo Nacional de Seguridad Alimentaria, CONALSA) and the Agrarian Bank were the institutions responsible for the implementation of the National System of Food Security (Sistema Nacional de Seguridad Alimentaria) The weakening of the institutional apparatus of the food regime reduced funding for technical assistance to small-scale farmers, decreased the reach of programs and projects and terminated the operations of institutions (FIAN 2001). This reduced the capacity of the National System of Food Security to address the needs of the small-scale farmers that supply urban markets with native food, and required responses to improve the deteriorating conditions for small-scale family

agriculture. However, the response of the state did not translate into the revitalization of the small-scale farmers and family agriculture, a necessary condition for urban markets to be supplied with local, nutritious and agro-ecological food accessible to consumers.

The political and economic model of the Bolivian state, together with the persistent inequality in the distribution of agrarian property and the inattention to social demands by peasants and small-scale producers, further moved away the hope that the small-scale farmers and family agriculture would be able to guarantee the supply of healthy, nutritious and agro-ecological food for urban consumption. The panorama for the agrarian sector translated into an impoverished peasantry incapable of producing nutritious, healthy and agro-ecological food destined to urban consumer markets.

Subsequently since the 1990s, local, national and international grassroots activities and pressure for policy change prompted a response from the Bolivian government in recognizing the need for rural development that can supply markets with healthy, nutritious and agro-ecological food. Social movements eventually acquired sufficient political and electoral strength to install the current government in 2006, which called for a Constituent Assembly to reform the Bolivian Constitution and presented a new development project embodied in the National Development Plan (PND). This new phase represents a return to state interventionism in the economy, which resembles the Keynesian model and the import substitution industrialization model from the past. The model proposes State capitalism as the main development model, but with the unprecedented

articulation of a socialist, anti-neoliberal rhetoric and the model of food sovereignty in the NPCE and in the PND (Nuñez de Prado, 2009). The New Political Constitution of the Bolivian State (NCPE), approved in a referendum with 90.24% voter participation, was promulgated by President Evo Morales on the 9th of February of 2009. The NCPE establishes in Article 16 that ´every person has the right to water and food, the State has the obligation to guarantee food security by means of healthy, adequate and sufficient food for all its population´ (Clave Consultores, 2006). The NCPE mentions as objectives of the State to ´guarantee food security and food sovereignty giving priority to the consumption of food of agrarian origin produced in the Bolivian territory.[3] Bolivia currently has nine laws that support its food and nutritional system.[4] Including food sovereignty as a constitutional right is a ground-breaking event that has also happened in Ecuador where the new 2008 constitution, in Article 281, establishes food sovereignty as a strategic objective of the State (Peña, 2008). Food Sovereignty was also constitutionalized in the the interim Constitution of Nepal, under Article 18 (3) (PANAP, 2008).

[3] The NCPE in Article 406 expresses: in coordination with autonomous, decentralized territorial entities, the objectives for the development of the Bolivian State are: 1. Guarantee food sovereignty and food security, giving priority to the production and consumption of Bolivian food. 2. Establish mechanisms to protect Bolivian agrarian production. 3. Promote the production and commercialization of agro-ecological products. 4 Protect agrarian and agro-industrial production from natural disasters, climatic and geological events. 5. Implement and develop productive, technical and ecological education at all levels. 6. Establish policies and sustainable projects aiming for the conservation and recuperation of the soil. 7. Promote irrigation systems with the aim of guaranteeing agrarian production. 8 Guarantee technical assistance and establish mechanisms of innovation and technological transfer throughout all the productive agrarian chain. 9. Establish the creation of the Seeds Bank and genetic research centres. 10. Establish policies of support those agrarian sectors that have structural weaknesses. 11. Control the entry and exist of biological and genetic resources. 12. Establish policies and programs to guarantee healthy and nutritious food. 13 Promote productive infrastructure, manufacturing, industries and basic services for the agrarian sector. (Constitución Política del Estado Boliviano).

[4] Ley Nº 2235 del Diálogo Nacional 2000, 2. Ley Nº 2119. 11 septiembre 2000. Ratifica el "Protocolo Facultativo del Pacto de Derechos Civiles y Políticos", 3. Ley Nº 2028 de Municipalidades, 4. Ley No. 3460/2006, 5. Ley 3525 De Regulación y Promoción de la Producción Agropecuaria y Forestal No Maderable Ecológica 6. Ley de Fomento a la Lactancia Materna y comercialización de sus sucedáneos, 7. Ley de Reforma Educativa, 8. Ley SUMI, 9. Ley INRA. (Clave Consultores, 2006)

The National Development Plan (Plan Nacional de Desarrollo or PND) 2006-2010, stipulates that in Bolivia, “the state, as promoter and protagonist of development, establishes the policies of Food Security with Food Sovereignty as an instrument of development” (Clave Consultores, 2008, 59). The PND proposes a model of agrarian development that seeks to transform the structures of land tenancy and access by contemplating the sustainable management of forests, the biodiversity and ecosystem services. The PND seeks to strengthen agrarian productive capacity to provide healthy, nutritious and agro-ecological food for consumption at fair prices, giving “priority to diversified production of healthy and nutritious food destined to the domestic market and based on productive systems that are ecologically sustainable” (Clave Consultores 2008, 58).

While there is political willingness in Bolivia to enact food sovereignty, food sovereignty implies the enhancement of local food systems that preserve biodiversity, strengthen cultural practices and generates sources of income for small and family agriculture. Thus, beyond the discourse and rhetoric, imagining a reality with Food Sovereignty visualizes the existence of local markets supplied with native and nutritious food that is consumed by the population. A basic condition of Food Sovereignty is that individuals be able to access healthy and nutritious food in sufficient quantity, produced in ways that do not degrade the environment and that increase the earth’s environmental integrity for the sake of future generations. Scientific research demonstrates that sustainable agricultural practices are fundamental to environmental as well as to human health (WHO,

2005). The human act of food consumption is linked to the larger system of agrarian production that allows consumption to take place. Thus, access to native, nutritious and agro-ecological food for consumption requires consideration of various factors of the larger agrarian system that affect the supply of native, nutritious and agro-ecological food to urban markets.

1.4 Research question and justification

Through the lens of food sovereignty applied in an urban, consumer-oriented context, the research undertaken for this thesis inquires: what are the structural and contextual factors that affect the sale of native and nutritious food in the El Alto school system. The findings contribute towards understanding the local and structural limitations to revitalizing the consumption of native and nutritious food in the context of schools. These limitations are conceived as obstacles to advancing towards a reality with food sovereignty that visualizes a supply of healthy and locally produced food available for consumption in urban settings.

This research was undertaken as part of the Bolivian Specialization Project in Community Economic Development carried out by the Centre for Sustainable Community Development at Simon Fraser University (CSCD). The project, in partnership with the Association of Institutions for the Promotion of Education (AIPE) and Universidad Andina Simon Bolivar (UASB), trains AIPE leaders in the theory and practice of Community Economic Development (CED). The Bolivian Centre for Research and Educative Action (CEBIAE) is part of AIPE and conducts work aiming to improve the quality of education in Bolivia. In

CEBIAE I worked in the project “Re-establishing the consumption of native food in El Alto, La Paz”, a project funded by HEIFER international. The project is an educational strategy to re-establish the consumption of nutritious and native food from the Bolivian highlands across the schools in El Alto and advance towards food sovereignty. The strategy includes activities such as food fairs in schools where students, teachers and parents prepare food elaborated with native food from the highlands and provide information about the significance of consuming these foods. The food fairs are complemented with theatre and graffiti contests through which, employing body language and visual expression, the students represent issues of food sovereignty in the stage. Curriculum development workshops are conducted with teachers from the educational community to incorporate the notion of food sovereignty in the classroom. While my work involved supporting the CEBIAE team in carrying out abovementioned activities, the research for this thesis came about from the observation that in the educational community of districts 2 and 3 in El Alto, the current sale of food is dominated by cheap processed food “junk foods” with little or no nutritional value. While there are additional initiatives underway that aim to incorporate native and nutritious food into the school breakfast programs (AIPE, 2007), there are currently no initiatives underway to increase the sale of native and nutritious food in schools.

The overwhelming presence of “junk food” in urban centres and in the schools exacerbates the “nutritional transition”, the changing dietary patterns that abandon traditional diets to be replaced by energy-dense foods (Perez Cueto et

al, 2009). The consumption of "junk food" for sale in schools is a reality that is linked to the high levels of chronic malnutrition (CEBIAE 2008) which coexist with unprecedented rates of overweight and obesity in adolescents in El Alto (Perez Cueto et al, 2009).

Given the new political conjuncture in Bolivia wherein food sovereignty has become articulated in the New Political Constitution of the Bolivian State and in the National Development Plan, the case at hand provides an historical opportunity to analyze the potential reversal of the "nutritional transition" in urban centres while acknowledging the problems of rural development that affect access to local, nutritious and agro-ecological food for urban areas. This thesis considers the sale of native and nutritious food products in schools of El Alto as an action that recognizes the implications of food sovereignty in a specific context and population. The findings aim to understand the challenges for educational settings to consolidate the sale of native, nutritious and agro-ecological food and therefore analyze the potential of schools as agents that contribute towards food sovereignty.

2: SITE DESCRIPTION AND METHODOLOGY

This research was conducted in a selected group of eight schools in districts 2 and 3 in the city of El Alto between May and August 2009. These are the schools where CEBIAE conducts the project “Revitalizing the Consumption of Native and Nutritious Food in El Alto, La Paz”. The names of the educational units are: Libertador Simón Bolívar, Eduardo Abaroa, Puerto del Rosario, General Juan José Torrez, San Luís de Gonzaga, Calama, República de Cuba (Afternoon shift), República de Cuba (Morning shift). There are approximately 3000 students in these schools, which were chosen as a site to study food sovereignty primarily because a significant portion of food consumption among students occurs in the context of school.

The methodology of this study was designed to ascertain the factors that affect the sale of native and nutritious food in school settings in El Alto. Incorporating the participation of the educational community in this research, a workshop was conducted which included directors, teachers and parents of district 3 of El Alto. The purpose of this workshop was to determine the relevant actors involved in the sale of food. In collaboration with the food vendors in the school kiosks, I conducted an inventory that includes a comprehensive list of food products available for sale to students. Each individual food product was taken to a nutritionist in order to assess the nutritional value of the food products. A focus group was conducted with students from the school Juan Luis Gonzaga

of district 3 in order to reflect, discuss and gather opinions about the current supply of food for sale in schools and the importance of adequate diets in school. Another focus group was conducted with the school food vendors to gain insight and details about the different factors that affect the sale of food in school and the limitations to introduce the sale of native and nutritious food.

A survey designed and administered by CEBIAE's team of social workers, nutritionist, statisticians, education professionals and by me was applied to 168 parents and 71 teachers (see appendix 1). This survey inquired about the physical availability of food in the household and the level of income of the participants. For organizational purposes, the results about the physical availability of food and its relationship to income level were divided between the group of parents and the group of teachers (see appendix 2). It is important to note that the data provides information about the physical availability of food in the household according to the income level, but this data does not provide information about the quantity of food that is available in the household.

Data on the physical availability of food in the household is complemented with data in the physical availability of food in the market places. I conducted a visit to 3 of the most crowded informal market places located in district 3 of El Alto. These market places were selected because parents and teachers from the schools located in district 3 of El Alto indicated that they purchase most of the food for their households in these market places. The visit to these market places allow the collection of data about the average costs and the physical availability of food in the market place (See appendix 3).

The information was supplemented with 21 semi-structured interviews in El Alto and La Paz. Interviews were conducted with members from government ministries, business associations, social movements, food vendors, NGO professionals, teachers, parents and students. I also attended workshops for the implementation of a Food Sovereignty curriculum in schools, these workshops were conducted with teachers of seven schools of districts 2 and 3 in El Alto; the workshops introduced teachers to the debate of Food Sovereignty and the ways to incorporate this concept in school activities. In this regard, I attended meetings aimed to organize nutrition fairs to exhibit native food from the highlands in the schools. I participated in the organization and execution of theatre plays where children present issues such as genetically modified food, corporate control of the food system, the importance of seeds and respect of nature “pachamama”, what junk food does to the human body, and the revolutionary process that seeks to advance the country towards food sovereignty. I attended a workshop conducted by AIPE to teachers and parents about the Human Right to Adequate Food as articulated in the New Political Constitution of the Bolivian State. I also collaborated in the organization of a graffiti contest where students competed for a prize for the best representation of the concepts of food sovereignty and the Human Right to Adequate Food. In addition, I attended a workshop on the preparation of Andean foods, and visited various organic food fairs in the city of El Alto and La Paz.

The focus groups, the survey, the interviews and the workshops provided the main foundation to determine the local and structural factors that can affect

the sale of native and nutritious food in the schools of districts 2 and 3 in El Alto. The analysis of structural factors of rural development and the food regime in Bolivia was primarily based on the analysis of publications from the most important sectors of government and civil society that focus their work on Food Sovereignty, Food Security and the Human Right to Adequate Food in Bolivia.[5]

[5] The following are the main documents revised *Soberanía Alimentaria en Bolivia: indagación sobre políticas y acciones de desarrollo,* this is a document written by Clave consultores s.r.l in La Paz on July 2008; *Informe de la Sociedad Civil sobre la realización del Derecho Humano a la Alimentación en Bolivia,* this document was presented by the Association of Institutions for the Promotion of Education (AIPE in Spanish) as part of an initiative from FIAN International and German Agro Action (Agro Acción Alemana in Spanish); the document published by HEIFER international Bolivia on June 2009 which presents the analysis of Dr. José Nuñez del Prado *Análisis de la coyuntura política nacional y sus efectos en las tareas de desarrollo rural ligadas a la Soberanía Alimentaria*; the document published by AGRUCO entitled *Innovación Tecnológica, Soberanía y Seguridad Alimentaria* was also analyzed. Documents from government ministries include *Política de Seguridad y Soberanía Alimentaria,* a document published in 2008 by the Agrarian, Environment and Rural Development Ministry (MDRAyMA in Spanish).

3: FINDINGS

3.1 Consumption of native and nutritious food in El Alto Schools

The high nutritional value of Andean grains and tubers, including quinoa, amaranth, cañahua, tarhui, oats and barley is extensively documented (King 1987; Ruales and Bamboo 1990; Hodge W 1951), and has the potential to combat the high levels of chronic malnutrition that limit school performance, promote school desertion and reproduce poverty (FAO February 2009) while counteracting the "nutrition transition."

The results from the survey that I conducted in El Alto indicate that most native foods from the highlands are physically available in the households of parents and teachers as well as in the market places nearby the schools.

Table 1. **Physical availability of native food in the household**

Teachers' household

Food	Frecuency	Percentage
Papas	71	100%
Beterraga	71	100%
Zanahoria	69	97%
Charque	68	94%
Habas	66	93%
Chuño	64	90%
Arveja	64	90%
Avena	63	89%
Cebolla	62	87%
Quinua	59	83%
Cebada	47	66%
Oca	47	65%
Papaliza	45	63%
Tunta	44	62%
Cañahua	38	54%
Tarhui	20	28%
Izaño	14	20%
Amaranto	9	13%
Caya	9	13%
Ajipa	4	6%
Total	71	

Parents' household

Food	Frecuency	Percentage
Papas	162	96%
Zanahoria	162	96%
Arveja	157	93%
Cebolla	152	90%
Chuño	151	90%
Charque	151	90%
Habas	149	89%
Beterraga	140	83%
Avena	136	81%
Quinua	135	80%
Cebada	124	74%
Tunta	109	65%
Cañahua	106	63%
Oca	103	61%
Papaliza	102	61%
Izaño	75	45%
Tarhui	46	27%
Caya	45	27%
Ajipa	31	18%
Amaranto	21	13%
Total	168	

Table 1 shows that most of the Andean cereals and vegetables were physically available in the household of parents and teachers (see table 1) as well as in the market places surveyed (see appendix 3). Foods such as tarhui, amaranth, caya and ajipa are physically available in the household, but much less frequently than the rest of the native foods from the Bolivian highlands. Although most families and teachers are familiar with native foods and these foods are found in their home, previous studies have shown, however, that the levels of actual consumption of native food from the highlands are very low (see Table 2, CEBIAE, 2008b). This study was conducted in the eight educational units in El Alto that are the site of this study; the study surveyed the food consumption habits of parents, students and teachers.

Table 2. Native Food consumption as a percentage of the total consumption of food.

Food	Percentage of Total Food Consumption
Potatoes	9.51%
Chuño	2.11%
Quinoa	0.32%
Tunta	0.26%
Barley	0.02%
Oca	0.02%
Cañahua	0%
Tarhui	0%
Amaranth	0%
Caya	0%
Ajipa	0%

CEBIAE (2008b)

The consumption of native food from the highlands is led by the consumption of potatoes and its naturally processed varieties such as chuño and tunta. The rest of the consumption of Andean cereals and vegetables is very low. The consumption of food such as pasta and rice are consumed in much higher proportions representing 3.94% and 7.93% of the total consumption (CEBIAE, Nov 2008b). In interviews, parents and teachers expressed that the lack of consumption of native foods is in part because preparations with these foods require a longer time than preparations with pasta. They expressed that because of multiplicity of jobs and duties and low incomes, the time that is left for cooking is much more reduced. Therefore, pasta has become one of the essential parts of the daily diets for many families in El Alto.

Several teacher and parent participants in the survey process also indicated the presence of negative stereotypes in Bolivia associated with certain native foods. This stereotype results from historical associations of the consumption of native foods with lower economic status. While the circulation of negative stereotypes might affect the consumption of certain foods, the findings from the El Alto survey illustrate that the perception of native food from the highlands as “popular food”, something that for some might have a negative connotation, is not prevalent in El Alto. In fact only 10% of parents and only 1% of teachers considers native food from the highlands as “popular food”. As it will be discussed in section 3.4, one of the most significant factors that explain the low consumption of native food is their cost.

3.2 Junk food in El Alto Schools

While the overall food consumption of students, parents and teachers includes minimal quantities of native foods from the highlands, the supply of food products available for purchase in schools is dominated by the presence of processed food products with very little nutritional value. Table 3 is a comprehensive list of the supply of food products that are currently available for sale in schools.

Table 3. Supply of Food Products for the Sale in the Educational Community

PREPARATION	**PRODUCTS**
INFLATED PRODUCTS	QUESITOS DE MAIZ PALOMITAS DE MAIZ BOCADITOS DE CHOCOLATE PIPOCAS DE MAIZ PAPAS FRITAS FRITURAS
BAKERY PRODUCTS	GALLETAS MINI KRACRER GALLETAS GAUCHITAS GALLETAS DE CHOCOLATE PALITOS DE TARHUI DONAS
	EMPANADA DE QUESO FRITURA CON RELLENO
CEREALS	TOSTADO DE HABA TOSTADO DE ARVEJA MANI CONFITADO
BEVERAGES	TAMPICO (ESENCIAS) CASCAFRUT
REFINED SWEET PRODUCTS	CULEBRITAS BOMBOMBUM CARAMELO CHUPON CARAMELO VERY CHICLES MASTICABLES CHUBIS GELATINA

PREPARATION	**PRODUCTS**
VARIETIES OF CHOCOLATES	CHOCOPALETON GOLAZO KILATE HACKER CHOC Y ALMENDRAS WAFFER BOMBOM KILOMBO CHOC.DEDON BOMOBOM NUCITA CRAGEAS CHOCOLATE

Fieldwork May-August 2009

The majority of these food products are industrialized and processed (for detailed information about the nutritional value for each food product see appendix 4). The analysis of these products, conducted by a nutritionist, concluded that there are several health problems associated with their daily consumption as these products are high in sugar, fat and sodium.[6] Also, the sanitary conditions, real nutritional value and the origin of the food products in table 3 are difficult to ascertain.

Many of these food products do not have sanitary registration or expiry date, and indicate incorrect information about its weight and nutritional value (see appendix 5). Food vendors obtain the supply of junk food from stores in El Alto, which sell all types of junk food, much of which enters the country as contraband from Chile, Peru and Brazil and thus is very low in price in comparison to legally imported or locally grown products. The high amounts of food products that enter Bolivia through contraband and that are sold to food vendors affects the competitiveness of local food products, thus affecting the consumption of food

[6] The daily consumption of products high in sodium can contribute to high blood pressure, a major risk factor in heart disease (Albittron, 2009).

that is locally produced. More than 70% of mass consumption goods are introduced to Bolivia through contraband, this being one of the main causes for the destabilization of local agricultural products. The State has been unable to control this problem as customs laws do not contain specific dispositions and institutional mechanisms destined to protect local producers against competition from cheap food products from contraband (AIPE, 2007).[7] Thus, contraband signifies a significant challenge in the revitalization of the consumption of native food that is locally produced.

Most of the junk food products are high in sugar (see the elevated composition of glucose in the food products presented in appendix 4). Eating sugar gives a burst of energy followed by a low, as insulin released by the pancreas lowers the blood sugar, leaving one hungry for more sugar, thus sugar can become quasi/addictive (Colantuoni C, et al 2002). Since there is strong evidence to suggest that food preferences tend to be established early in life (Schlosser 2001), sugar is a health burden throughout life attacking the teeth of the young; in the 7 schools considered in this study, more than 90% of children have bucal problems (CEBIAE 2008). The consumption of cheap junk food high in sugar is problematic because with the prevalence of low incomes -a minimum salary of 550 Bs per month, the equivalent of 78 US- cheap processed foods high in sugars becomes a highly accessible source of calories. The

[7] Conclusions obtained in a discussion about the current laws and mechanisms that protect small-scale producers from disloyal and unfair competition from cheap and subsidized food imports.

overwhelming presence of junk food for sale suggests that the current sale of food in schools exacerbates a disease-prone generation of children.

3.3 Consumption of "more nutritious" food products

From the supply of food products available for sale in schools (see table 3), native and nutritious food products available for sale in school represent a minimal proportion, primarily tarhui sticks and toasted broad beans which are produced in the highlands. The nutritionist suggested that these food products contain a higher nutritional value than the rest of the junk food; other locally made options available that were also regarded as nutritious include chocolate cookies, popcorn, cheese turnovers[8] and sweetened peanuts. Unanimously, all the school food vendors indicated in the focus group that these food products are consumed by the students in much lower amounts than the rest of the supply. The food vendors stated that the demand for the small set of native and more nutritious food products comes mostly from teachers and from parents.

Food products such as toasted broad beans, popcorns and cheese turnovers are homemade. While these are considered more nutritious than the rest of the supply, it is unknown whether the oil that was used in the preparation was reheated or not. Using reheated oil for deep frying food is a cooking practice deeply ingrained in El Alto, but one that is very unhealthy. Recent research has demonstrated high amounts of a toxin with known connections to heart disease and neurological disorders accumulate in vegetable-based cooking oils that are

[8] The cheese turnovers are considered nutritious because of the cheese that they contain, however it is noted that in most of the turnovers, the amount of cheese that is used in the preparation is minimal.

heated or reheated for hours at a time (Seppanen and Csallany, 2006). In the focus group with the students, a student reflected about the unknown conditions in the preparation of homemade food products “although the homemade food products are more natural, one doesn’t know if whoever made them used old oil or didn´t wash their hands”. [9]

3.4 The effect of advertising and price on consumption of native food

To inquire about the impact of advertising in the consumption of native food, the survey that I conducted exposed a group of parents and teachers to the images in the following figure.

Figure 1. Native food products vs. value-added junk food products

Product 1 Product 2

The first product consists of tarhui sticks which have a very simple packaging. The second product consisted of a junk food product that is highly

[9] The 6th grade students of the educational unit San Luis Gonzaga participated in a focus group about the sale of food in the educational unit.

advertised in El Alto with a shiny and colourful packaging. The survey inquired which of these two products the participants would buy if hypothetically both products were equally as tasty and if their cost were the same. The results indicate that 79% of parents and 79% of teachers would buy the first product (tarhui sticks) in contrast to 20% of parents and 11% of teachers who would buy the second product. This suggests that the colourful, shiny packages in value added products do not have a strong effect in the consumption choices of teachers and parents.

However, in the focus groups the food vendors indicated that food products such as tarhui sticks are purchased by children in very low amounts, especially younger students from the ages of 7 to 12. Children, much more than adults, are highly vulnerable to the advertising of food products since they are impressionable and are easily manipulated by the blandishments of sugars, fats and salts combined in ever new and enticing ways (Albritton, 2009). Before the age of eight, children do not have the ability to understand the persuasive power of the food packages, thus assimilating the messages of the food packages as a truth (Roberts, 2009).

The students in the focus group indicated that they prefer food products in shiny, animated and colourful packages. They also expressed that their decision to purchase these food products is influenced by prices and the toys that some of the products include. Several students indicated that the “other food products” referring to the native products “don’t have anything special or fun”. Thus, student’s demand for “junk food”, which usually comes in colourful, shiny and

animated packages, must be understood in the context under which the consumption of these food products occurs. Given that the students consume these food products during their break from classes, their consumption has a deeper meaning that transcends the act of simply eating. Eating is an accompaniment for their awaited break between classes; therefore, the colour, taste, texture and packaging of foods are elements that are part of their recreation experience. The junk food has taken advantage of the concept of food as fun, a crucial strategy that incentivizes students to consume these products.

In the focus group the students also indicated that a determinant for purchasing foods in the kiosks is their cost and size.[10] The cost for most of the junk food as seen in table 4 is 0.50 Bs per product (0.07 US); food vendors indicated in a focus group that only at this cost can a product be sold. In El Alto, most of the students have on average 1 Bs (0.14 US) per day available for the purchase of food in the school, an amount given to them by their parents. With 1 Bs the students expect to buy at least two food products in the school kiosks, where the junk food products in table 2 are sold.

[10] The 6th grade students of the educational unit San Luis Gonzaga participated in this focus group.

Table 4. Cost of junk food for sale in schools vs. cost of native food products.

	JUNK FOOD PRODUCTS	Cost	NATIVE FOOD PRODUCTS	Cost
	QUESITOS DE MAIZ	0.50 Bs	PALOMITAS DE MAIZ (popcorn)	0.50 Bs
	BOCONCITOS CON CHOCOLATE Y MIEL	0.50 Bs		
	FRITURAS	0.50Bs		
INFLATED PRODUCTS				
	GALLETAS MINI KRACRER	0.50 Bs	QUNOA CAKES	1.50 Bs
	GALLETAS GAUCHITAS	0.50 Bs	QUINOA CANDY CAKE (ALFAJORES)	1 Bs
	G.CHOCOLATE	0.50 Bs	QUINOA, CANAHUA, AMARANTH, TARHUI, OAT AND COCA COOKIES	0.50 Bs
	DONAS	0.40 Bs	TARHUI STICKS	0.50 Bs
	EMPANADA DE QUESO	0.40 Bs		
BAKERY PRODUCTS	FRITURA CON RELLENO	0.40 Bs		
	TOSTADO DE HABA	0.50 Bs	GRANOLA BAR OF ANDEAN CEREALS	1 Bs
	TOSTADO DE ARVEJA	0.50 Bs	PACKAGES OF QUINUA AND SOY	1 Bs
	MANI CONFITADO	0.50 Bs		
CEREALS				
	TAMPICO (ESENCIAS)	0.50 Bs	REFRESHMENTS MADE OF ANDEAN CEREALS	8 Bs for 5 litres
BEVERAGES	CASCAFRUT	0.50 Bs		
	CULEBRITAS	0.50 Bs	MACA SWEETS (small sweets made from maca)	20 sweets for 3 Bs
	BOMBOMBUM	0.50 Bs		
	CARAMELO CHUPON	0.50 Bs		
	CARAMELO VERY	0.50 Bs		
	CHICLES	0.10 Bs		
	MASTICABLES	0.10 Bs		
	CHUBIS	0.50 Bs		
REFINED SWEET PRODUCTS				
	GELATINA FRUITY GELS	0.30 Bs		

	JUNK FOOD PRODUCTS	Cost	NATIVE FOOD PRODUCTS	Cost
	CHOCOPALETON MUSTAFA Mashmallow con cobertura sabor a chocolate	1.00 BS	QUINOA CHOCOLATES	1Bs - 1.50 Bs
	GOLAZO Barrita bañada rellena con crema de chocolate	0.50 Bs	CANAHUA CHOCOLATES	1Bs - 1.50 Bs
	KILATE: Oblea rellena con sabor a chocolate	0.50 Bs	AMARANTH CHOCOLATES	1Bs - 1.50 Bs
	HACKERTableta sabor a chocholate con cereal crocante.	0.50 Bs	PEANUT AND SESAME CHOCOLATES CHOCOLATES	1Bs - 1.50 Bs
	NUCITA	0.60 Bs		
	WAFFER BOMBOM Bombon de chocolate con leche y oblea relleno con crema de maní	1.00 Bs		
	KILOMBO: Oblea bañada con sabor a chocolate y relleno con sabor a vainilla	0.50 Bs		
	CHOC.DEDONTableta sabor a chocolate con relleno sabor frutilla.	0.50 Bs		
VARIETIES OF CHOCOLATES	BOMOBOM(Barra): Oblea bañada con maní cubierta de chocolate	1.00 Bs		

From the native food products in table 4 available in other city markets, only “pipocas de maiz” (popcorn), tarhui sticks, and cookies containing native grains are currently available in school kiosks at a cost of 0.50 Bs. The higher cost of the remaining native food products available in school kiosks puts them at disadvantage compared to the junk food. In the focus groups, students and food vendors indicated that for a food product to be sold it must have a cost of no more than 50 cents per unit.

There are a few exceptions in the junk food category that cost 1.00 Bs; the students purchase these products (i.e waffer bombom, chocopaleton mustafa or bombom-barra) on the basis that their significantly large size is perceived as a substitute for buying two products. The students indicated that in addition to their cost, the size of the product is a main determinant for purchasing food in the

kiosks. [11] Although cookies containing quinoa and other native grains cost 0.50 Bs per unit, the food vendors and the students indicated that they did not purchase these because their size does not compare to the larger size of the cookies in the junk food category for the same price (i.e galletas gauchitas, minicrakers).

Food prices have risen globally which makes contraband more expensive, but soaring food prices in Bolivia are exacerbated by the climatic adversities known as “la niña” have seriously affected the price of native food products (Euromonitor International, 2009), something has negative consequences for revitalizing the consumption of nutritious food as food becomes inaccessible mainly to the most vulnerable populations (Trostle, 2008, Patel 2008, Mitchell 2008, Abbott et al, 2008). Studies have shown that unregulated food prices have high human and social costs (Mousseay and Mittal, 2006). Given the high levels of poverty and the prevalence of low incomes in El Alto, regulating food prices by controlling contraband and promoting local food production through subsidies is important to ensure access to native and nutritious food for the most vulnerable populations. However, efforts at regulating contraband face difficulties because in El Alto the sale of food occurs in autonomous ways with the system of fairs set in open spaces and the chaotic sale of food products on the streets. Regulating prices is also made difficult by the fact that the commercialization of food is currently dominated by intermediaries and large companies (Clave Consultores, 2008).

[11] The 6th grade students of the educational unit San Luis Gonzaga participated in a focus group about the sale of food in the educational unit.

Although the sale of food in kiosks is currently unregulated, the food vendors are organized within the services sector of the Federation of Teachers of El Alto. This represents an opportunity to collectively work with food vendors in creative mixed market and non-market strategies in order to incorporate the sale of native and nutritious food products in the sale of food in schools. CEBIAE is currently developing a public policy proposal directed to the municipal government of El Alto and the educational authorities. This proposal in part aims to counteract the vast presence of junk food in schools through government regulations for the food products that are sold inside the schools (CEBIAE, 2009a). However, a conundrum arises as any market or non-market based proposal which seeks to regulate the sale of food in school, or which aims to make native food more competitive vis-à-vis junk food, needs to consider that the livelihoods of food vendors and their families depend from the current sale of food in schools, which is influenced by historical trends in student food preference, price, and availability of both native and junk foods.

3.5 Support for farmers, local producers and agro-ecological production

The native food products described in table 4 are produced by local enterprises, many of which belong to the Bolivian Association of Organizations of Ecological Producers. All these enterprises, which transform and distribute native and nutritious food products in La Paz and El Alto, advertise their products by emphasizing that they operate with ecological considerations regarding the preservation of the land and the ecosystem where the food is produced.

Agro-ecological food production that supports the preservation of land, water, biodiversity, and human beings is advocated by proponents of food sovereignty as the best way to supply local markets with nutritious food. Agro-ecological production is also an alternative to improve the incomes of peasants and local food processing enterprises because agro-ecological food products tend have a higher cost in the market. However, the higher price also limits this limits its consumption as their consumer cost is generally higher than processed foods (see table 4). To overcome this, institutional and legal attempts to promote organic production through subsidies and credit for family agriculture and small-scale producers could make food that is healthy, nutritious and agro-ecological more accessible to consumers at the end. Subsidies are important because ensuring consumers access to healthy and agro-ecological food requires mechanisms that certify these products as healthy and agro-ecological, but the certification process might increase the price of food and therefore make healthy food inaccessible to vulnerable populations.

The law 3525, November 21, 2006 represents many of the aspects of Food Sovereignty proposals (Clave Consultores, 2008, 77) [12]. The law promotes the certification of food products in "ecological transition" through the creation of the institutional mechanism Council of Ecological Production (CNAPE). The

[12] La *LEY 3525 De Regulación y Promoción de la Producción Agropecuaria y Forestal No Maderable Ecológica,* en su Capítulo II. De La Soberanía Alimentaria. *Articulo 6. (Soberanía Alimentaria).* El sector agropecuario ecológico al ser productor de alimentos, tiene la responsabilidad de coadyuvar en las acciones tendientes a la seguridad alimentaria y soberanía alimentaria. *Capítulo VII: Del Fomento e Incentivos. Articulo 24. (Fomento y Promoción).1.* Se dispone que los gobiernos municipales y prefecturas de departamento incorporen en sus Planes de Desarrollo Municipal y Departamental de Desarrollo Económico Social programas y/o proyectos de capacitación difusión, promoción, investigación y/o desarrollo de la producción ecológica en base a la demanda y potenciales productivos. 2. El Ministerio de Educación y Culturas, las Universidades Públicas y Privadas incorporarán en su currícula académica pertinente y contenidos respecto a los beneficios, ambientales, alimenticios, económicos y culturales de la producción ecológica

limitations lie in that there are not enough resources to implement these legal instruments, thus affecting the certification of these food products (Clave Consultores, 2008). In addition to Law 3525, there are different constitutional, legal and administrative norms that aim to protect consumers from food that is unhealthy. The National Service of Food Animal and Food Health (SESANAG) is the entity in charge guaranteeing a regime of quality and fresh food for consumers (Clave Consultores, 2008). However, given the lack of resources, the functions and competencies of SESANAG do not guarantee a real control of the health state of the food and therefore access to food that is healthy conditions is currently not guaranteed (AIPE 2007, 117).

Advancing towards Food Sovereignty implies deploying the necessary resources to incentivize the production of local food for local consumption. The government budget allocation gives priority to health and education[13], however the lack of transparent information about the nation's budget make it difficult to assess the levels of public investment in the different areas (CEDLA, 2009). The Civil Society Report about the Realization of the Human Right to Adequate Food in Bolivia suggests that the assigned budget for programs related to food and nutrition (i.e. Program of Zero Malnutrition -Programa de Desnutrición Cero[14].-, the Bank of Productive Development -Banco de Desarrollo Productivo, Agua y Saneamiento Basico-) is much lower than the budget assigned to other

[13] In the year 2007, 50% of the nation's general budget (a total of $US 1.103 million was assigned to health and education.

[14] The program Zero Malnutrition (Programa Desnutrición Cero) is carried out in regions highly vulnerable to food insecurity (166 out of 329 municipalities). The objective of the program is to eradicate chronic malnutrition by the year 2010.

initiatives[15] including social assistance programs in the form of conditional cash transfers such as *Bono Dignidad* destined to the elderly, *Bono Juancito Pinto* destined to students in public schools, and the Universal Health Insurance that will replace the Universal Maternal and Infant Insurance (SUMI in Spanish). The report concludes that Government priorities for advancing towards Food Sovereignty seems to be framed in rhetoric as articulated by the programs of the PND, but in practice, the government's budgetary allocation has not given priority to initiatives and programs conducive to increasing access to native and nutritious food (AIPE, 2007, 44).

State support for peasants and local enterprises oriented towards supplying local markets for local consumption can make native and nutritious food more accessible by increasing supply in urban markets and by ensuring a price that is fair for producers and accessible to consumers. Institutions from the State and from civil society can play a role in promoting food production to benefit small producers and sustainable family agriculture oriented to local markets, in providing technological transfer to these sectors and in enabling subsidies and other credit mechanisms. However the institutions face several challenges and limitations.

The National Council of Food and Nutrition (CONAM) and its municipal branch (COMAN) is the entity that carries out the largest programs related to food and nutrition, within these efforts participate private institutions as well as

[15] While the budget for the year 2008 increased significantly to $US 14.000 million, the program Zero Malnutrition was not included in this budget. The main resources for public investment were basically destined to projects in roads infrastructure with Bs. 2.505.4 millions. The projects of basic sanitation, irrigation and technical assistance were assigned in 2008 for only Bs 9.1 millions.

social movements. Several legal instruments[16] provide the CONAM a framework to support public policy that encourages the production of native and healthy food (Clave Consultores, 2008). Prominent institutions in Civil Society include the Network of Institutions for Support against Hunger (RIACH)[17]. In their work, CONAN and RIACH incorporate different ministries and organizations that conduct actions related with the Human Right to Adequate Food, Food Sovereignty and Food Security. The Direction of Production and Food Sovereignty is part of the structure of the Vice Ministry of Rural and Agrarian Development (MDRA), this entity gives coherence to the implementation of public policy of food security with sovereignty. The structure of the Ministry of Health and Sports (MSD) contains the Unit of Food and Nutrition, which works on the public policy of the program *Desnutrición Cero* in coordination with CONAN. The MDRA y MA makes the public policies operative by means of the National Council and Departmental Councils of Rural Development. At a local level, the Regional Platforms of Rural Services (PRSR in Spanish) blends the operative entities of the programs of MDRA. The PRSR are the operational arm of the

[16] Decreto Supremo 26370 de 2001 (Implementación de la Política Nacional de Compensación (PNC), 2. Decreto Supremo N° 26811 (Reglamento de la Tarjeta empresarial y la participación de las organizaciones proveedoras de bienes y servicios a instituciones públicas). Presidente Gonzalo Sánchez de Lozada 10 octubre de 2002. 3. Decreto Supremo No. 27029 2003 Creación del CONAN) 4. Decreto Supremo N° 28147 (Registro Único Sanitario Nacional de Alimentos y Bebidas). Presidente Carlos Mesa Gisbert. 17 de mayo de 2005 5. Decreto Supremo No. 28136 (Compro Boliviano) 6. Decreto Supremo No. 28667 (Modificación del CONAN) 2006
7. Decreto Supremo Nº 29272 (Plan Nacional de Desarrollo 12 septiembre de 2007). 8. Decreto Supremo 29470 (Creación Unidad de Coordinación del FONDO 5 de febrero de 2008) **9.** Decreto Supremo 29453 Creación del Fondo para la Reconstrucción, Seguridad Alimentaria y Apoyo Productivo. Presidente Evo Morales 22 de febrero de 2008.

[17] RIACH carries out inter-institutional work that incorporates the work of different entities and international cooperation/aid agencies, the State, the private sector and civil society. Under this institutional framework, the Alliance for Food Security and Food Sovereignty was created (ASSAN). The ASSAN serves as the main forum for discussion about food sovereignty and the food crisis in Bolivia.

programs CRIAR and EMPODERAR[18], in articulation with the National Institute of Agrarian and Forestry Innovation (INIAF in Spanish). Public-private enterprises such as SEMBRAR promote land reform and the Human Right to Adequate Food, the program CRIAR promotes local and agro-ecological production and supports small-scale rural initiatives that can contribute to the program *Desnutrición Cero;* the program EMPODERAR supports private and communitarian enterprises (Nuñez del Prado, 2009). The Peasant Economic Organizations (OECAs in Spanish) and agrarian cooperative of different kinds are associations of producers that function as economic establishments whose operations are based on the market or based on donations and reciprocity (Nuñez del Prado, 2009). According to the Civil Society Report about the Realization of the Human Right to Adequate Food in Bolivia (AIPE, 2007), which presents the opinions of different sectors of civil society and of the Alliance for Food Sovereignty and Food Security (ASSAN), the institutions of the food regime in Bolivia to varying degrees face diverse limitations and complex challenges which include lack of inter-institutional coordination, dispersion of activities and lack of evaluation. The report suggests that while public functionaries considered part of the neoliberal regime have been purged from public institutions, the PND has not put in practice the need of training of human resources. Thus institutions of the public sector do not have enough human, technical and economic resources to fulfil their objectives (AIPE, 2007).

[18] Estrategias de Producción de Alimentos en el marco del derecho humano a la alimentación SEMBRAR, y Programa Creación de Iniciativas Alimentarias (CRIAR) son programas del Plan Sectorial del Ministerio de Desarrollo Rural, Agrícola y Medio Ambiente.

Supporting peasants and small producers through access to credit is also necessary for the creation of an agrarian development model that can supply local markets with native and nutritious food for local consumption. Food sovereignty implies the existence of credit from the public sector designed to support family agriculture (Rosset, 2003). The NCPE establishes that the State will give priority to financial services to small and medium scale entrepreneurs in the agricultural sector, craftwork, commerce, services, communitarian organization and productive cooperatives (Clave Consultores, 2008). Now the PND contemplates financing productive development, of communitarian and social character, through the establishment of greater financial and technical capacity across the entities involved in the productive process (Clave Consultores, 2008).

To enhance credit for small-scale farmers, the Bank of Productive Development (Banco de Desarrollo Productivo) was created. The bank aims to finance national productive development with characteristics of solidarity; this features low interest rates, extended deadlines and other convenient conditions for financing according to the production cycle of the different productive sectors (AIPE, 2007, 41). In some rural areas, access to credit is enhanced by the presence of Private Funds for Financing (Fondos Financieros Privados in Spanish), NGOs, institutions for micro-finance, saving and credit cooperatives and associations of producers that provide credit options based on membership (AIPE 2007, 56). However, it is difficult to estimate the reach of these efforts

because in Bolivia there is no statistical information about the rural population with access to credit (AIPE 2007, 105).

Efforts from the State to support peasants and small-scale farmers also include institutions for technology transfer to these sectors, especially in the. development of miniaturization, multipurpose machines, multimedia and computer assisted technology, knowledge in agro-ecology, and efficient renewable energy systems. The application of these developments can potentially enhance local ecologies that produce food that is ecologically sustainable and culturally appropriate (Pimbert, 2006).

The National Institute for Agrarian and Forestry Innovation (INIAF) is an important entity that aims to generate technology transfers to peasants and small- scale producers. INIAF is the main site for the execution of policies related with agrarian technological innovations. The Bolivian System of Agrarian Technology (SIBTA) seeks to articulate the public with the private model conducive to the technological modernization of the agricultural, the agro-industrial and forestry sectors. However, the coverage of services such as training and technical assistance by organizations such as SIBTA is low, especially in rural areas. (Clave Consultores, 2008, 62).[19] A recent study about technology and food sovereignty indicates that INIAF has made little advances in incorporating the conception of food sovereignty into their operations; thus it is uncertain whether real advances are being made towards consolidating a system

[19] A distinguishing characteristic of technical programs is that technical training directed to small-scale producers is accompanied by training in organizational strengthening and gender. This aims to have a transversal effect in order to overcome the challenges that rural development projects entail.

that combines the latest insights from modern science with the local wisdom and knowledge of the different indigenous communities and peoples (Delgado & Escobar, 2009).

Implemented in 1982, the National Program for Seeds (PNS) seeks to improve access to seeds and establish a system of supply of quality seeds that prioritize national and heritage agricultural systems (AIPE, 2007, 53). Bolivia has opted for a largely privately organized system of agricultural research with the Bolivian System for Agricultural Technology (SIBTA in Spanish) and various institutions from civil society such as the Foundation of the Promotion and Research on Andean Products (PROINPA). PROINPA has developed research methodologies, conservation techniques and sustainable practices for the management of genetic resources at the ex-situ and in/situ level.[20] The germoplasm banks conserve genetic resources where there are more than 1760 varieties of potatoes, collections of other tubers Andean roots and grains such as quinoa which contains more than 3000 varieties. PROINPA administers and researches for the benefit of the communities by presenting the germoplasm banks for the use of the Bolivian State (Clave Consultores, 2008).The relationship between organizations such as PROINPA and the State is contrary to intellectual property regimes that considers seeds as patentable commodities and often result in monopolistic control of seeds. This form of private control over living forms and genetic resources is detrimental to small producers and family

[20] "Ex situ" includes the germoplasm banks and "in situ" entails the actions to strengthen conservation, research and management of genetic resources.

agriculture whose seeds sustain their economic and cultural life while providing with a diverse variety of healthy food for consumers.

This exemplary relationship between PROINPA and the Bolivian State occurs within a political conjuncture that represents a historical opportunity to challenge the neoliberal model. This model discriminates against small-scale producers and family agriculture that are not in the logic of an “efficient” and industrialized countryside. The implication of the neoliberal model for consumers is that food has become a mystery; “food simply appears like magic on the shelves of grocery stores, raw crops disappear from fields and go through some magical processes that turns wheat, coconut oil, and tomatoes into frozen pizza treats” (Desmarais, 2009, 39) A radically different model envisions a reality with food sovereignty in which markets for local consumption are supplied with locally-produced, nutritious and agro-ecological food.

3.6 The School Breakfast Program and the Sale of Food in Schools

One promising example of a state implementation of the food sovereignty model is exhibited in the free School Breakfast program which provides a ration of food to all students in El Alto public schools. According to the Ministry of Economy and Public Finances, the coverage of the School Breakfast program at the national level increased from 35 percent of the municipalities in 2004 to 88% in 2008. While coverage is still not universal, the largest coverage is found in urban centres covering almost 91 percent of the students while La Paz is the department with the highest coverage (Bolivia Nutrinet, 2009). The nutritional

recommendations of the school breakfast program demand a variety of food products for a balanced diet, and facilitate the promotion of native and nutritious food products for the school breakfast. In the schools of El Alto, native food products that are present in the School Breakfast program are the “quispiña”, a traditional food from the highlands that is elaborated from quinoa, corn and cheese. For the elaboration of the food products such as bread and cookies for school breakfast in El Alto, fortified flour based on cañahua, soy, barley and quinoa is used. In El Alto, an example of what the school breakfast might include in a week includes: on Monday hot milk with fortified bread using native grains, on Tuesday yogurt with bananas, on Wednesday, hot milk with fortified cookies, on Thursday yogurt and banana, and on Friday milk with fortified bread.

One study that focuses on one school in EL Alto (Unidad Educativa Piloto de Intervida) identified that challenges to bring native and nutritious food into the school breakfast program include the lack of regulation and enforcement of the nutritional requirements and the quality of the food (CEBIAE, 2008c). Other limitations for the school breakfast program that have been evidenced in urban areas include insufficient hygiene in the preparation of food, difficulties in accessing water in the schools and lack of variety in the menu (Bolivia Nutrinet, 2009). A study conducted in a number of municipalities by the Federation of Municipal Associations of Bolivia (Federacion de Asociaciones Municipales de Bolivia FAM) indicates that the school breakfast does not fully implement the nutritional recommendations. The study indicates that geographical dispersion of

schools, budgetary limitations and delays in payments are difficulties that confront the distribution of the school breakfast program (FAM Bolivia, 2008).

Employing native food from the highlands in the school breakfast in El Alto can target the high rates of malnutrition in schools and structural factors such as the lack of development of urban markets for native food. The potential of the School Breakfast to generate productive opportunities for local producers is evident, as the Supreme Decree No 28136 "*Compro Boliviano*" in its article 7 establishes: "in the contracts of food destined to school breakfast and to nutritional programs, the food employed must be elaborated with national products" (AIPE 2007. 51). Institutions such as the Association of Institutions for the Promotion of Education (AIPE), the Program of Support to Municipal Development (Programa de Apoyo al Desarrollo Municipal PADEM) and FAM highlight the importance of the school breakfast program as a very significant program in the revitalization of consumption of native and nutritious food in urban centers.

AIPE elaborated a draft bill which includes a public policy proposal for the School Breakfast program. This proposal emphasizes the promotion of local production for the School Breakfast programs. Implementing this proposal can form ample markets for food produced locally in alignment with the appropriate ecological zone is a move towards food sovereignty. The draft bill for the School Breakfast refers specifically to food sovereignty in the framework of ecological production and the right of all Bolivians to the Human Right to Adequate Food. For the city of El Alto, the proposal includes a menu for urban areas of the

Bolivian highlands highlighting the nutritional value of each menu; the menus include mixes of Andean beverages, cereals and vegetables (AIPE, 2007b).

The School Breakfast program is a non-market alternative that can represent an integrated solution for producers of native food from the highlands and consumers in need to improve their nutritional status in urban centres. The possibilities of expanding the School Breakfast program in El Alto to also include school lunch has been articulated in AIPE's School Breakfast proposal. Providing nutritious food for lunch to students while in school could also decrease the consumption of junk food in schools. However given the budgetary limitations of the School Breakfast program, the proposal currently contemplates a school lunch for students exhibiting levels of extreme poverty, which runs the risk of stigmatizing students for their economic conditions.

This study has considered that the sale of native and nutritious food in the school system of El Alto is an important action to revitalize the consumption of native, nutritious and agro-ecological food as well as rural development. However, an unintended consequence of the School Breakfast programs is that because the school breakfast provides a ration of food to students, the food vendors in the focus group highlighted that some parents reduce the amount of money that they give to their children for food consumption in school to only 0.30Bs. With this amount, it is nearly impossible to afford the native and nutritious food products at the costs outlined in table 4.

Another consequence of the school breakfast program for the sale of food in schools is that it affects the demand for bakery food products in schools. The

food vendors affirmed in the focus group that at the primary level the presence of bakery products in the School Breakfast program affects the demand for bakery products available for sale. Therefore the native food products in the bakery category of Table 4 such as: cookies made of quinoa, cañahua, amaranth, tarhui or soy; or cakes made out of quinoa, amaranth or oats; or the candy cakes made out of quinoa, oats, coca, cañahua or amaranth, would be unviable to incorporate in the sale of food since its demand is supplanted by bakery products provided by the school breakfast program. The food vendors however indicated that the demand of bakery products at the secondary level does not get affected by the daily presence of bakery products in the school breakfast program. The school vendors explained that this happens because teenagers eat more and require more energy than children, therefore their demand for bakery products does not get affected by the school breakfast program.

3.7 Conditions for food vendors

Increasing the sale of native food products by expanding the supply of native food products in the sale of food in schools (such as the native food products presented in table 4) depends on the expansion of spaces where food vendors can more easily negotiate with local enterprises the purchase of native food products at prices that can be sold in schools. The few native food products that are currently sold by school vendors are available in the market places; however the remaining native food products in table 4 are sold by local companies in amounts requested by the clients; these food products are not easily found in the market places. In the city of El Alto, the producers of native

food products presented in table 4 are local enterprises that belong to the Bolivian Association of Organizations of Ecological Producers. These include small-scale local enterprises such as the Food Sector of the Ancestral Community of Millenary Heritage, Granos de Oro, Alimentos Nutritivos Naturales, Productos Alimenticios Valeisa, Industrializadora de Alimentos Ecologicos Inaleco-Carnavi, Nutrisoya Delicia, Productos Cocinero. These enterprises sell their foods in food fairs, food stores in La Paz and they produce food to meet specific client requests at the prices presented in table 4.

Introducing a supply of native and nutritious food for sale in schools would depend on the vendors purchasing these food products from each individual enterprises, using available resources and time. The food vendors, who despite of having indicated in the focus groups that they would be interested in negotiating the purchase of native food products with local enterprises, do not work solely on selling food to the students. The food vendors are also the caretakers of the school and they are responsible for cleaning all the school facilities. The multiplicity of activities that food vendors carry out and their limited income demands that options to be considered for their eventual sale must have the certainty to be sold.

Replacing the current supply of junk food with native and nutritious food products faces the additional problem of local competition through the ubiquitous sale of non-nutritious food in approximately 5 or 7 stores in close proximity to the schools. The school food vendors indicated that withdrawing the junk food products in table 3 from the sale would simply lead the students to buy these

products outside the schools. In the focus group, the school food vendors indicated that there are existing tensions between them and the food vendors in the stores outside the schools. These tensions arise as the vendors in the stores outside the schools perceive the vendors in the kiosks inside as being in a privileged position. The latter have increased access to the school market within the schools and have an extra income due their position as caretakers and as concierges.

3.8 Attempts to Increase the Consumption of Native Food in the Educational Community

The low levels of consumption of native food and the preference of energy dense food with low nutritional value are the main targets of the project Revitalizing the Consumption of Native and Nutritious Food in El Alto, La Paz, carried out by the Bolivian Center for Research and Educative Action (CEBIAE) with support of HEIFER International. This project aims to incorporate Food and Nutritional Education “Educacion Alimentaria Nutritional” in the school system in El Alto. This is regarded as a strategy from educational settings that contributes to prevent and confront the problems linked with malnutrition, obesity and inadequate diets. The project aims to promote policies oriented to the production, transformation and commercialization of native and nutritious food that can supply local urban markets and contribute towards food sovereignty. The strategy implies a series of educational actions that involve participation from the educational community conformed by teachers, students and parents. Actions include the incorporation of a food sovereignty curriculum, carrying out

nutritional fairs in schools where native food from the highlands is cooked and presented to the community for degustation and information, theatre and graffiti contests where students present issues of food sovereignty and the Human Right to Adequate Food, CEBIAE distributes monthly publications, conducts radio program and elaborates “cunas radials” (musical segments for the radio) with information about the state of nutrition in the educational community, the discussion of food sovereignty and forms to improve food consumption habits.

School directors regularly pressure food vendors to sell nutritious food to the students as alternatives to the popular, but energy dense and junk foods. One point of contention is a pasta soup, or “sopa de fideos”, a meal highly demanded by the students consisting of noodles, chilli sauce and rice. This is a combination that provides high levels of energy, but the low levels of protein and high levels of carbohydrates make this combination highly unbalanced, especially when it is consumed by students on a daily basis. The food vendors indicated that when they have tried to introduce a more nutritious option than the noodle soup, for instance a quinoa or lentil soup, only the teachers consumed it. Some of the vendors mentioned that they normally incorporate vegetables into the noodle soup by adding celery and parsley, something that costs the vendors only 2 Bs per week which makes the soup slightly more nutritious, without being enough to make it a balanced and nutritious meal. All the food vendors indicated that noodle soup is what children prefer to eat and that efforts to replace this have always failed.

To face this reality, this thesis attempts to contribute towards understanding the factors that affect the revitalization of native and nutritious food in urban settings. This thesis seeks to contribute to this understanding and empower the educational community in their efforts to incorporate Food and Nutritional Education “Educacion Alimentaria Nutricional” in the school system of El Alto. The findings from this thesis are part of a public policy proposal that seeks to regulate the sale of food in schools and incorporate food sovereignty and the Human Right to Adequate Food in the school system in El Alto[21].

[21] This public policy proposal is entitled: Seguridad Alimentaria Nutricional, Soberania Alimentaria y Derecho Humano a la Alimentacion Adequada en la gestion edcuativa del gobierno local de El Alto: Propuesta Linemientos de Politica: Documento para negociacion.

4: CONCLUSION

The contradictory reality, in which alarmingly high levels of malnutrition coexist with increasing levels of obesity in El Alto, Bolivia, is a symptom of the "nutrition transition" in which consumers are departing from their traditional diets increasingly eating energy dense foods, with low nutritional value. While the increase in processed food imports in recent decades of trade liberalization can be linked to changes in dietary patterns, the new regime which explicitly aims to dismantle the neoliberal state through the New Constitution of the Bolivian State and through the National Development Plan can facilitate actions leading towards food sovereignty in the countryside, and ensure that consumers in urban settings, including schools, have access to an increased supply of native and nutritious food for sale at prices that are affordable. Significant non-market initiatives that can ensure access to an increased supply of native and nutritious food include government support for farmers and small-scale local producers, the school breakfast program and the possibility to extend it into a school lunch program as well as policies that regulate the sale of food in schools.

Through revitalizing the consumption of native, nutritious and agro-ecological food, this thesis proposes food sovereignty as a way to counteract the "nutrition transition" in urban settings and promote rural development. The thesis has examined local and structural factors that affect the sale of native, nutritious and agro-ecological food across seven schools in the city of El Alto. El Alto is the

city in Bolivia with the highest percentage of overweight and obesity while the levels of malnutrition in children reach 38%. This contradictory reality is associated with the overwhelming amount of junk food for sale, particularly inside schools where the sale of food is almost entirely dominated by junk food.

While the simple provision of nutritional supplements could counteract some of the nutritional problems in schools, a food sovereignty approach has the potential to be a more appropriate strategy. With all its economic, social and political complexities, a food sovereignty approach targets the structural problems of rural development and lack of development of urban markets that are linked to the prevalence of junk food and the unavailability of native, nutritious and agro-ecological food in schools. Thus, food sovereignty allows visualizing the factors that can bring about the long- term viability of a supply of local, nutritious and agro-ecological food to local urban settings such as schools. In addition, a food sovereignty approach could reduce dependence on imports while contributing to the generation of income opportunities for farmers and local producers allowing them to have a life with dignity.

The revitalization of the consumption of food with a strong cultural and idiosyncratic base in urban settings is a fundamental aspect for rural development linked to food sovereignty (Nuñez del Prado, 2009). However, efforts at revitalizing the consumption of native and nutritious food in the context of urban schools in El Alto face local and structural limitations. These limitations are conceived as obstacles to advancing towards a reality with food sovereignty that visualizes a supply of native, nutritious and agro-ecological food.

The consumption of native and nutritious food in urban schools is overshadowed by the overwhelming supply of cheap junk food, with low nutritional value and detrimental health effects. Since most of the families in El Alto have very low incomes, parents give students an average of 1 Bs to buy food per day. Since students normally expect to buy two or more products with 1Bs, and given the high levels of poverty and low incomes, the purchasing power of the students is very limited. The consumer cost of native food products in the market of El Alto is generally of 1B, a price that is inaccessible for most students Thus, revitalizing the consumption of native and nutritious food in schools requires policies that make local and native food products affordable and increasingly accessible to students. Doing so needs policies and institutional mechanisms that can control contraband in food, support small scale producers and farmers with subsidies and credit, and create of mixed market and non market-based initiatives that introduce competitive native food products in the sale of food in schools, regulate the sale of food products in schools, and created integrated solutions for producers and consumers through the school breakfast program and possibly through a school lunch program.

. The revitalization of food that is healthy and nutritious requires policies oriented to address the lack of existing regulation, safety and monitoring systems for the sale of food products in schools, a lot of which enters the country through contraband and therefore places local producers at a disadvantage. These policies need to guarantee that food products are healthy for consumption and that its production is based on agro-ecological methods. Therefore a public

policy framework that addresses the lack of native, nutritious and agro-ecological food in schools must give priority to investment in family agriculture and agro-ecological development, promoting state support for farmers and local enterprises oriented to local consumption and ensuring farmers access to water, land and seeds. The institutional limitations to effectively address these issues are important challenges for the revitalization of regional and local food chains that supply urban markets with native, nutritious and agro-ecological food.

Although native foods from the highlands are physically available in the market places nearby the schools, and while these foods are physically available in the household of parents and teachers, the amount of native food from the highlands consumed by teachers, parents and students is very low. The few native products in the existing sale of food in schools are mostly consumed by parents and teachers, but not by students. The prevailing presence of energy-dense food for sale such as pasta or junk food with colourful packages affects the consumption of native and nutritious foods. Specially, the consumption of junk food affects the habits of children as these value-added food products high in sugar complement their recreation experience in their awaited break between classes. Challenging the consumption of junk food requires a supply of native and nutritious food that is appealing to children; this is a process that needs to be accompanied by increasing awareness and education about the importance of consuming food that is native, nutritious and agro-ecological. Attempts to revitalize the consumption of native and nutritious food in the educational system in El Alto are underway. CEBIAEs project: “Revitalizing the Consumption of

Native and Nutritious Food in EL Alto La Paz" considers that incorporating the sale of native and nutritious food requires an educational process that raises awareness in educational settings about the significance of food sovereignty and the importance of consuming food based on Andean cereals and vegetables. This process of raising awareness through the implementation of a food sovereignty curriculum, food fairs of native and nutritious food and other educational initiatives needs to be accompanied by the necessary municipal policies that regulate the sale of food inside the schools and in the peripheral areas of the schools. Regulation in the sale of food in the stores outside the schools is necessary because if the sale of junk food in schools is replaced with native food products, the junk food would still be available in the stores outside the school, which would place food vendors inside schools at a disadvantage. CEBIAE is currently developing a public policy proposal for the incorporation of Food Security, Food Sovereignty and the Human Right to Adequate Food as an attempt that exists towards regulating the sale of food in the educational system of El Alto[22].

While the sale of food in schools in El Alto has not received any attention by the State or by the work of civil society actors other than CEBIAE, organizations such as AIPE have addressed the School Breakfast program as a way to address the nutritional problems in schools while promoting food

[22] SAN, SOBAL y DHAA en la gestión educativa del gobierno local de EL Alto: Propuesta lineamientos de política, documento para negociación.

sovereignty through enabling local markets for local production.[23] This important program needs to consider the possibility of expanding into a school lunch program and improve the institutional mechanisms at the local level in order to enforce the recommended nutritional requirements as well as to monitor the quality of the food.

The school breakfast program has consequences for the sale of food in school. The regular presence of bakery products in the school breakfast program affects the demand of bakery products for sale at the primary level, but not at the secondary level. At the secondary level, the demand for bakery products remains high even though there are bakery products in the school breakfast, this occurs because at the secondary level teenagers seem to require more energy than younger children. An unintended consequence of the school breakfast program is that some parents reduce the amount of money that they give to their children for food consumption; this leaves the student with an amount so little that it becomes impossible to afford the cost of food that is native and nutritious. Since the school breakfast is not designed to a supplementary program, but rather a complementary nutritional program, the policies of the school breakfast program have the challenge of ensuring that parents do not reduce the amount of money they give their children to buy food in school

[23] Asociación de Instituciones de Promoción y Educación AIPE. Propuesta de Política Pública Nutricional para el Desayuno Escolar. AIPE. Bolivia, 2007.

Revitalizing the consumption of native and nutritious food requires the necessary spaces of negotiation between food vendors and local enterprises in order to increase the supply of native and nutritious food products in schools at affordable prices. Since food vendors have a multiplicity of duties and since their incomes are very low, their purchase agreements can only based on the certainty that what they purchase must get consumed by the students quickly.

The sale of native and nutritious food products in schools is an action that could help counteract the “nutrition transition”, however the current supply of food in schools that is native and nutritious is minimal and does not address the nutrition transition. Restabilising the consumption of native and nutritious food through mixed market and non-market based initiatives can give priority to agricultural development for food sovereignty, aiming to balance the supply of local food with local demand. According to advocates for food sovereignty, envisioning a reality in which markets for local consumption are supplied with locally-produced, nutritious and agro-ecological food is an act of resistance against the corporate food regime that has destroyed soils, biodiversity and water sources by treating a biological phenomenon like food with market logic (Nunez de Prado, 2009). This thesis concludes that crystallizing schools as agents of food sovereignty through revitalizing the consumption of native, nutritious and agro-ecological food need to address local and structural factors. The findings from this thesis aim to support the empowerment of the educational community of districts 2 and 3 in their public policy proposal towards the inclusion of Food

Sovereignty and the Right to Adequate Food in the educational work of the local government in El Alto (CEBIAE 2009c).[24]

[24] Propuesta de Política Publica para la inclusión de la SAN, SOBAL y el DHAA en el gobierno de El Alto. (CEBIAE, 2009c).

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APPENDICES

Appendix 1: Survey to parents and teachers of the educational community

Proyecto: ***Restableciendo el Consumo de Alimentos Nativos en El Alto, La Paz***

ENCUESTA

Nombre de la unidad educativa: _____

Datos del encuestado/a

Hombre ( ) Mujer ( )

Edad: _____

Docente ( ) Madre de Familia ( ) Padre de Familia ( )

Procedencia:

Localidad _____ Provincia: _____ Departamento: _____

Número de miembros de su familia: _____

¿Cuál es el ingreso promedio mensual de la familia?

Menos de Bs 300 ( )
Bs 300 a Bs 600 ( )
Bs 600 a Bs 900 ( )
Bs 1000 a Bs 1300 ( )
Bs 1300 a Bs 1600 ( )
Más de Bs 1600 ( )

A. Indicate which of the following are available at your household

a. Cañahua ( )
b. Quinua ( )
c. Amaranto ( )
d. Tarhui ( )
e. Chuño ( )
f. Tunta ( )
g. Papas ( )
h. Habas ( )
i. Avena ( )
j. Cebada ( )
k. Oca ( )
l. Papaliza ( )
m. Ajipa ( )
n. Caya ( )
o. Izaño ( )
p. Arveja ( )
q. Cebolla ( )
r. Carne de res u oveja ( )

s.	Carne de pollo	( )
t.	Corazón	( )
u.	Riñón	( )
v.	Hígado	( )
w.	Panza	( )
x.	Charque	( )
y.	Salchicha	( )
z.	Apanado de silpancho	( )
aa.	Hueso blanco	( )
bb.	Atún	( )
cc.	Sardina	( )
dd.	Huevo	( )
ee.	Queso	( )
ff.	Lenteja	( )
gg.	Trigo	( )
hh.	Arroz	( )
ii.	Fideo	( )
jj.	Plátano	( )
kk.	Naranja	( )
ll.	Mandarina	( )
mm.	Manzanas	( )
nn.	Zanahoria	( )
oo.	Repollo	( )
pp.	Lechuga	( )
qq.	Rabanito	( )
rr.	Tomate	( )
ss.	Acelga	( )
tt.	Espinaca	( )
uu.	Beterraga	( )

Appendix 2: Physical availability of native food from the highlands in the household of parents and teachers according to their monthly income

Physical availability of food in the household of parents according to their monthly income.

	Cañahua	Quinua	Amaranto	Tarhui	Chuño	Tunta	Papas	Habas	Avena	Cebada	Oca	Papaliza	Charque	Arroz	Fideo	Total
Menos de 300 Bs	2 (100%)	2(100%)	0 (0%)	0(0%)	2(100%)	2(100%)	2(100%)	2(100%)	2(100%)	1(50%)	1(50%)	1(50%)	2(100%)	1 (50%)	2(100%)	2 personas
De 300 a 600 Bs	3 (60%)	5(100%)	0(0%)	1 (20%)	5(100%)	2 (40%)	5(100%)	5(100%)	4 (80%)	2 (40%)	4 (80%)	5(100%)	5(100%)	5(100%)	4(80%)	5 personas
de 600 a 900 Bs	5 (62.5%)	5(62.5)	1(12.5%)	3(37.5%)	7(87.5)	7(87.5%)	8(100%)	7(87.5%)	8(100%)	7(87.5%)	6 (75%)	5(62.5%)	8(100%)	5(62.5%)	3(37.5%)	8 personas
De 1000 a 1300 Bs	7(58.3%)	11(91.6%)	1(8.3%)	3(25%)	12(100%)	8(66.6%)	12(100%)	12(100%)	11(91.6%)	10(83.3%)	9(75%)	8(66.6%)	12(100%)	11(91.6%)	9(75%)	12 personas
De 1300 a 1600 Bs	8(53.3)	14 (93.3%)	3(20%)	4(26.6%)	11 (73.3%)	7(46.6%)	15(100%)	12 (80%)	15(100%)	11(73.3%)	10(66.6%)	9(60%)	13(86.6%)	15(100%)	11(73.3%)	15 personas
Más de 1600 Bs	12(42.8%)	21(75%)	4(14.2%)	9(32.1%)	26(92.8%)	17(60.7%)	28(100%)	27 (96.4%)	22(78.5%)	15(53.5%)	16(57.1%)	16(57.1%)	27(96.4%)	28(100%)	24(85.7%)	28 personas
No contesta	1	1	9	0	1	1	1	1	1	1	1	1	1	1	0	1 persona
Total	38	59	9	20	64	44	71	66	63	47	47	45	68	66	53	71 docentes

	Cañahua	Quinua	Amaranto	Tarhui	Chuño	Tunta	Papas	Habas	Avena	Cebada	Oca	Papaliza	Charque	Arroz	Fideo	Total
Menos de 300 Bs	13 (65%)	16 (80%)	2 (10%)	6 (30%)	17 (85%)	11(55%)	19 (95%)	17 (85%)	14 (70%)	18 (90%)	12 (60%)	13 (65%)	16 (80%)	18 (90%)	11 (55%)	20 personas
De 300 a 600 Bs	41 (63%)	50 (76.9%)	9 (13.8%)	19 (29.2)	58 (89.2)	43 (66.1%)	62(95.3%)	54(83%)	49 (75.3%)	48(73.8%)	42 (64.6%)	44 (67.6%)	62 (95.3%)	61 (93.8%)	55 (84.6%)	65 personas
de 600 a 900 Bs	21 (58.3%)	29 (80.5%)	5(13.8)	8 (22.2%)	31 (86.1%)	24 (66.6%)	36 (100%)	34 (94.4%)	31 (86.1%)	26 (72.2%)	22 (61.1%)	19 (52.7%)	36 (100%)	34 (94.4%)	30 (83.3%)	36 personas
De 1000 a 1300 Bs	20 (74%)	22 (81.1%)	2 (7.40%)	8 (29.6%)	26 (96.2%)	24 (88.8%)	26 (96.2%)	25 (92.5%)	25 (92.5%)	20 (74%)	17 (62.9%)	17(62.9%)	24 (88.8%)	27 (100%)	26 (96.2%)	27 personas
De 1300 a 1600 Bs	6 (75%)	7 (87.5%)	1 (12.5%)	2 (25%)	8 (100%)	7 (87.5%)	8 (100%)	8 (100%)	6 (75%)	5 (62.5%)	6 (75%)	5 (62.55%)	7 (87.5%)	8 (100%)	8 (100%)	8 personas
Más de 1600 Bs	4(40%)	10 (100%)	2 (20%)	2(20%)	10(100%)	7(70%)	10 (100%)	10 (100%)	9(90%)	7(70%)	4(40%)	4(40%)	8(80%)	10(100%)	8(80%)	10 personas
No contesta	1	1	0	1	1	1	1	1	2	0	0	4	1	1	2	2 personas
																168 padres de familia

Physical availability of food in the household of parents according to their monthly income.

Appendix 3: Physical availability of food in selected market places of El Alto

a. Pito de Cañahua (x)
$1 por taza
b. Quinua (x)
$9 por 450gr
c. Amaranto ( )
No está disponible
d. Tarhui ( )
No está disponible
e. Chuño (x)
$1 montón para 4 personas
f. Tunta (x)
$1 montón para 4 personas
g. Papas (x)
$28 por una arroba
h. Habas (x)
$ 3 por una libra
i. Avena (x)
$ 3.50 por una libra
j. Pito de Cebada (x)
$1 por taza
k. Oca (x)
$8 y deshidratada $9
l. Papaliza (x)
$1 por una libra
m. Ajipa ( )
No está disponible
n. Caya ( )
No está disponible
o. Izaño (x)
$1 por ½ libra
p. Arveja (x)
$2 por una libra
q. Cebolla (x)
$
r. Carne de res u oveja (x)
$24 por 1 kilo de chuleta
$38 por una pierna de res
s. Carne de pollo (x)
$12.50
t. Corazón (x)
$ 20 la unidad
u. Riñón ( )
No está disponible
v. Hígado (x)
$ 20 por un kilo
w. Panza (x)
$20 por un kilo
x. Charque (x)
$13 para 5 personas
y. Salchicha (x)
$20 por un kilo
z. Apanado de silpancho (x)
$10 por ½ libra
aa. Hueso blanco (x)
$1 por dos huesos
bb. Atún (x)
$3.50 por una lata
cc. Sardina (x)
$9 la lata grande
dd. Huevo (x)
$55 cada unidad
ee. Queso (x)

$11 por la unidad

ff. Lenteja (x)
$ 6 por una libra

gg. Trigo (x)
$ 3 por una libra

hh. Arroz (menudo) (x)
$1.50 por una libra

ii. Fideo (x)
$3.50 la libra

jj. Plátano (x)
$25 por 6 unidades

kk. Naranja (x)
25 naranjas por $6

ll. Mandarina (x)
25 mandarinas por $10

mm. Manzanas (x)
8 manzanas por $5

nn. Zanahoria (x)
$2por una libra

oo. Repollo (x)
$2 por cada unidad

pp. Lechuga (x)
$1 por un ramo

qq. Rabanito (x)
2 por $1.50

rr. Tomate (x)
$1.50 por libra

ss. Acelga (x)
$2 por ½ libra

tt. Espinaca (x)
$1 por ½ libra

vv. Beterraga (x)
$1 para 3 personas

Appendix 4: Nutritional Contribution of the Supply of Food Products for Sale in the Educational Community

Preparation	PRODUCTS	Quant.	Kcal.	Prot (g)	Lip (g)	Glu (g)	Fiber	Ca (mg)	Fe (mg)	Zn (mg)	A (mcg)	B_1 (mg)	B_2 (mg)
INFLATED PRODUCTS	QUESITOS DE MAIZ	24,00	124,15	2,52	6,14	14,69	0,74	35,45	3,60	0,00	5,56	0,00	0,00
	PALOMITAS DE MAIZ	43,00	171,66	1,68	0,17	40,85	0,69	17,85	4,90	0,00	0,00	0,00	0,00
	BOCADITOS DE CHOCOLATE	43,00	171,27	7,78	2,02	30,49	0,00	47,73	3,40	0,00	93,74	0,05	0,09
	PIPOCAS DE MAIZ	20,00	79,84	0,78	0,08	19,00	0,32	8,30	2,28	0,00	0,00	0,00	0,00
	PAPAS FRITAS	9,00	47,27	0,11	2,55	5,97	0,14	9,36	0,07	0,00	0,00	0,00	0,00
	FRITURAS		#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
		8,00	71,49	0,02	7,94	0,00	0,00	0,40	0,06	0,00	0,24	0,00	0,01
BAKERY PRODUCTS	GALLETAS MINI KRACRER	36,00	164,66	4,43	4,82	25,88	0,76	0,00	0,00	0,00	0,00	0,00	0,00
	G. GAUCHITAS	85,00	368,90	9,35	8,50	63,75	2,96	0,00	0,00	0,00	0,00	0,00	0,00
	G.CHOCOLATE	34,00	154,72	2,90	4,25	26,21	0,71	0,00	0,00	0,00	0,00	0,00	0,00
	PALITOS DE TARHUI	28,00	136,47	12,56	6,48	6,99	12,69	60,20	4,96	0,00	0,28	0,00	0,00
	DONAS	34,00	163,02	2,36	8,28	19,76	39,13	18,70	1,70	0,00	0,00	0,00	0,00
	EMPANADA DE QUESO	33,00	116,88	3,19	0,71	24,44	0,61	53,79	0,79	0,00	0,00	0,03	0,16
	FRITURA CON RELLENO	26,00	124,66	1,80	6,33	15,11	29,92	14,30	1,30	0,00	0,00	0,00	0,00
CEREALS	TOSTADO DE HABA	24,00	91,84	5,58	0,42	16,44	8,17	38,16	1,92	0,00	0,00	0,04	0,10
	TOSTADO DE ARVEJA	12,00	13,56	3,10	0,13		0,92	14,28	0,17	0,00	0,00	0,02	0,03
	MANI CONFITADO	5,00	19,98	0,00	0,00	4,99	0,00	0,00	0,00	0,00	0,00	0,00	0,00
		10,00	60,12	2,43	4,34	2,85	2,22	5,30	0,32	0,00	0,00	0,01	0,01
BEVERAGES	TAMPICO (ESENCIAS)	5,00	19,98	0,00	0,00	4,99	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	CASCAFRUT	5,00	19,98	0,00	0,00	4,99	0,00	0,00	0,00	0,00	0,00	0,00	0,00

Preparation	PRODUCTS	Quant.	Kcal.	Prot (g)	Lip (g)	Glu (g)	Fiber	Ca (mg)	Fe (mg)	Zn (mg)	A (mcg)	B_1 (mg)	B_2 (mg)
REFINED SWEET PRODUCTS	CULEBRITAS	5,00	19,98	0,00	0,00	4,99	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	BOMBOMBUM	16,00	63,23	0,00	0,00	15,81	0,00	1,60	0,14	0,00	0,00	0,00	0,00
	CARAMELO CHUPON	10,00	39,52	0,00	0,00	9,88	0,00	1,00	0,09	0,00	0,00	0,00	0,00
	CARAMELO VERY	10,00	39,52	0,00	0,00	9,88	0,00	1,00	0,09	0,00	0,00	0,00	0,00
	CHICLES	5,00	19,98	0,00	0,00	4,99	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	MASTICABLES	20,00	77,20	0,24	0,08	18,88	0,08	12,40	0,50	0,00	0,00	0,00	0,00
	CHUBIS	10,00	39,96	0,00	0,00	9,99	0,00	0,00	0,00	0,00	0,00	0,00	0,00
		10,00	47,85	0,43	1,77	7,56	0,72	5,20	0,84	0,00	1,80	0,01	0,02
	GELATINA	124,00	495,69	5,20	0,98	116,52	0,00	57,04	2,11	0,00	73,16	0,00	0,00
VARIETIES OF CHOCOLATES	CHOCOPALETON	20,00	132,80	0,80	2,40	27,00	1,33	0,00	0,60	0,00	0,00	0,00	0,00
	GOLAZO	26,00	129,22	1,56	6,50	16,12	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	KILATE	20,00	108,14	0,92	6,14	12,30	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	HACKER	20,00	103,60	0,80	5,20	13,40	1,86	0,00	0,00	0,00	0,00	0,00	0,00
	CHOC Y ALMENDRAS	17,00	99,38	0,83	5,81	10,93	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	WAFFER BOMBOM	27,00	144,94	1,81	8,10	16,20	1,88	0,00	0,00	0,00	0,00	0,00	0,00
	KILOMBO	42,00	220,88	1,81	11,72	27,05	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	CHOC.DEDON	16,00	76,55	0,69	2,83	12,09	1,15	8,32	1,34	0,00	2,88	0,02	0,03
	BOMOBOM	16,00	51,67	0,38	1,01	10,27	2,07	24,64	0,43	0,00	4,16	0,00	0,00

Appendix 5: Observations of the supply of food products available for sale in schools

Note: The native and "most nutritious" food products are highlighted

Preparation	PRODUCTS	Observations
INFLATED AND FRIED PRODUCTS	QUESITOS DE MAIZ	Excess of colorant
		Does not have sanitary registration
		Does not include information about the product´s weight
		Does not include information about place of origin
		Does not include nutritional information
		Does not include information about storage
		No indication as to whether the colorants are authorized
	PALOMITAS DE MAIZ BOCADITOS DE CHOCOLATE PIPOCAS DE MAIZ	Does not include labels
		Does not include information about the product´s weight
		Does not include information about place of origin
		Does not include nutritional information
		Does not have sanitary registration
		Does not include nutritional information
		Does not have sanitary registration
		No indication as to whether the colorants are authorized
		Does not include information about storage
	PAPAS FRITAS	Does not include labels
		Does not include information about the product´s weight
		Does not include nutritional information
		Does not have sanitary registration
		Does not include information about place of origin
		It is unknown if the oil employed has been reused
	FRITURAS	Does not include labels
		Does not include information about the product´s weight
		Does not include nutritional information
		Does not have sanitary registration
		Does not include information about place of origin
		It is unknown if the oil employed has been reused
		No indication as to whether the colorants are authorized

Preparation	PRODUCTS	Observations
		The weight indicated in the package is 40 gr, but the real weight is 36 gr.
	GALLETAS MINI KRACRER	Possibly the product was elaborated based on transgenic food products (i.e. soy flour)
	G. GAUCHITAS	Possibly the product was elaborated based on transgenic food products (ie. soy flour)
	G.CHOCOLATE	The weight indicated in the package is 40 gr, but the real weight is 34 gr. Does not include information about the product´s weight
		Does not include nutritional information
		Does not include information about storage
	PALITOS DE TARHUI	No indication as to whether the colorants are authorized
	DONA	Does not include information about place of origin
		It is unknown whether the product is innocuous or not
		It is known if the product fulfils the current regulation for bakery products
		Does not have sanitary registration
		Does not include information about the place of origin
		It is unknown whether the product is innocuous or not
		It is known if the product fulfils the current regulation for bakery products
		Does not include nutritional information
	EMPANADA DE QUESO	Does not have sanitary registration
BAKERY PRODUCTS	FRITURA CON RELLENO	Does not include information about place of origin
		It is unknown whether the product is innocuous or not
		It is known if the product fulfils the current regulation for bakery products
		Does not have sanitary registration
	TOSTADO DE HABA	Does not include information about place of origin
		It is unknown whether the product is innocuous or not
		Weight is not indicated in the package, but the real weight is 24gr.
		Does not have sanitary registration
		Se desconoce la procedencia
		Does not include nutritional information
		Se desconoce las medidas de inocuidad en su elaboración
CEREALS	TOSTADO DE ARVEJA	Does not include information about the product´s weight, but the real weight is 10gr.

Preparation	PRODUCTS	Observations
		Does not include information about the product´s weight, but the real weight is 19 gr
	MANI CONFITADO	Does not have sanitary registration
	MANI EN BLOQUE PEQUEÑO	Does not include information about place of origin
		No indication as to whether the colorants employed are authorized
	TAMPICO	
		No indication as to whether the colorants employed are authorized
BEVERAGES	CASCAFRUT	
		The weight indicated in the package is 18 gr, but the real weight is 12 gr.
		Does not include nutritional information
		No indication as to whether the colorants employed are authorized
		Does not have sanitary registration
	CULEBRITAS	
		The weight indicated in the package is 21 gr, but the real weight is 17 gr.
		Does not include nutritional information
		No indication as to whether the colorants are authorized
		Does not have sanitary registration
	BOMBOMBUM	Does not include nutritional information
		No indication as to whether the colorants employed are authorized
	CARAMELO CHUPON	Does not have sanitary registration
		Does not include nutritional information
		No indication as to whether the colorants employed are authorized
		Does not have sanitary registration
		The product is apparently made in Bolivia, but it´s package indicates Made in China
	CARAMELO VERY	
		Chiclets : The weight indicated in the package is 2.8 gr, but the real weight is 2 gr.
		Bazooka : The weight indicated in the package is 4 gr, but the real weight is 3.2 gr.
		Tumix : The weight indicated in the package is 3 gr, but the real weight is 2 gr.
REFINED SWEET PRODUCTS	CHICLES	Buble gum: Weight is not indicated in the package, the real weight is 1.5 gr.

Preparation	PRODUCTS	Observations
VARIETIES OF CHOCOLATES	MASTICABLES	Banana: Weight is not indicated in the package, the real weight is 1.6 gr. Barbie: Weight is not indicated in the package, the real weight is 2 gr.
		Minichicle: Weight indicated in the package is 14 gr, but the real weight is 14 gr.
		Mahadem: The weight indicated in the package is 5 gr, but the real weight is 3 gr.
		Lubagomabomabum: Weight is not indicated in the package, the real weight is 2 gr.
		Gomutcho (yogurt): The weight indicated in the package is 40 gr, the real weight is 43 gr.
		Wacky: Does not include nutritional information
		No indication as to whether the colorants employed are authorized
		Does not have sanitary registration
		Pequeños masticables: Weight is not indicated in the package, the real weight is 1.2 gr.
	CHUBIS	Chubi: The weight indicated in the package is 12 gr, but the real weight is 11.5 gr
		Fruity Gels: Weight is not indicated in the package, the real weight is 124 gr.
	GELATINA	Fruits jelly: Weight is not indicated in the package, the real weight is 9 gr
	CHOCOPALETON / MUSTAFA	The weight indicated in the package is 20 gr, but the real weight is 20 gr
	GOLAZO	The weight indicated in the package is 26 gr , but the real weight is 27 gr
	HACKER	The weight indicated in the package is 20 gr, but the real weight is 21 gr
	CHOC Y ALMENDRAS (Sahne Russ)	The weight indicated in the package is 17 gr, but the real weight is 19 gr
	WAFFER BOMBOM	The weight indicated in the package is 27 gr, but the real weight is 27 gr
	KILOMBO	The weight indicated in the package is 42 gr, but the real weight is 40 gr
	CHOC.DEDON	The weight indicated in the package is 16 gr but the real weight is 16 gr
	BOMOBOM	The weight indicated in the package is 16 gr, but the real weight is 14 gr
	NUCITA	Does not include information about place of origin
		Peregrino:.
		Does not have sanitary registration
		Does not include nutritional information
	CRAGEAS CHOCOLATE	Mastigabel:

Preparation	PRODUCTS	Observations
		Does not have sanitary registration
		Does not include nutritional information
		Does not include information about place of origin
		Stick:
		Does not have sanitary registration
		Does not include nutritional information
		Does not include information about place of origin