



Perception of Household Food Security of the San Francisco Libre municipality, Managua 2014-2016

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SUMMARY

The study on the perception of food security is a contribution to the analysis of Food and Nutrition Security from the local level to identify the risk and most vulnerable groups. The research was descriptive, observational where we examined the socio-demographic characteristics of the heads of household, access, and consumption of food in the home, and the food sufficiency of households in the communities: Las Delicias, San Roque, and La Huertas and of the urban area of the departmental head of the municipality. Among the main results, 78% of the heads of the household are men, 52% are farmers and their family nucleus is made up of 4.2 members. 86% of households have food insecurity due to a lack of access to food in adequate quantity and quality to have a healthy life during the period studied. With a greater degree of severity in levels (mild and moderate insecure), with one third respectively of urban and rural households. This shows that households have experienced uncertainty and concern about the lack of food even hunger due to lack of money and resources

to access food in sufficient quantity and adequate quality to enjoy a healthful diet. The level of energy sufficiency is critical for 40% of households and poor food sufficiency levels for 20% of rural and urban households in the municipality.

1. INTRODUCTION

Nicaragua through the Instituto Nacional de Información de Desarrollo (National Development Information Institute) has had as a habit to measure the population's food needs based on income/expenditure surveys to determine food consumption, are managed from a framework of expenses in percentages of homes. While they have all the technical conditions for credibility, they also remain true, that the data produced is based on economics. Surveys conducted so far, do not consider food security at home (SAH as in Spanish), and should be the mechanism to quantify the real needs and consumption of food from a vision of safe access to them at all times in quantity and quality necessary for household members to develop a healthy, productive and active life. (National Institute of Statistics and Census, 2004).

The concept of Family Food Security arises at the end of the 1980s and has remained dominant since then in theoretical debates, being progressively assumed by academic circles, and by different international organizations (FAO, World Bank, bilateral aid agencies). This approach implies a double reorientation. It takes the family as a scale and focuses on access to food, determined by the degree of socio-economic vulnerability (Carrazón, 2012).

The measurement of household experience in the face of food insecurity has been extended in all continents, particularly in Latin America and the Caribbean, based on the experiences of countries that have contributed to the emergence of the Latin American and Caribbean Scale (ELCSA) for a better understanding of the distribution, causes and consequences of household food insecurity. The ELCSA is a low cost and fast application instrument that has proven to be valid and reliable; applied with successes at the national and local levels in government surveys, academic studies and / or public opinion polls (FAO, 2012).

In Central America, 14.2% of the population is undernourished, when compared to Latin America and the Caribbean, it is 5% above the LAC average. The region is one of the most vulnerable areas in terms of undernutrition within the Americas. In the case of Nicaragua, undernutrition represents 19% of its population and chronic malnutrition in children under five years 22%. (PRESANCA II and FAO, 2011).

Thus, the study on the assessment of the perception of food security in the homes of the San Francisco Libre municipality provides evidence for the design of comprehensive interventions that contribute to improving this condition of household food insecurity and contribute to the prevention of Nutritional vulnerability by the municipality.

2. MATERIALS AND METHODS

The study, according to the initial level of depth, is descriptive and according to the observational method (Piura, 2006). According to the time of occurrence of the facts and registration of the information, it is retrospective and according to the period and sequence of the cross-sectional study (Pineda, 2008). The sample was 119 households.

The Municipality of San Francisco Libre belongs to the department of Managua and it has a territorial extension of 756 km², with a geographical position of north latitude 12°30' and longitude 85°18 west at 40 meters above sea level. The municipality occupies the third place in the territorial extension of the nine municipalities that make up the department of Managua. In particular, the Municipal District of San Francisco Libre located on the shore of Lake Managua, with the Laurel Galán region located in the north, the Telpochapa region in the central area, and the San Roque region in the South area of the municipality.

The municipality is located in the dry tropics area of Nicaragua located in the lower Pacific region with an average annual rainfall ranging from 1,000 to 1,500mm per year and has an irregular pattern characterized by a season of excess or water shortage. From the hydrological point, they have three basins that are part of the San Juan basin (Lake Managua). The soils are steep where there are numerous hills mostly of clay and clay loam type (heavy soils that have low water permeability and high retention of water and nutrients), with moderate erosion and mostly with agricultural coverage.

The municipality of San Francisco Libre is located in the most immediate circle that surrounds Managua, with a population of 10,949 inhabitants with a predominance of women. There is extreme poverty in 34% of households, with a marked incidence between Barrios and Comarcas. Some 76% of households are from the rural area (National Institute for Development Information, 2008).

The universe consisted of 1,968 households in the three regions and the urban center of the municipal seat. The urban area divided into 3 neighborhoods and the rural area with 3 regions: Las Delicias, San Roque, and La Huertas. To determine the sample size, the Mounch Galindo formula was applied for finite populations, and a sample of 119 households was obtained with a 95% confidence level and 5% sample error. The information processing was done through the statistical program SPSS Version25 for Windows.

The ELCSA scale is an instrument of indirect measurement of household food safety, low cost, which has demonstrated validity and reliability in various application channels. At the local level to the national level, it has been very successful in understanding the distribution, causes, and consequences of food insecurity in the region. It measures the degrees of severity of

food insecurity (mild, moderate, severe) and is a reliable instrument that allows to optimize and focus of early warnings on prevention policies (FAO, 2012).

The conceptual framework of Food Insecurity in the home contains four components: initially, there is anxiety and concern about food supplies; then, adjustments are made to the household budget, affecting the quality of the diet; third, adults limit the quality and quantity of food consumed; and finally, the quality and quantity of the food consumed by children are affected. To determine home insecurity, the ELCSA is made up of 15 questions (P), divided into two sections: the first one with 8 questions (P1-P8) are applicable for households with adults, and a second section (P9- P15) with questions regarding conditions that affect those under 18 in the home. Each question is aimed at inquiring about a different situation, which is why these are exclusive questions, and each of them aims to capture different issues related to the theoretical construct that supports the ELCSA. (FAO, 2012).

Informed Consent: The heads of the participating households signed the informed consent, which included the ethical principles for medical investigations in humans of the Helsinki declaration.

3. RESULTS AND DISCUSSION: TABLES AND GRAPHICS

Regarding the socio-demographic characteristics of the heads of households, 42% are married and 31% live in de facto union with their partner; 22% did not complete primary education studies and 28.2% are illiterate. The family composition comprising 4.2 people and 66% are over 18 years old and 34% are under 18 years old. Importantly, 52% are farmers dedicated to the production of basic grains and animal husbandry.

The measurement of household food security through the ELCSA evidence there is food insecurity in 86% of urban and rural households in the San Francisco Libre municipality. Households have varying degrees of severity of Food Insecurity (mild, moderate and critical) and only 14% have food security in the homes of the communities: Las Huertas, Las Lomas, and Las Delicias and urban area. When disaggregated by severity levels: 35% are mild insecure, 30% moderately unsafe, and 21% of 119 households are unsafe. The reasons for suffering from food insecurity are lack of money and resources to access the food they need to ensure a healthy diet that allows them to obtain the maximum benefit from their potential and capacities for a dignified life. Figure 1 shows the prevalence of Food Insecurity in the homes of the municipality by the degree of severity.

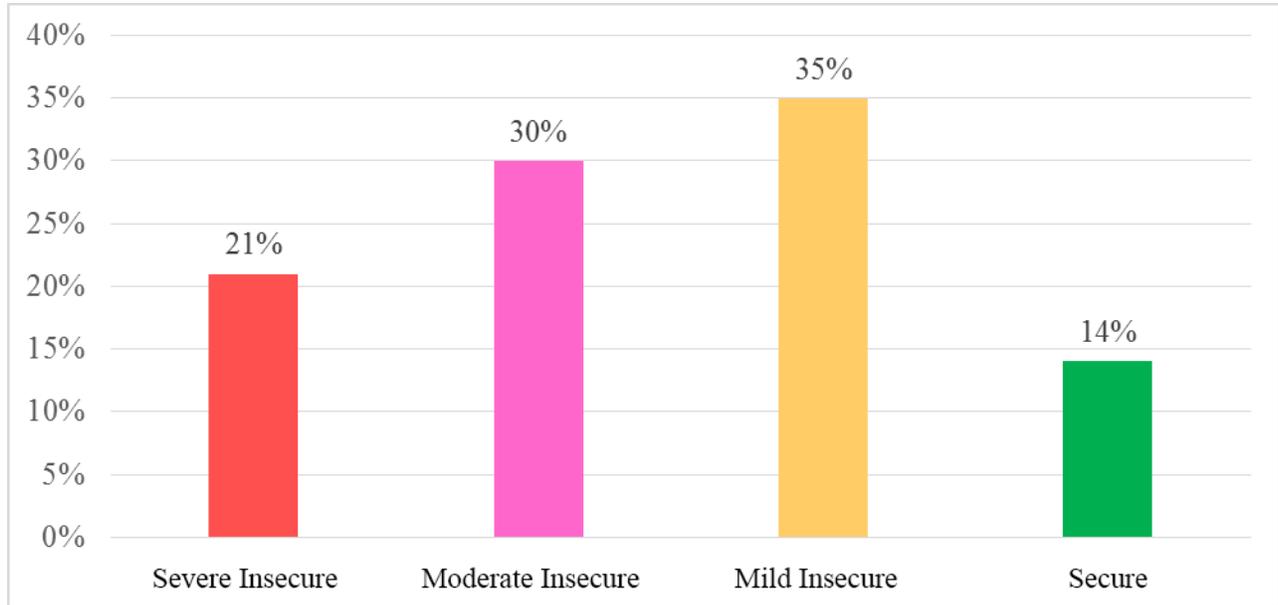


Figure 1. Prevalence of food insecurity in households San Francisco Libre, Managua, 2014-2015. Source Survey

Food insecurity by age group between those over 18 and under 18. The latter with a marked lack of access to food mainly from the mild insecure categories with 40% and moderate insecure 26% and severe insecure 20%. The reduction of food consumption very marked for those under 18 years where children and young people are more exposed to the reduction of food and hunger affecting the quality of food and therefore affecting their state of nutrition and health.

In contrast, in adults-only households, the level of moderate and severe insecurity is accentuated with 41% and 22% respectively. It is shown that adults have been subjected to a greater period of limitations in food intake both, in the quantity and quality of food, and give priority to those under 18. All this condition is the result of insufficient food availability, low purchasing capacity to buy food and therefore a limited family consumption of sufficient, nutritious and safe food to have a healthy life. Table 1 shows the types of households according to categories of food insecurity.

Table 1. Types of households according to food insecurity categories San Francisco Libre 2014- 2015. Source Survey

	Secure		Mild Insecure		Moderate Insecure		Severe Insecure			
	Cases	%	Cases	%	Cases	%	Cases	%	Cases	%
Under 18 years old households	12	14%	35	40%	23	26%	17	20%	87	100%
Adult households	4	13%	7	22%	13	41%	8	25%	32	100%
Total	16	13%	42	35%	36	30%	25	21%	119	100%

San Francisco Libre households face situations of food deficiencies. 78% of households with adults are worried about food before they run out, 42% had no food to eat at the time of the study period, 63% said they did not have a balanced diet, 66% said they had a diet based on a small variety of foods, 30% did not spend some time on food due to lack of food, 44% ate less than they should eat because of lack of money or resources, 36% ate less than they should eat, 24% only ate once a day due to lack of resources.

40% of households with children under 18 years did not have a healthy diet, 44% did not have a varied diet, 16%, due to lack of food, omitted some mealtime, 21% of households ate less than recommended, 23% of them decreased the amount of food served in any of the meals due to lack of money or resource, 17% of households felt hungry and 15% only ate once a day or stopped eating throughout one day. Food vulnerability is more pronounced in households with adults only.

Concern for food is experienced in all households, and it continues with greater force when access to food decreases, due to lack of money or resources to buy it leading to buy surrogate food without taking into account the nutritional criteria for lack of resources. Leaving aside enjoy healthy eating until the amount of food that prepares family consumption is reduced by omitting some meal or reducing the portion of food leading to the detriment of the nutritional quality of the diet and suffering from hunger during some time along the period studied.

Table 2. Types of households according to food insecurity categories San Francisco Libre 2014- 2015. Source Survey.

	Households				Total
	Under 18 age households		Adults Households		
	Cases	%	Cases	%	
1. In the last 6 months, due to lack of money or other resources, once, you worried about food running out in your home.	67	89%	26	93%	93
2. In the last 6 months, due to lack of money or other resources, once in your home they ran out of food.	33	44%	17	61%	50
3. In the last 6 months, due to lack of money or other resources, at some time in your home, you did not have a healthy and nutritious diet.	52	69%	23	82%	75
4. In the last 6 months, due to lack of money or other resources, you or an adult in your household once had a diet with little variety of food.	55	73%	24	86%	79
5. In the last 6 months, due to lack of money or other resources, did you or any adult in your household stop having breakfast, lunch or dinner.	23	31%	13	46%	36
6. In the last 6 months, due to lack of money or other resources, did you or any adult in your household eat less than you should eat.	37	49%	16	57%	53
7. In the last 6 months, due to lack of money or other resources, did you or any adult in your household feel hungry but did not eat.	28	37%	15	54%	43
8. In the last 6 months, due to lack of money or other resources, you or someone in your household only ate once a day or stopped eating for a whole day.	20	27%	9	32%	29
9. In the last 6 months, due to lack of money or other resources, at some time, someone under 18 years of age in the household stopped having a healthy and nutritious diet.	45	60%	3	11%	48

	Households				Total
	Under 18 age households		Adults Households		
	Cases	%	Cases	%	
10. In the last 6 months, due to lack of money or other resources, at some time, someone under 18 years of age in their household had a diet with a small variety of food.	50	67%	3	11%	53
11. In the last 6 months, due to lack of money or other resources, at some time, someone under the age of 18 left home for breakfast, lunch or dinner.	19	25%	1	4%	20
12. In the last 6 months, due to lack of money or other resources, at some time, someone under 18 years of age ate less than they should eat.	25	33%	1	4%	26
13. In the last 6 months, due to lack of money or other resources, at some time, they had to reduce the amount served at meals to someone under 18 years of age in their home.	27	36%	1	4%	28
14. In the last 6 months, due to lack of money or other resources, at some time, someone under 18 in your home felt hungry but did not eat.	19	25%	2	7%	21
15. In the last 6 months, due to lack of money or other resources, at some time, someone under 18 years of age at home only ate once a day or stopped eating for a whole day.	16	21%	2	7%	18
Total	75		28		103

The pattern of food consumption is composed of 12 foods. The most consumed foods are: simple bread, coffee, oatmeal, eggs, chicken, sweet bread, cheese, soda and brushes, banana, orange, and green bananas for more than 50% of families consume more than three times a week during the last year, they are mostly energy products, miscellaneous such as soda empty calorie sources, chicken meats important sources of animal protein in more than 60%, dairy products, eggs and also the group of poultry meats consumed by more than 66% of households.

The most consumed foods are three, 73% of households: bread, coffee, and oats belonging to the cereal and miscellaneous groups. The group of fruits and vegetables is consumed by 50% of households. The consumption pattern is highly energetic with little variety of food

and corresponds to the food consumption pattern for the rural area consisting of 15 products according to (Ministerio de Agricultura, Ganadería y Forestal MAGFOR, 2004). With some differences in certain products, for example, simple and sweet bread has gained ground in the preference for households as well as the consumption of eggs and chicken meats as opposed to the consumption of corn tortillas, bananas, and rice.

Table 3. Consumption pattern of more than 50% of households San Francisco Libre, Managua.

Foods consumed by 50% of the households surveyed		
Food	No.of house-holds	%
Simple bread (French, bread, bollón, others)	87	73%
Coffee or tea	87	73%
Breakfast cereal (oatmeal, jícara seed, barley)	86	72%
Chicken eggs or other birds	79	66%
Chicken or chicken meat (including viscera)	78	66%
Sweetbread (spikes, semitas, cakes, bonetes, others)	77	65%
Cheese (any type Quesillo, curd, cottage cheese, another cream)	76	64%
Soda	65	55%
Pinolillo, pinol or pozol	64	54%
Banana	58	50 %
Citrus fruits (orange)	58	50 %
Green banana, ripe banana, and square banana	58	50 %

The level of food sufficiency in the homes of San Francisco Libre is 38% and between the poor levels 22% and critical level 40% of households, these adjustments are considered critical levels of food insecurity and are possibly linked to critical levels of nutritional vulnerability. In Nicaragua, energy adaptation is classified into four levels: sufficient level with an adequacy of 110 to 150%, acceptable level with an adequacy of 90 to 109%, the deficient level with an adaptation of 70 to 89% and critical level with an adaptation less than 70% of the energy sufficiency from the diet.

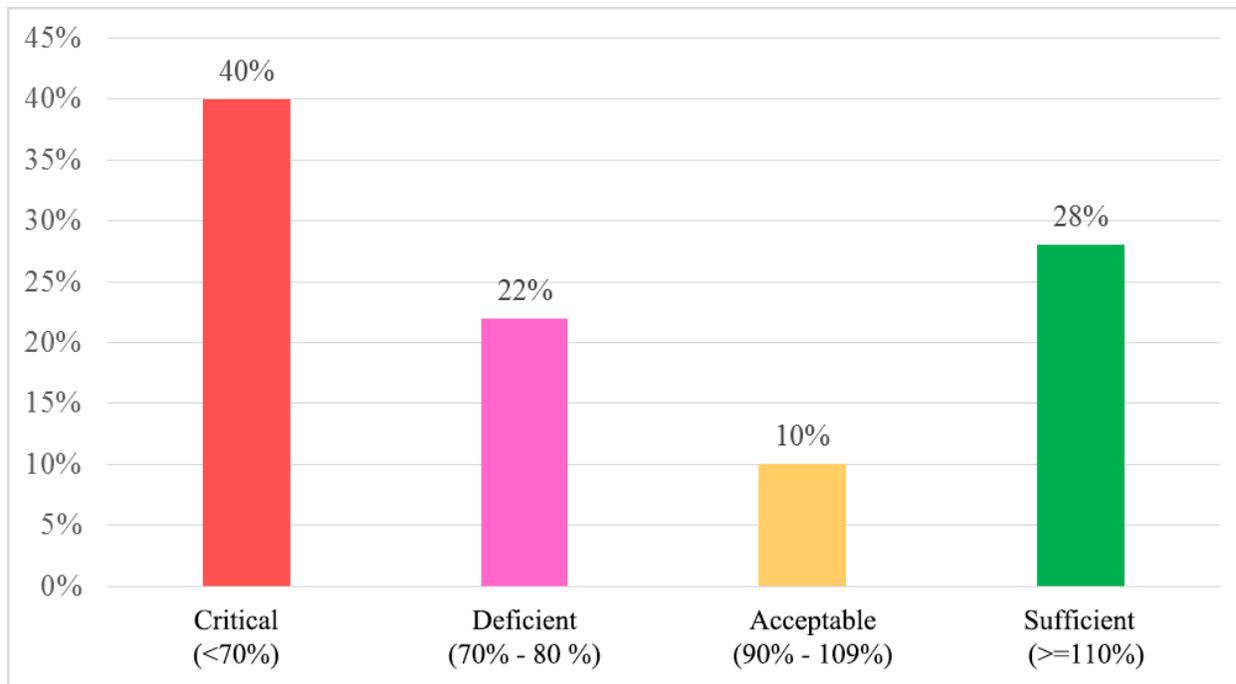


Figure 2. Energy Sufficiency Levels of households San Francisco Libre, Managua 2014-2015

4. CONCLUSIONS

Male sex is predominant in the heads of household and they have an incomplete primary school level of 55%. The occupation that predominates in the first place is farmer with 52% followed 13% workers and merchants 14%. The family composition composed of 4.2 members.

86% of households are in Food Insecurity due to the lack of money and resources to access food sufficiently and in a quantity necessary to have a healthy diet.

Households have varying degrees of food insecurity with levels of mild insecure being higher with 35%, moderately unsafe with 30% and severe insecurity of 21% for households with children under 18 and adults.

Food insecurity is more pronounced in moderate and severe grades in adult households, conjecturing that adults give priority to those under 18 in not affecting the quantity and quality of food to be consumed by this group.

The pattern of food consumption is limited and varied, consisting of 12 foods: simple bread, coffee, oatmeal, eggs, chicken, sweet bread, cheese, soft drinks and pinolillos, banana, orange and green bananas. With a significant energy contribution and empty calories, modest protein intake and poor vitamin and mineral intake.

The level of energy sufficiency of food consumed by households during the study period was 38% classified as acceptable; the rest of the households have a critical sufficiency level with 40% and poor food sufficiency 22% of the households.

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