

# *Perception of Food Security in homes of San Ramón municipality, Matagalpa 2014-2015*

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## **SUMMARY**

This study has the importance of knowing the assets that the communities of San Ramón have at their disposal to satisfy their basic needs of food from the perception of food security that allow them to reach their nutritional well-being. The municipality of San Ramón is characterized with an incidence of poverty and prevalence of nutritional vulnerability. The research has a holistic perspective on which is based the proposal of sustainability linked to the action of man in relation to his environment. The present is a descriptive and observational study, with a mixed approach, that is, qualitative-quantitative. The sample consisted of 301 households surveyed from the communities of Monte Cristo, Los Limones, Mil Bosque, El Horno I, Yucul Central, San Ramón, El Plomo, Mata Palo, La Garita, Siales el Toro, Siales La Virgen, El Naranjo, Trentino Obrero, San Pablo, Sabana Grande, Wabule, El Jicaro II, Azancor I, Esquirin and the urban center of La Cruz and Álvaro Castillo. The prevalence of food insecurity in the household visited in the urban and rural area of San Ramón is 89% and 19% have food security. 69% have male heads of household and 31% female, consisting of extended family with nephews, grandparents and brothers-in-law. In general there is food insecurity in the homes where there are children and young people, where the concern for food is observed in the quality and quantity of food and but also in the suffering of hunger.

## **1. INTRODUCTION**

The 21<sup>st</sup> Century challenges the rural environment with new and complex challenges, tackles the changing role of rurality in development, strikes a balance between food security and environmental concerns, and finds answers to energy security, are some of the challenges. Food production in recent years has been affected by climate change, reduced availability of land for agriculture, declining growth in yields per hectare and increasing competition for water and fossil fuel resources are urgent problems to be addressed by Governments and humanity (IICA, 2009).

In recent years, food security has become a priority on the political agenda both globally and in Latin America and the Caribbean. A policy agenda to address the region's major challenges should

include: a more active regional policy role in the governance mechanisms of global food and nutrition security; Long-term policies to structurally address the transformation of production and consumption patterns, increasing investment in agriculture and placing priority on the inclusion of family agriculture; ways to adapt agriculture to climate change, and achieve greater transparency and competition in agrifood markets (FAO, 2011).

In 2011, Latin America and the Caribbean face a new level of food prices, higher than the last thirty years and about 40% higher than four years ago. Added to these increases is greater volatility. It should be remembered that cereals are the main source of calories for the inhabitants of the region and the world, and two of the most important ones - wheat and maize - have increased their prices by 62% and 104% respectively only in the last Year (FAO, 2011).

According to the Institute of Nutrition of Central America and Panama and the Pan American Health Organization (2013), the problems of food insecurity and nutrition have deep roots combined in various forms according to the context itself, but their root causes are based on an inadequate supply Food, family purchasing power, poor sanitary conditions and poor knowledge in health, food and nutrition.

In that sense, malnutrition, a prolonged product of an inadequate supply of food in quantity and quality, causes human underdevelopment which, in the case of Central America, mainly affects children under five and women of childbearing age. In the case of children under five years of age, the length-for-age delay, indicative of chronic malnutrition, is the most prevalent nutritional problem in Central America (PRESANCA, 2010).

In the departments of the dry corridor, chronic in children under-five malnutrition (ENDESA 2011/12) reflects the magnitude of the problem, exceeding the national average by 6.5 percentage points in the severe (<3DE) and 12.2 points in the total. The departments of Jinotega, Madriz, Nueva Segovia, Matagalpa and Managua were the most affected from 29.5% to 14.2%.

The territorial development process with a focus on Food and Nutrition Security includes projects with an integral vision linked to the Human, Social, Productive, Natural and Physical Development capitals to improve the Food and Nutritional Insecurity conditions of the Municipality of San Ramón that integrate the Municipalities of the dry zone, characterized by being a municipality with high nutritional vulnerability.

Currently, it is recognized that the availability of food is not a guarantee of access to them. Some studies show a sufficient availability of food related to high levels of undernourishment and child malnutrition, due to a high inequality in access to food, explained by low income, which translates into a low purchasing power of food in the market. This situation is particularly noticeable in Nicaragua.

The present research analyzes the perception of food and nutritional security of San Ramón households and their relationship with household livelihoods. It also identifies the livelihoods they possess and how they confront the food situation.

## 2. MATERIALS AND METHODS

The present study is descriptive and observational, with a mixed, ie, qualitative-quantitative approach.

The Municipality of San Ramón Matagalpa belongs to the department of Matagalpa. It has a territorial extension of 424 Km<sup>2</sup>, which represents 7% of the territory of the department. It has a height of 640.93 meters above sea level and a geographical position of latitude 12° 55' and length 85° 50'. Annual precipitation fluctuates between 1 600 - 2 000 mm and has no heat. It is located in Cuenca 55, Rio Grande de Matagalpa. The soils are mostly clay loam and clayey, with moderate erosion and mostly with agricultural cover. The municipality of San Ramón, with a territorial extension of 424 square kilometers, is located in central Nicaragua, It has a poverty incidence of 60.3% and a prevalence of delay in height of 48.38%, with a level of illiteracy 36.8%, insufficient services index of 33.1%, inadequate housing index of 6.7%, low education index of 28.8% and economic dependence index of 53.4%. This municipality is located 12 kilometers from the departmental head and 145 from the capital city. Divided into 11 towns and 51 communities. The urban area with 9 neighborhoods. It has a population close to 35 400 inhabitants, and a reported density of 83.7 inhabitants per km<sup>2</sup>.

The universe of study was 5 653 households, located in the urban and rural area of the municipality of San Ramón. The urban area is divided into 9 neighborhoods and the rural area formed by 11 towns with 51 communities.



Figure 1. Zone in study

To determine the sample size, the Mouch Galindo formula for finite populations was applied and a sample with 95% confidence and 5% sample error was obtained from the population of 5,653 households, obtaining a total of 301 households to be surveyed. The information processing was done through the statistical program SPSSVersion25 for Windows.

To determine food insecurity in the household, the ELCSA (Latin American and Caribbean Food Security Scale) survey was applied. The questions raised by the scale relate to the concern that food runs out at home, the quantity and quality of food available in the home, and when there is none, what strategies are used to address it.

The survey consists of 15 questions, in the first section (P1 - P8) several situations that lead to food insecurity experienced in the homes and adults of these households are questioned; And a second section (P9 - P15) with questions regarding conditions affecting children under 18 in the household. Each question is aimed at inquiring into a different situation, so these are exclusive questions. Using this scale goes beyond the perception of the heads of household, which refers to self-reported objective situations that the members of the household experience, such as reducing the amount of food served, the omission of one of the daily meals, the presence of hunger in one of the household members and the suspension of meals due to lack of money or other resources

The ELCSA scale is a low-cost, indirect household food safety measurement instrument that has demonstrated validity and reliability in various application channels. At the local level to the national level, there has been much success in understanding the distribution, causes and consequences of food insecurity in the region. It measures severity levels of food insecurity (mild, moderate, severe), is a reliable tool that optimizes and focuses early warning on prevention policies, according to FAO (May 2012).

The frequency of food consumption is a method to evaluate the pattern of food consumption at the family level through a list of 67 foods frequently weekly.

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

### 3. RESULTS AND DISCUSSION: TABLES AND FIGURES

The prevalence of food insecurity in households visited in the urban and rural area of San Ramón is 89%, and 19% have food security. The category of moderate and severe food insecurity represented 52% of households and slight insecurity, with 37%, observing a tendency to increase the most severe degrees that can affect the nutritional status of people. Some relevant characteristics of these households are, 69% have male heads of household and 31% women, consisting of extended family with nephews, grandparents and brothers-in-law. 52% are female and 48% male, with incomplete elementary schooling for 37% and incomplete secondary school with 15%; Being 17% illiterate.

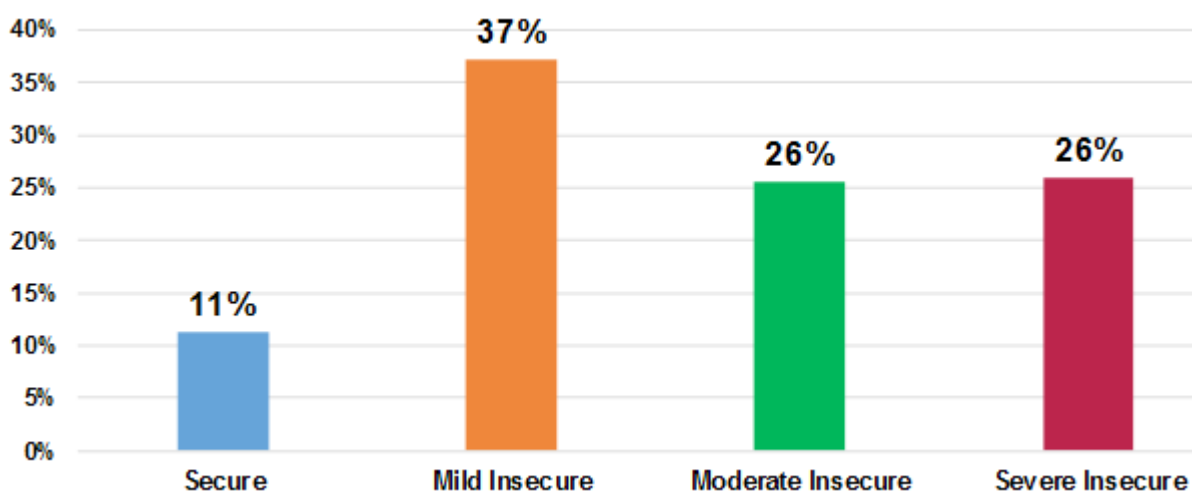


Figure 2. Prevalence of food insecurity per category in households of San Ramón municipality, 2014-2015.

Source: Sustainable Livelihoods and Food and Nutrition Security Survey 2014- 2015

In the homes visited, 11.6% of them are made up of adults and under 18, 88.4% of households; With higher increases in food insecurity in the mild and moderate categories in households with less than 18 years and the form of severe insecurity in those over 18 years. In general, there is food insecurity in homes where there are children and young people. In them the concern for food, affectation in the quality and amount of food and the suffering of hunger is observed. The quality of diet is a common determinant that affect the health and nutritional status of household members. Lack of access to basic and nutritious food due to low family incomes and limited home production of food are factors that need to be addressed.

Table 1. Types of households according to food insecurity categories in urban and rural homes in San Ramón municipality - Matagalpa, 2014-2015. Source: Sustainable Livelihoods and Food and Nutrition Security Survey 2014- 2015

TYPE OF HOUSEHOLDS	CLASIFICACION ELCSA								TOTAL	
	Secure		Insecure Mild		Insecure Moderate		Insecure Severe			
	Cases	%	Cases	%	Cases	%	Cases	%	Cases	%
Households with younger people under 18 years	31	12%	101	38%	71	27%	63	24%	266	100%
Adults households	3	9%	11	31%	6	17%	15	43%	35	100%
<b>Total</b>	34	11%	112	37%	77	26%	78	26%	301	100%

The consumption pattern of the visited households is made up of 13 foods, including maize, salt, rice, beans, oil, coffee, sugar, onion, egg, sweet bread, tomato, cheese and Green pepper for more than 50% of the families, being in its majority products of vegetal origin important source of energy and in smaller proportion, of proteins. The consumption pattern of the VI geographical area consists of 15 products including: sugar, salt, rice, vegetable oil, beans, onions, Green pepper and tomato, dairy products like cheese, ground coffee, corn tortilla, chicken, eggs, bananas, sweet bread, biscuits and potatoes, all included in eight food group of ten that forms the energy structure of the Nicaraguan food standard. The most common forms of cooking are firewood with 93% and butane gas with 10%.

Table 2. Consumption food pattern by 50% of San Ramon Municipality population, 2014-2015. Source: Sustainable Livelihoods and Food and Nutrition Security Survey 2014-2015

FOODS	FRECUENCY	%
Tortilla	292	97%
Salt	289	96%
Rice	286	95%
Red and Black beans	277	92%
Oil	275	91%

FOODS	FRECUENCY	%
Coffee or tea	275	91%
White sugar	272	90%
Onions	225	75%
Eggs	196	65%
Sweet bread (pastry )	193	64%
Tomato (fresh or in sauce)	187	62%
Cheese (and other dairy products)	156	52%
Geen pepper or chili	152	50%

Among the sustainable livelihoods, in homes it stands out, that 84% have their own homes and 5% rent. 23% have land or land. Among the household goods is the use of mobile phone with 81%, followed by radio with 79% and television with 67%. Four percent of households also have other goods such as refrigerators, blenders and sound equipment, the first two of which are of importance to cooking. 38% of households have an income of less than C\$ 2,000 córdobas and 53% greater than C\$ 2,000 per month. The increase in assets is relevant for the improvement of household food security, which contributes to guarantee basic needs such as food, nutrition, health, housing, education, among others, and diversification of sources of income, Access to public goods and services.

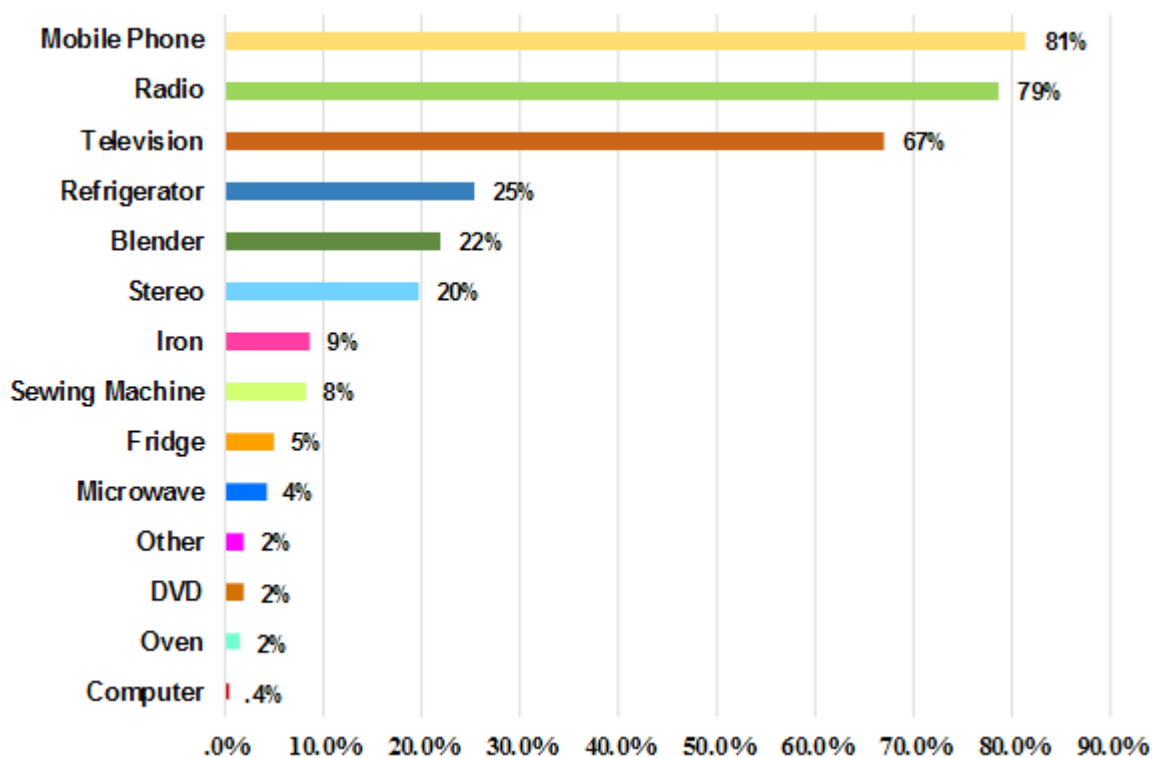


Figure 3. Property owned by the homes of San Ramón 2014-2015. Source: Sustainable Livelihoods and Food and Nutrition Security Survey 2014-2015

#### 4. CONCLUSIONS

Most of the heads of households are married with 41%, followed by free union with 32%, 50% are women and 48% are males. The majority adults over 18 years of age. Schooling with incomplete elementary school with 37%, followed by incomplete secondary school with 15%, complete primary school with 11% and 17% illiterate. The main occupation is housewife with 29%, followed by student with 24%, third, farmer with 18% and day laborer with 10%, 5% non clerical worker and 4% unemployed.

Food insecurity represents 89%, standing out the moderate and severe categories, representing 52% and 37% respectively in households. Only 19% have food security.

The pattern of consumption of 23 household products, consisting of 13 foods, is below normal. Products such as meats and potatoes are the least consumed.

53% earn a little more than C\$ 2,000 per month to cover family expenses, with 69% being male and 31% female and comprising extended family. Lack of access to basic and nutritious foods due to the low income of families and limited home production of food are factors that need to be addressed.

Among the sustainable livelihoods in homes, 84% have their own homes with 84% and 5% rented. Account 23% of them with land.

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