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Sociocultural aspects of nourishment and the use of the plot in the rural community of Bandera de Juárez

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ABSTRACT

Objective: To analyze sociocultural aspects related to human nourishment and the use of family plots in the community of Bandera de Juárez, Veracruz, México.

Methodology: A literature review, together with open interviews and on-field participative observations, knowledge exchange workshops and life storytelling were made.

Results: The celebration of the feasts of San Isidro Labrador and All Saints Day were identified as moments for the re-creation of identities and strengthening of links that constitute social networks. They represent major occasions for understanding different productive and sociocultural uses of plots. In these phenomena nourishment is an essential factor. The family plot agroecosystem as a space of social importance sets a socialization and identity development process.

Implication: The process players generate awareness on the value of traditional nourishment, the nutritional quality thereof and the rescue of their cultural identity.

Findings: The importance of how nourishment "feeds" cultural processes is outlined. Some useful concepts, both for understanding sociocultural aspects of nourishment, the handling and uses of the plot, as well as the justification for the choice of the research method are discussed.

Keywords: traditional foodstuffs, identity, socialization.

INTRODUCTION

Human nourishment is a social activity: the manner of production of foodstuffs, distribution and consumption patterns are historical processes that show cultural features, according to specific temporary and spatial contexts (Harris, 2011). The diet of persons is defined by foodstuff access factors, social appraisal by some and individual taste; also, this is related to weather and social phenomena, such as speculation or ritual-religious matters. The analyses of nourishment patterns or cultural nourishment identities refer to this. Cultural phenomena for these habits, customs and practices are addressed by food anthropology (Ortiz et al., 2005). What, when and how much is produced in the plot are

questions that relate to biophysical and sociocultural factors. In this research, such factors are addressed from the society-nature metabolism idea (Toledo, 2013); *i.e.* the determinations given in such relationship are mutual. Studying the plot is fundamental for understanding the development of agriculture, as its handling has assumed domestication and genetic improvement. It is an "farming lab", where a good result allows the appropriation of a species the replication of which is attained in the plot. Plots used as agroecosystems are found in several latitudes, assume features in form and use, according to specific biophysical and sociocultural contexts (Mariaca *et al.*, 2010). Biophysical and social aspects were researched (Bello & Estrada, 2011). The concepts of plot, yard or orchard are varied. For this research, the authors define a plot as a vital space, a place where activities for the social reproduction of families are performed, from the attainment of comforts such as foodstuffs to the exchange of goods and knowledge. Therefore, the objectives for this research were: 1) to analyze sociocultural aspects intervening significantly in the constitution of family plots; 2) to study the relationships between the plot productive calendar, cultural calendar and food cultural identity; and 3) to characterize the sociocultural functions that meet family plots in Bandera de Juárez, Veracruz, Mexico.

MATERIALS AND METHODS

Bandera de Juárez is a town that belongs to the Municipality of Paso de Ovejas, Veracruz, Mexico (19° 12' 01.25" N, 96° 25' 19.37" O). The methods used in the research have the "participative action research" (IAP) precepts as an integrating axle in concordance with the management model proposed by Álvarez *et al.* (2011). The work was performed in four stages.

- 1) Motivation: Municipal and local authorities were contacted, and they invited families from the community to take part in the work in turn. A motivational workshop was made at the Learning and Knowledge Exchange Center (CAIS) of Colegio de Posgraduados, Veracruz Campus, where knowledge about regional construction materials, crops (vegetables, fruits, legumes, medicinal, aromatic and ornamental herbs) and ecotechnologies were shared: This activity allowed motivating ten families the work was performed with.
- 2) Diagnosis: The socioeconomic situation in Bandera de Juárez was found in the census made by INEGI,

(2010). The health diagnosis was made with the support of students from the School of Nutrition of Universidad Veracruzana, Veracruz Campus; the body mass index (IMC) from 42 persons attending the community's Health Center was obtained. The plots were characterized based on cropped vegetable biodiversity and animal breeding that the relation thereof with nourishment (López-Armas *et al.*, 2017).

- 3) Community development. Training through knowledge exchange workshops was performed in family plots, with women who normally handle the management thereof, as this situation occurs derived from social gender roles. At the workshops, human nutrition was dimensioned with the feasibility of family production (plot and parcel) to meet their food needs. Participative research was performed through life storytelling about nourishment in Bandera de Juárez both as a historical, social and cultural phenomenon; a participative observation and open interviews were performed and this allowed approaching cultural features of the social group (García *et al.*, 2008); the lessons learned from the participation were validated in exchange workshops and community inputs were acknowledged.
- 4) Assessment: each phase was assessed in order to feedback the process. The information obtained was analyzed and systematized and a joint reflection and analysis exercise that supported result socialization was performed.

RESULTS AND DISCUSSION

Socioeconomic Diagnosis. Bandera de Juárez has an approximate population of 733 inhabitants, 357 men (48.70%) and 376 women (51.30%). The average education years account for 4.83 years, 5.02 years in average for men and 4.73 years for women. 654 persons (89.22% of the population) are Catholics; 19 (2.59%) stated practicing another religion and 42 (5.72%) practice no religion. 211 households, of which 163 (77.25%) are led by a man and 48 (22.75%) are led by a woman. Households with earth floor covered with materials account for 184 (87.20%); 202 (95.73%) have electric power. The drinking water utility is present in 151 households (71.56%) and 185 have bathrooms (87.67%). 189 households (89.57%) have a television and 153 (72.51%) have a refrigerator. The census performed in this work showed that 626 persons do not have access to health services (85.40%); 69 persons (9.37%)

quote in the Mexican Social Security Institute (IMSS) and only one person quotes in the Social Security Institute at the Service of State Workers (ISSSTE-Veracruz); on the census year, the People's Insurance (SP, terminated in the present) had 20 affiliates (2.73 %).

Health Diagnosis. 24% of the population has normal weight, 48% is overweight, 19% have type I obesity, 2% have type II and 7% have type III obesity. Sánchez-Castillo et al. (2004) documented a sample of 11 730 men, of whom 41.3% reported overweight and obesity issues (SPO); although the results obtained from Bandera de Juárez are higher. 30% of these persons have type II Diabetes mellitus, which is associated to a poor diet and the intake of refined sugars (Sanz et al., 2013). This matches the statement of Sánchez-Castillo et al. 2004, who mentioned that the SPO increases morbidity for type II Diabetes mellitus and cardiovascular disorders, among others.

Diagnosis of Family Plots in Bandera de Juárez. The fact that an edible, condiment or medicinal species is present in the plots does not only respond to the season (adequate conditions for its development); this is also associated to the decisions shaped by taste and feasibility of uses given to species. These plants satisfy nourishment, ornament, medicinal use, construction, lumber and shadow, among others. The decision on what to grow and what food to eat and the manner of preparation thereof has sociocultural conditions, such as the insertion of persons in a social network and life experiences.

Food production is the most important function of plots; in average, 63.6% of species found have such purpose. Upon adding condiment species, the importance of obtaining inputs for preparing meals in decisions made on the management of the plot is evidenced. Taste is a factor that determines the presence-absence of species; Figure 1 shows the classification of use for species found in plots in Bandera de Juárez.

Among species, Barbed-wire cactus (*Acanthocereus* sp.) stand out and they provide food during the dry season and used as well as living fences. Among fruit species, banana (*Musa* sp.), lemon (*Citrus limon*) and sapodilla (*Manikara zapota*) stand out. Medicinal species used more frequently are aloe vera (*Aloe* sp.) and arnica (*Arnica* sp.). Most vegetal species produced in plots are for self-consumption; nevertheless, there are persons who

trade hoja santa (*Piper auritum*) leaves; French beans (*Phaseolus* sp.); banana leaves (*Musa* sp.) and tamarind pulp (*Tamarindus indica*). Major local feasts are good moments to trade some inputs produced at the plots, as they are required for meals and/or rituals. As an example of high demand, banana leaves, hoja santa leaves or marigolds (*Tagetes erecta*) are used as ornaments for offerings for the departed and graves during the feasts of November. Figure 2 reports the percentage of relevant species in studied plots.

The management of the plot (orchard) is minimal. Main tasks are weeding or trimming and irrigation; rain seasons are short, and the water supplied via pipes is scarce and supplied through a well and a pump; therefore, it is common that "gray water coming from cloth and floor washing" are used for irrigating the plot. The participation of women is underlined in plot management tasks. This is conditioned in part by gender-related matters. Although the 2010 Population Census (INEGI) states that more than 85% of the economically active population is men, this refers to gender roles, in which man appears as a provider and who usually leaves his home in order to work either in parcels, as a laborer, workman or in the service sector.

Women address domestic labor: preparing meals, raising children and looking after the plot. Nevertheless, due to changes in the social structure, the number of women performing as providers is increasing, either for themselves or as a support for their partners, which assumes changes in the management of the plot. Also, systematizing information with respect to the plot management is still pending albeit positive, some results

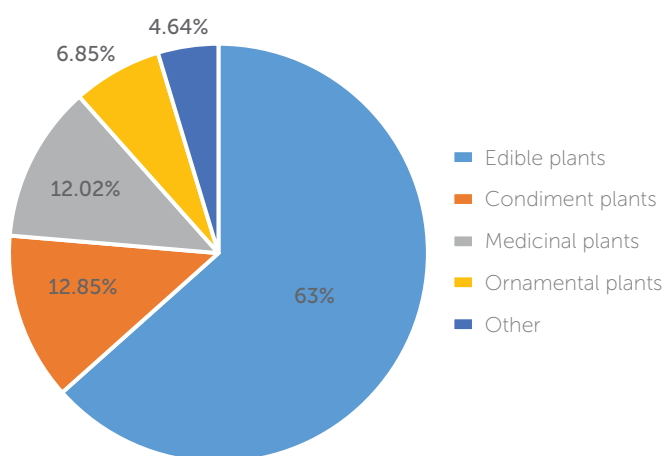


Figure 1. Classification of species according to their use in studied plots.

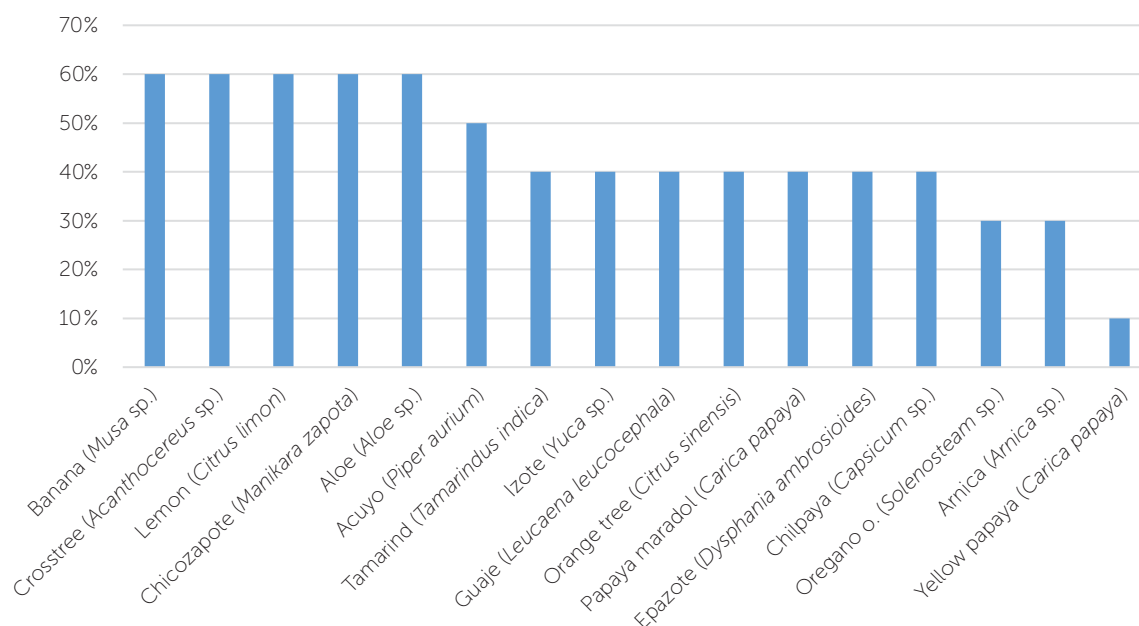


Figure 2. Significant species found in the 10 backyards of the rural community of Bandera de Juárez, Veracruz, Mexico.

appear to be accidental, as they are not replicated in an orderly fashion.

Table 1 shows work performed at the ten plots of study. Animals bred at the plot are pigs (*Sus scrofa domesticus*), turkeys (*Meleagris gallopavo*) and hens (*Gallus gallus domesticus*), which are destined to self-consumption or the sale thereof. Hens are consumed regularly; turkeys and pigs are destined to the market or prepared as a meal during a celebration (baptism, wedding, birthday, San Isidro Labrador or All

Saints Day). In order to breed and feed animals, food waste, corn and purchased balanced food are used. The handling of the plot incorporates external inputs related to technology packages for farming production. For example, apart from using droppings as fertilizer, agrochemicals are used as well in plots. Table 1 shows activities and persons responsible thereof in the plots in study.

The territory appropriation also utilizes regional biodiversity through

gathering or hunting, which reflects an ancestral knowledge on species and their use. An interviewer stated: "Armadillo (*Dasypus* sp.), rabbit (*Oryctolagus cuniculus*), green iguana (*Iguana iguana*), everything is well prepared here; even the raccoon (*Procyon lotor* sp.) is delicious as barbacoa; armadillo is prepared with marinade".

Community Development

Nourishment in Bandera de Juárez is a particular expression of syncretism. The food inheritance

Table 1. Activities carried out and those responsible, in ten study backyards in Bandera de Juárez, Veracruz, Mexico.

Family	Pruning	Weeding	Irrigation	Loosen the soil	Fertilization	Responsible
1	Yes	Yes	Yes	No	No	Ms. (of the house)
2	Yes	Yes	Yes	No	No	Mr. And Ms.
3	Yes	Yes	No	No	Yes (compost they use on corn)	Ms.
4	Yes	Yes	Yes	No	No	Ms.
5	No	No	Yes	Yes	Yes (donkey manure)	Ms.
6	No	Yes	Yes	Yes	Compost	Mr. And Ms.
7	No	Yes	No	No	No	Mr. And Ms.
8	No	Yes	Yes	No	No	Ms.
9	Yes	No	Yes	No	No	Ms.
10	No	No	Yes	Yes	Yes (compost they use on corn)	Ms.

Source: Self preparation.

of the Mesoamerican civilization-building process that justifies the preparation of meals with corns in several forms is notorious. In Bandera de Juárez, cuisine and meal preparation continue to be a female space and work; a strong social role division emanating from gender matters is persistent. Women know about meal preparation, food and condiments. There are some exceptions to the rule: "He, with one uncle, would go to the river to fish shrimp; he says that, when he was a boy, he would take up to one week at the river and then they would cook whatever they wanted, shrimp dishes." The scientific names of both species located in the region are (*Macrobrachium acanthurus* and *Macrobrachium carcinus*). Men cook when they go fishing in groups, without female company.

In Bandera de Juárez, agriculture loses weight as an economic activity as paid work in the industry or services gains terrain. Among factors that influence the devaluation of farming work as an activity that assures family reproduction (in a wide sense), there are the low cost-benefit ratio, excessive work for attaining good production, the uncertainty of the result, dependence on environmental and market factors, the proximity of the port of Veracruz and its industrial zone as a development pole and its paid labor offer. Changes in the society-nature relationship are important as economic activities transform. Urbanization is the path to the improvement life conditions. Services have been recent transformation processes present among the inhabitants. A participant states that now women do their work more easily. She remembers when she had to go get water from the river: "women have turned lazy now." These changes simplify activities. Currently, most of the population have drinking water and electric energy services. With the arrival of electricity, the use of appliances that changed the manner of preparing and preserving food began. The urbanization process is usually related to wellbeing in this town. In part, this is due to the simplification of some works and the influence of messages that associate an urbanized and modern lifestyle to success and/or comfort.

There are foodstuffs that may be associated to a poverty condition; for some, it is proper to consume them privately and indoors regularly and off the sight of others. Nevertheless, the situation changes when there is a ritual, feast or shared dinner is involved (weddings, baptisms, or even funerals). Especially, both feasts continue being important for most of the population in

Bandera de Juárez: May 15, San Isidro Labrador, feast of the patron saint of the town, and November 2, All Saints Day. The economic contingency may mark the presence of a species in the plot; for example, during "All Saints Day:" An interviewee stated: "Ever since I remember, my mother always prepared mole for the feast (May 15), mole for "All Saints Day", for weddings, sweet fifteen and baptisms. It is rare to know about someone who chooses not to prepare mole. It's delicious". "It's not the same to make it on May 15 for someone who can offer a banquet for his guests than making it for someone who barely knows what's going on that day; and neither is it to offer stuffed peppers instead of barbacoa tamales". This is also a moment of social distinction, a visualization of power relations: Those who had a good year, successful in financial terms are separated stand out; those who gained benefits or whose salary allows them to have a little extra and share food with others.

Television may be a symbol of financial wellbeing and modernity. As children are the most vulnerable public before advertisements, they associate food products with ideas of wellbeing. The impact of this has been an increase in children obesity and associated chronic degenerative conditions of no benefit whatsoever for the development of capacities in the population (Luján-Carpio et al., 2015). Advertisements do not promote a balanced diet based on fruits and vegetables; they mostly promote sugar beverages, candy and cereals with added sugar, with greater content of calories, fats and carbohydrates. Among adults, a rooted habit is to quench the thirst or drink bottled soft drinks during the meal. Coca-Cola is the most popular, as it is consumed since childhood. Nevertheless, the idea that soft drinks different than cola do not affect health that much is popular. Rivera et al. (2018) state that overweight and obesity issues are due mainly to a high intake of calories, ultraprocessed foods rich in calories (refined sugars and flours), fats and sugar drinks, the result of which is an overconsumption of energy and, therefore, chronic degenerative conditions.

The diet of inhabitants in Bandera de Juárez is varied. Despite the fact that food has social and family determinants, individual taste also determines the choice of a person on his/her intake when there are options to choose from. Food scarcity situations leave no options on nourishment options. Thus, nourishment reflects both personal taste and power relationships within the social structure (Toledo, 2013).

CONCLUSIONS

Changes in social, structure, with more women as providers, assumes changes in the management of the plot. The community urbanization process, changes in economic activities and the idea of associating urbanization with wellbeing are determinants on how families allocate resources to the family plot as this space fulfills a social function in identity and bond strengthening processes. Significant knowledge of family experiences are transferred to younger members. This knowledge is touched by the insertion of the family in social networks. The plot's productive function is influenced by celebrations; there are temporary biophysical conditions about what is planted; although the use of the crops is a human decision that has incidence on the agroecosystem. In Bandera de Juárez, nourishment is a reference of identity. Its inhabitants define themselves facing others with the food that they consume and forms in which they prepare meals. The feasts of San Isidro Labrador and All Saints Day are a framework of community and identity bonds.

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