

Investigación



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Revaluation of natural resources and the sense of community through knowledge in the traditional food system

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In times where modernity has transformed consumption patterns, overcrowding the functioning of food systems and generating gaps in the origin of local foods; recognizing traditional food knowledge that adapted to the benefits of local environments, brings us closer to revaluing knowledge for a more sustainable diet. In Baja California documentary work with native indigenous people (Kumiai, Paipai, Kiliwa and Cucapá) and their traditional food systems has shown how food knowledge has been maintained as a symbolic and practical expression of relationship with the environment. For this research, we work with different actors from the native community of San José de la Zorra. Qualitative methodologies were used to identify practices and perceptions about traditional food that persist in daily food. In the first instance, the interview was applied to identify practices and perceptions from the individual. In addition, we applied participatory workshops with the idea of helping in the generation of strategies by the actors to strengthen ties around food. Community work results in a series of elements that help to make visible the relationship with the environment in a symbolic and material way, as well as elements that co-create or hinder the sense of community.

Keywords:

Indigenous knowledge; Sense of community; Traditional food system; Natural resources; Wild foods.

Introduction

Food has a vital biological function and at the same time an essential social function. Its innumerable facets are arranged according to at least two dimensions. The first extends from the biological to the cultural, from the function of nature to the symbolic function (Fischler, 1995: 14-15). The second, from the individual to the collective, the psychological to the social, which has implications for the functioning of the food system, the well-being of society and the natural environment (Campos, 2016).

In the case of Mexico, a mega diverse country in culture and biodiversity from south to north, the value of traditional diets (United Nations Educational Scientific and Cultural Organization, 2010) and their elements are the basis to recognize the biocultural diversity (Torrero & Urbiola, 2010). Traditional foods have gained popularity for showing up as healthy foods, due to the biological and cultural diversity they reflect, in a particular context of culture and environment (Kuhnlein, 2015).

This knowledge is particularly relevant in those human communities that seek to keep alive cultural elements of nature that have given particular characteristics to their traditions (Boege, 2008). In this context, the study of food, how, why, and when a certain culture is fed, is crucial because hundreds and even thousands of years of interactions and practical experiences in natural resource management are condensed, which can contribute to sustainability (Nabhan, 2004).

Baja California is known for its diverse gastronomy, cultural development and different landscapes but, what about the food's and traditions related to the ancient habitants? The ancient natives of this region Kumiai, Pai-pai, Cucapa and Kiliwa, also called Yumans, did not fight against the natural environment, on the contrary, they took elements that helped them to live (Meigs, 1994).

Their food was complemented by gathering and hunting what they found in their geographical environment by seasons, practices that are still in force by some natives (Wilken, 2012). At present, descendants of these groups are located in communities far from the population centers (Tapia and Grijalva, 2012). In the case of the Kumiai in the Ensenada municipality, they are found in three communities, San José de la Zorra, San Antonio Necua and La Huerta.

For this study, the knowledge and perception of the traditional food system of the Kumiai community of San José de la Zorra, in Ensenada, Baja California, is explored. This native community is located 54 km from the head of the Ensenada municipality and 18 km northwest of the Guadalupe Valley, between hills that do not reveal a trace or sign of the small town (INEGI, 2010; SRA, 2012).

In the study by Kuhnlein and Receveur (1996: 6), the concept of traditional food systems is defined as "All the food of a particular culture available from culturally accepted local resources. This includes sociocultural meanings, acquisition, processing techniques, use, composition, and nutritional

consequences for people who use that food". However, for this research, the notion of tradition does not necessarily refer to capitalist folklore to pre-modern cultures, since the contemporary can become tradition according to the consideration of the person as part of the culture (Appadurai, 1991). Therefore, elements of the traditional food system that persist are reflected in the biodiversity and cultural practices (Kuhnlein, 2017).

This research approached from the voice of the actors, describes the knowledge about certain natural resources that they have managed for years and continue to reinvent their cuisine. To understand the context on the relationship, food-culture-community-nature, of this particular group the questions that accompany the investigation and reflection arise as: what resources are the most outstanding in the community environment? Which are relate to the traditional food system? How important is traditional knowledge in their food system? Is diet an important factor for the cohesion of this group?

The research process and the result of a qualitative work derived from the interaction with the actors of the study community is presented below.

Methodology: interviews, participatory research and participant observation

The complexity of the current reality renders the old qualitative instruments of analysis insufficient and forces the construction of new strategies with which the processes of social relations can be made visible and, in parallel,

the non-causality of environmental problems (Alexander, Armitage, Carrington & Bodin, 2017). In these cases, it is also recommended to use observation before other methods (Hashimov, 2015).

Since traditional food systems include socio-cultural meanings, techniques, acquisition, processing, use, environment and consequences of cultural interventions (Kuhnlein & Receveur, 1996), data collection must be carried out through a set of qualitative tools to understand the context better.

Qualitative research allows scientific knowledge to be combined with local knowledge through the dialogue of knowledge¹ (Quecedo, & Castaño, 2002). This view takes into consideration the transmission of knowledge, generations and the environment (Rodríguez, 2011). For this research, the following phases of fieldwork are adopted:

- Site prospecting selection
- Diagnosis, interviews and community participation proposal.
- Community planning for integration on the practices and elements of the traditional food system of the community: In this phase, a collective space is used to recognize the value of

¹ The dialogue of knowledge represents an open position to learn from each other during the methodological process, which promote the rescue of daily knowledge by including them in the construction of collective knowledge for the recognition of problems of the territory or organization, proposing strategies and generating mutual learning. (Hernández, Lamus, Carratalá and Orozco, 2017: 224)

research (Kuhnlein, 2000).

Interviews

Semi-structured interviews were applied to delve into the information on the knowledge of traditional food and local diversity. The interviewees were selected by snowball technique, taking into account the degree of involvement in issues of traditional knowledge (Malterud, Siersma & Guassora, 2016). The discourse of semi-structured interviews could be analyzed to make relationships that help to understand the data (Kasimba et al., 2018).

The key informants considered for the interviews of this qualitative research, were represented by IDEM (A, B, C, D). These informants were considered for their willingness to collaborate with the investigation and because they fulfill certain characteristics (know the culture, live in the community, recognize their relationship in some activity of the food system of their community) that in the same context, other members of the community do not. For the organization of data and information, some foods are considered key, such as edible wild plants and practices that permeate in the cultural context and the daily diet (Bertran, 2010: 388).

Participatory research

A participatory research process² is proposed, integrating ethnographic tools such as the “diálogo de sabers” (Geilfus, 2008). Through this approach,

it is possible to integrate the traditional knowledge of the communities with scientific knowledge, creating a path to a trans disciplinary process of research (Andrade & Eaton, 2015).

In participatory research, the social participation of the members of the community is the fundamental ingredient in the solution and understanding of a problem, since participatory research allows to deepen the collective knowledge (Guzmán, López, Román & Alonso, 2013), which rectifies the knowledge and data found on a particular topic, in this case traditional food.

Participant observation

The participatory visual process was necessary to document those elements of food that exist symbolically on social dimensions, expressions of the environment and culture itself (Collier & Collier, n.d.). This research places emphasis on photos seeing from multiple perspectives around food preparation, community landscapes and community resources, to describe and give meaning to the photos.

Participatory visual research pursues the kinds of questions that are typical of other forms of applied qualitative research. These include contextual, self-reflexive, evaluative, and strategic questions (Gubrium & Harper, 2013), such as what stories are told? What meanings are attached to people, places, and artifacts?

Matching the methods and Results

Individual and collective knowledge, traditional knowledge that permeate in everyday food.

For this section, the links with history, knowledge, natural resources, and forms of collection and preparation that continue to permeate daily is described from the voice of the actors of this native community. In this exploratory effort, both young and old people describe how they appreciate natural resources for the symbolic, culinary and economic importance. Through interviews (**individual knowledge**), different edible wild species were recognized from the voice of the actors, confirming the persistence and management of the traditional food system in native groups in Baja California. The result obtained from the participatory research (**collective knowledge**) shows that collective ideas and interests based on food culture for well-being is a way to generate action for preserving heritage and landscape.

Individual Knowledge: Matching the visual research with the data and local perspectives

Through semi-structured interviews, significant plants in this area recognized for economic, medicinal and edible value by the community people were: rosemary (*Artemisia californica*), white sage (*Salvia apiana*), sage (*Salvia munzii*), valerian or made (*Eriogonum fasciculatum*), holy grass (*Eriophyllum confertiflorum*), bear grass (*Rhamnus crocea*) and oak (*Quercus agrifolia*) (González et al., 2010). The result obtained was the connection of the

characteristics, from old and young people, about the knowledge of traditional food and its relationship with natural resources.

Among the edible plants recognized in the interviews acorn (seed from the *Quercus agrifolia*), wild quelite “berro” (*Nasturtium officinale*), qurote flower (from the chaparral yucca, *Hesperoyucca whipplei*), mountain potato (*Dichelostemma capitatum*) (Delgadillo, 1998, Wilken, 2012). Some uses and customs on food continue to be practiced such as the activity of temporary harvesting of fruits, seeds and leaves or the activity of hunting small prey such as quail and rabbits.

In the following lines, some answers from the interviews are present. Their memories are still alive in the present, and that will probably be the pillar for the next generations. Returning to the main questions, **how important are traditional knowledge and practices in your food system? What resources are the most outstanding in the community environment today and which are related to the traditional food system?** Some relevant data from the interviews are mentioned:

Informant A tells common foods and ways to prepare food from 50–60 years ago, it is no longer easy to find for the new types of diets, the lifestyles and the different weather. In particular, he remembers a type of wild plant, called in spanish “berro”, a plant considered important for the traditional diet. For informant A, this plant indicates if it was a good raining season. This plant is consumed alone or with salt, only

² Participatory research is defined, analyzed and resolved by those involved; it aims to raise the level of awareness of reality (Morales, 2001).



Image 1. Landscape and flora from San José de la Zorra (2017).



Image 2. Collecting watercress in the spring season and a kid eating the plant. Source: own take (2018).



Image 3. Sacred place under the oak trees, where the traditional acorn atole was made. San José de la Zorra. Source: Macias A. (2019)

appears in streams (season of winter rains), he remembers:

“El berro se encuentra donde hay agua, que pos ahorita ya no hay tanto arroyo o vertientes de aguas, ya ni llueve como antes. Y pues, ese se lo come uno así nomás directo o lo guisas” (Comunicación personal, informante A, San José de la Zorra, octubre, 2019).

On the other hand, the acorn is another emblematic food, which is obtained from endemic oaks in Baja California and southern California. From this seed, an atole³ is prepared. In the case of this community, the acorn is collected from the oak *Quercus agrifolia*. As a resource, its availability in the food system is considered important for the old people. Since it is, not only part of the past and tradition, but is also a symbolic resource that gives identity and ecosystem benefits to the community.

In relation to the initial questions, other content questions arise from the interviews and the perceptions of the actors such as; how often do you eat the traditional food? Are you still making acorn atole? To answer these questions, the interview turns to informant B, one of the oldest persons in the community related to the traditions of the culture. She said that she keeps preparing the acorn atole at the old way, in a stone metate, she answers:

“Ahora pues yo seguí la tradición y pues sigo haciendo el atole de bellota, como

me ensañaron” (Comunicación personal con informante B 15 de marzo del 2018).

In an interview with informant C, active agent in management and cultural issues of the community of San José de la Zorra, she comments on the question; **what does the oak⁴ mean for you, for your family, for the community?**

“Es una planta muy importante en la comunidad, se secan bracitos y los rejunamos para la leña y pues con eso cocinamos, y pues todos usan la bellota, usan la leña, usan su sombra” (Comunicación personal con informante C, 14 de abril del 2018).

According to the actors, recognizing the edible products have been inherited from generations, thanks to exploration, observation and testing in the wild. For this reason, the question arises, **what wild plants around you do you use?** what do you use them for? These questions mention native and non-native plants in the area, mostly for medicinal and food use. Informant B, speaker Kumiai, who has lived all her life in the community of San José de la Zorra, comments on the matter:

She mention how to prepare wild flowers of Agave and Hesperoyucca (native specie, *Hesperoyucca whipplei*-*Agave shawii*)... “La flor de qurote hay de dos clases; esta la moradita que esa hay que cocerla y tirarle el agua y después al agua tibia. Después se pica y

³ Atole is a drink of pre-Hispanic tradition, also constituted as a food by Mexicans. It is mainly made with cooked corn, ground, and left in water. It can be made with other grains

⁴ In addition, the acorn seed to make handicrafts, firewood is used to keep wood stoves alive. The preparation of food with firewood is also prefer by people who cook in the community, despite having access to a gas stove.

pues con cebollita queda bien rico”.

Also she mentions the mustard leaf “También tenemos la mostaza (non native species), es un quelite que hay mucho, pero aquí donde estamos nosotros no hay, tenemos que ir para el lado del tigre a rejuntar”.

Among the memories of informant B, a plant that founds on the slopes of the hills of the coastal scrub in the eco-region of the Mediterranean, comes to know as the “**papita del monte**”, a native species of the region, ***Dichelostemma capitatum***. This plant appears after the rainy season and eats the bulb, which has a peculiar flavor, between jicama and potato

In this sense, food was (and is) the basis of social relations between the native groups, the territory and the colonial cultures that came to establish themselves in their territories. Wilken (2018) confirms this in his work “Ethnobotany Kumiai”, where he points out the relevance of ethnobotanical knowledge for the sustainability of these peoples, mentioning among their ethnographic descriptions some plants with edible and economic uses, such as:

Salvia apiana (white sage, dried sage) and ***Salvia columbariae*** (chia), edible in different ways, the leaf used for medicinal purposes. Both are widely used by the Kumiai, however, *Salvia apiana* is currently the best known and used among the natives and has greater symbolic and economic value.

Collective knowledge: co creating community through symbolic traditional food systems

The objective of this participatory activity was to integrate the significant elements of the past and present in the traditional food. In the first workshop, we co-create a timeline. The timeline shows perspectives of the evolution of the community, considering management, access and no access to different resources used as food. Second, a workshop is located in the present, they express their need to continue with these traditional activities and consider how they are organized around food.

The result obtained from the participatory research (collective knowledge) shows that food is a vehicle to integrate collective ideas for conservation and interests for well-being. The traditional natural resources have symbolic and a commercial importance in people's daily lives, since some are used as seasonal food, medicine, direct sale of the plant and for the elaboration of their crafts.

In the timeline, the main questions were answered: **How does the environment, traditional food and community well-being converge?**

It is recognized that their natural environment has limited resources, so when they collect food, they only take what is necessary. An exact date on the integration of agriculture in the community is not mentioned. According to what some informants comment, their families worked the land that they rented to Mexicans and foreigners to plant wheat, beans



Image 4. Preparation of the mustard leaf, a non-native plant adopted by the Kumiai natives of San José de la Zorra as traditional food, hands of informant. Source: Macías A. (2020).



Image 5. Collecting *Dichelostemma capitatum* and landscape during the spring season in the way to San José de la Zorra Source: Macías A. (2020)

and barley, it is estimated the entry of formal agriculture to the community in the middle of the 20th century. It is mentioned:

“Hoy también se cultivan trigo, cebada y calabazas. Pero la temporada para plantar alimentos, que es preferiblemente en marzo, ya no es segura porque el clima está fuera de control”.

From this perspective, it seems interesting that in these times there is a perception of scarcity of natural resources compared to before. In addition, it is mentioned that they do not remember droughts and the raining in season has been less and less. In the community, there is sufficient water, according to the participants, for domestic use and for sowing, however, the quality of the water is doubtful (Wilken, 2004).

For the next workshop, based on the present needs, the main questions were... How they are organized around their food? Do you think you need to continue with these traditional activities?

Traditional food responds to culture and heritage for the natural resources, it becomes essential to adapt knowledge to the conditions of the territory (Trichopoulou, Soukara, Vasilopoulou and Effie, 2007). Although the mentioned food was linked to the territory, other foods were linked to external influence, such as stores within the community and outside the community, what they have available in their food landscape (market) and what the government can give to them. For these factors, they express the need to create a resilient food system according

to the land needs.

“Nos gustaría cultivar nuestros propios alimentos y también reforestar con plantas nativas de aquí”.

The actors recognize in a collective perspective the need to pass the knowledge on to future generations, so that they do not forget. They mention worrying, “To keep alive the importance of the resources of their community”. There is a need for a sustainable use of resources, since it not only represents a symbolic use, but also an economic one, of support for the family support, for example, the elaboration of handicrafts with junco (*Juncus acutus* and *J. textilis*).

To generate economic activities and food production in situ, artisan women propose collaborative efforts to promote opportunities for all. Some family members must go outside the community to work in the town or in the Guadalupe Valley as wage earners, laborers, or cowboys on the wine farms (Garduño, 2015).

Another question that results from this research was...Is diet an important factor for the cohesion of this group?

In this sense, food is an element that we all do and share, in practices and habits as part of a group in dynamic social interactions. What we see through the organization it's the idea to have something in common, something basic, that is involved in all living systems. That common and insignificant, but elementally and important idea was food. Food was the topic that moved the interest of some members in the community to organize, collaborate and

share what they know about the past and the present.

In the dialogue, several principles of agroecology were identified in the form of cultivation of some vegetables for family consumption, which they have shared from generation to generation. Although traditional food is considered sustainable due to the direct relationship and appreciation that it has with the natural resources of the places of origin, this is not always the case, since the commercialization and exploitation of certain wild foods considered "traditional" also affects in a way the resource regeneration (Toledo & Barrera-Bassols, 2011).

This community is placed in a specific territory and integrates cultural and natural heritage for the future generations, it is important to consider integration of ideas for harmony between people, food production, territory and nature. There is a shared feeling among members, which the collective needs will be met under a cooperative commitment and they recognized food is one of those needs. Through the observations, this diagram is made; it integrates the notions of the participants about the needs that must be worked in the community to manage their food and heritage resources.

In this way, informants expressed that traditional foods are healthier, since they fed on the natural environment, and now, products like sugar, refined flour and sodas, harm their well-being and replace some ingredients that were present before. What could be achieved from the women who participated was to create lines of action around their

food and economic needs, which are aligned with the availability of natural resources (for either production or collection).

Although it requires an extensive participatory process to consolidate sustainable community actions, recognizing a common territory with shared identity about its diet, in a symbolic and material sense. Considering that people participate in complex networks of ecological and social interactions, deep systemic causes of the local food context are born from the dialogue that integrate cohesion, territory and food politics. The proposal is to pursue knowledge and ways of knowing that allow constant feedback between and integration of ideas of a common good in particular contexts.

Rethinking the traditional food system and communities

This work frames the experience and relationship with natural resources that are involved in the traditional food system of a community. Emphasizing practices of the traditional food system of the group that resisted to the present time, the qualitative information helped to verify the relations of encounter of actors, scenarios and questions about traditional food.

If traditional food, in the case of the study community, is part of the cultural heritage and has an added value as a means of subsistence, it is necessary to rethink how to manage the resources involved in the collection and preparation processes so that it is sustainable for the present and future generations (Galeana, Couturier, &

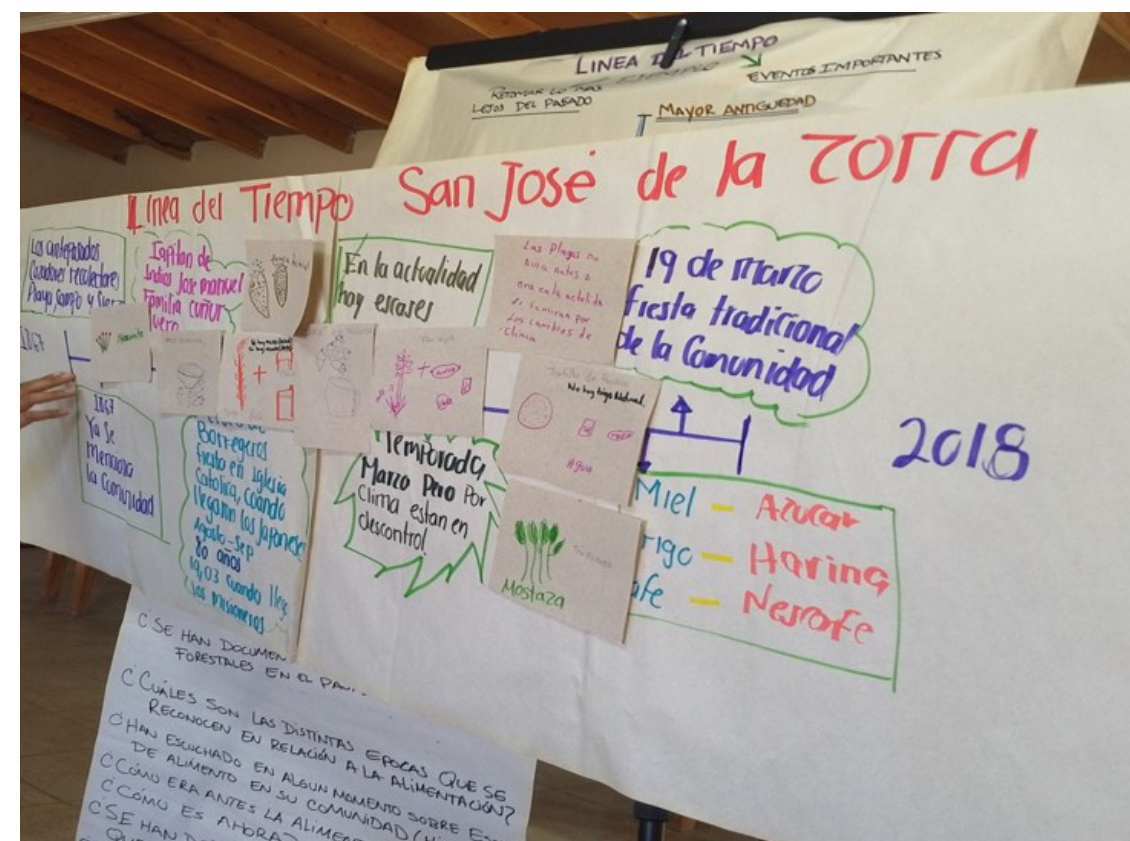


Image 6. Timeline. In the activity they mention elements of food practices reflect and respond to the territory.. Source: Jimenez C. (2018)

Monsivais, 2018). The extraction and capitalization of natural resources from the natural environment is essential for the local economy of these groups, therefore, in this dynamic system we found ways to incorporate a constant management for the natural and cultural heritage.

Rethinking the food system, could be a good factor of resistance to the crisis and the relocation of current food, based on a natural, technical and cultural heritage, on a logic of proximity and territorial governance (Rastoin & Ghersi, 2010). For this, it is necessary to rethink and assimilate the idea of returning the power of decision to the people, working collectively with those involved in the organization, in the ways of obtaining and consuming food, regardless of the level at which they are developed.

In the case of the native community of San José de la Zorra, it must be rethought these sense of community organization, for a responsible society-nature relationship from food, as it is the basis for the traditional food system to be maintained and followed for future generations in these times of rapid change.

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Image 7. Organization of artisan's woman to work in a collective around their food system (2020).



Image 8. Junco (native plant) basket, Kumiai handicraft, in the process of elaboration by Doña Conchita. Source: Caldera S. (2017)



Image 9. Union make force, the pots of different cooks sharing the same stove. Source: Macias A. (2019)

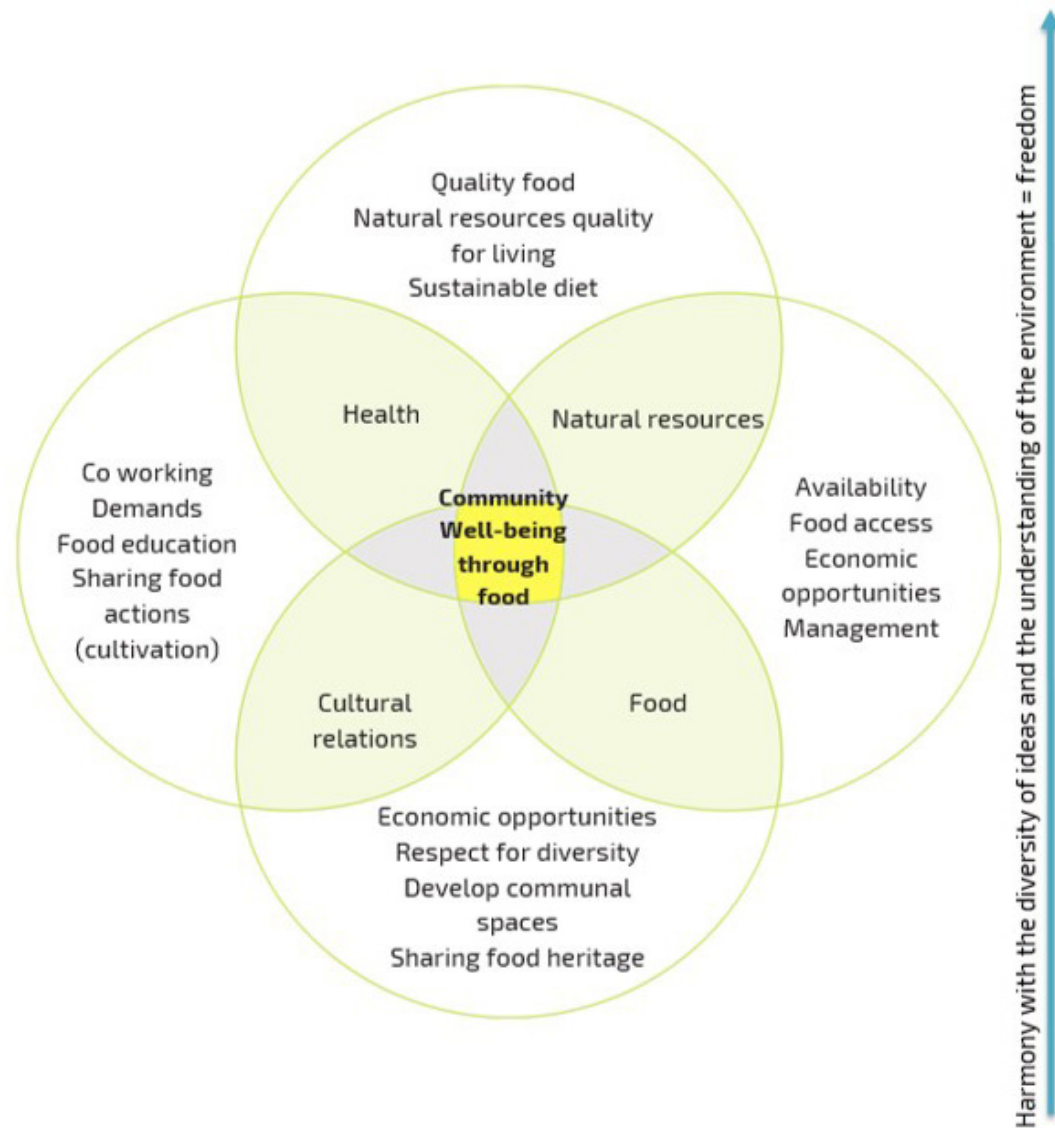


Diagram 1. Proposals of basis for generating community and well-being around a traditional food system (Venn diagram) adapted from Garduño (2018). Own elaboration (2020).

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Key informants interviews

Informant A: Don Rito Silva, comunidad de San José de la Zorra.

Informant B: Beatriz Carrillo, comunidad de San José de la Zorra.

Informant C: Teresa Zepeda Montes, comunidad de San José de la Zorra.

Informant D: Gregorio Montes, comunidad de San José de la Zorra.