Investigation note

Rescue of traditional agricultural knowledge in the *ñätho hñähñu*

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Abstract

The ñätho hñähñu are an ancient people and legitimate owners of the territories that today comprise the center and north of the State of Mexico, over the centuries they forge a way of life reciprocal and complementary with their environment, creating a worldview integrated into their territory and a complex system of symbols that give rise to their language, an essential element of their biocultural heritage and their knowledge that make it possible to structure the system of agricultural knowledge and develop the milpa and the backyard -Huähi ne Nxutahngu- and integrate them into their environment as an irreplaceable agroecological unit, in harmony with their worldview and consistent supplier of foods, medicines and raw materials, the study was conducted in March and September 2017 and 2018. The agricultural praxis of the Otomi is based on the rescue and reappraisal of their technical knowledge, built and validated based on accumulated experiences as means to overcome climatological and geographical conditions, guarantee their survival and reproduce as a society in a territory. That is, the system of symbols allows them to be collectivized in individual action by transferring the knowledge not only from the old man -Xhita- to children and grandchildren, but between families and localities of the same ethnicity, validating and collectivizing its social function.

Keywords: agricultural, biocultural, knowledge, Otomi.

Reception date: April 2022
Acceptance date: May 2022

The ñätho hñähñu are ancient people, possessors of biocultural heritage and legitimate owners of the territories that today comprise the center and north of the State of Mexico. Over the centuries, they forge a way of life reciprocal and complementary with their environment, creating a worldview integrated into their territory and a complex system of symbols that give rise to their language, an essential element of their biocultural heritage and their knowledge that make it possible to structure the system of agricultural knowledge and develop the milpa and the backyard -Huähi ne Nxutahngu-.

The agricultural praxis of the Otomi is based on the rescue and reappraisal of their technical knowledge, built and validated based on accumulated experiences as means to overcome climatic and geographical conditions, survive and reproduce as a society in a territory. Therefore, the objective of this work is to apprehend how the rescue of the traditional ñätho hñähñu agricultural knowledge is lived and how it is collectivized, validating its social function.

The document consists of four sections: in the first section, a theoretical-methodological proposal is proposed, which allows addressing the rescue of traditional agricultural knowledge in the ñätho hñähñu. In the second section, a reflection on the validation of traditional agricultural knowledge. In the third section, how traditional agricultural knowledge is transmitted. In the fourth section, the conclusions, which show the existence of a social movement capable of generating a process of rescue of traditional agricultural knowledge autonomously among the ñätho hñähñu, which makes possible its transmission over time, by establishing itself as applicable knowledge in the generation of foods and therefore, its defense and inheritance coexists from the Xhitas to the children and grandchildren.

The study of biocultural heritage integrates the traditional knowledge of indigenous peoples about biological and genetic resources, landscape and territory, as well as the complex knowledge of the adaptation, use and coexistence of the social group with ecosystems and biodiversity. The apprehension of this complexity integrates into the perspectives of the paradigms of postmodern science, an a priori epistemological approach of the social sciences in relation to the natural sciences, a dominant paradigm of common sense over modern science, which for Foucault is the increasingly accentuated split between the rational-scientific discourse and the emancipation of the subjugated knowledge.

Theoretical support is required, necessary to better specify the theoretical proposals that allow apprehending 'the rescue of traditional agricultural knowledge in the ñätho hñähñu'. For which the following question is raised: how to approach, analyze and understand, from a theoretical and conceptual framework, the rescue of traditional agricultural knowledge in the ñätho hñähñu? It is a way of approaching the answers to this question, it leads to using theoretical proposals known as constructivist or postpositivist. It is a possibility of approaching the ñätho hñähñu agricultural knowledge as a cultural object of the historical action that results from the construction of the social and cultural reality where they take place.

To this end, authors such as Habermas (2003) are considered, in order to learn the action of the original cultures, local knowledge and the rescue of the biocultural heritage, taking as a primordial quality the point of view of the native and secondly, the affirmation that every cultural object must be understood within the context that gives it its meaning, that is, in its local context in which knowledge represents a vision and an integral construction of the world that precisely gives meaning to its existence and the force that unites the original peoples.

The tautological condition of science suggests the need for one or more theories to interpret facts and reality under the assumption that this or theses allow the approach that leads to the explanation and approximation to reality. Thus, the realities will be different depending on the theory with which it is intended to explain, interpret and learn reality, based on criteria that give clarity to the research under any methodological cut that scientific rigor refers to and contextualizes in the theory on which it is based (Cornejo *et al*., 2011).

By approaching reality under a conception different from positivism, we make use of the treatises of critical theory, for this, the existence of the dialectical relationship between reason and history is completed with nature, within a relationship between the oppression of the human being by nature and the technical mastery of it and between the oppression of society and the rational demand of social reality. That is, agricultural knowledge, as a reason, must give foundation for a non-repressive organization of society and the mastery of nature; for Baldovinos (2003), critical theory allows reaching an agricultural philosophical support that impacts on sustainable agriculture, on a global and humanistic vision, whose results translate into greater social justice, equity, freedom, solidarity and peace.

Therefore, the present work is based on the qualitative method, which, from Rural Sociology and Ethnography, is a tool of critical theory that allows explaining the reality and the approach of the rescue of traditional agricultural knowledge -components of the biocultural heritage of the original peoples-, as a historical reason that materializes in the ñätho hñähñu people and that conceives history as a libertarian process, which adheres to the minority and emancipates the human being within they objective reality as a social phenomenon.

In this sense, a social and ethnographic research based on observation and dialogue was carried out, through 56 direct dialogues with the ñätho hñähñu, visits to their Huähi ne Nxutahngu and 21 in-depth interviews. All this in two productive cycles of the Otomi from high valleys, governed by the rainy period, between March and September 2017 and 2018.

With the data obtained, the territorial reconfiguration of ñätho hñähñu ejidos, localities and municipalities, the identification of heritable agricultural knowledge and the most important crops in their food worldview were carried out. Describing natural resources, worldview, territoriality, religiosity and myths of the Mexican Otomi.

Finally, the research comprises three phases. The first consists of the bibliographic review. The second is a period of fieldwork that begins with the geographical knowledge of ñätho hñähñu ejidos and localities and the application of ethnographic techniques: in-depth interviews and direct dialogues, in two ejidos or localities of each of the 21 Mexican municipalities with Otomi population. The third comprises the apprehension of information and its systematization within the study of biocultural heritage and the rescue of traditional knowledge.

Starting from what Brinton, Seler and Soustelle proposed, the Otomi are the first to populate the territories that the State of Mexico occupies today, clarifying that there is no certainty about their origin or how the first ñätho hñähñu Otomi arrive in these lands; however, they must be the first settlers and the most fruitful. Thus, it is pointed out that the research was carried out in the historical territories occupied by the ñätho hñähñu, located in the high valleys; that is, in the forested regions of enormous biogenetic resources, inhabiting more than three hundred ejidos and localities and adding up to a population greater than one hundred thousand ñätho hñähñu (Figure 1).

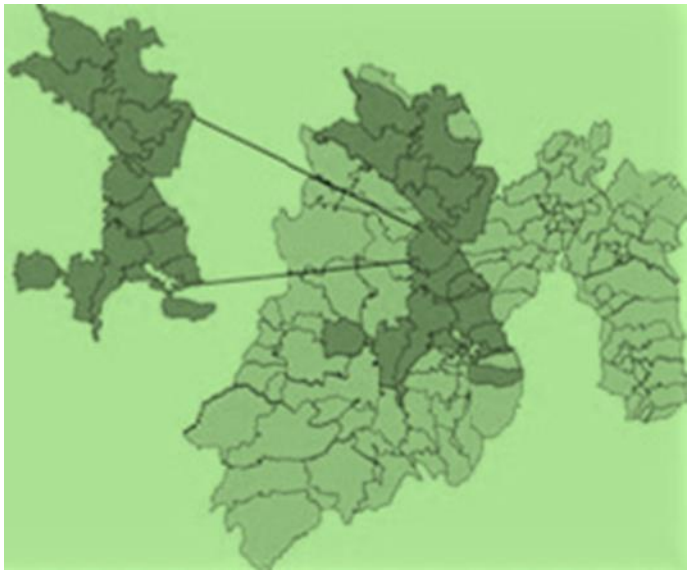

Figure 1. Map of Otomi municipalities. Acambay, Aculco, Amanalco, Capulhuac, Chapa de Mota, Jilotepec, Jiquipilco, Lerma, Metepec, Morelos, Ocoyoacac, Otzolotepec, Soyaniquilpan, Temascalcingo, Temoaya, Tianguistenco, Timilpan, Toluca, Villa del Carbón, Xonacatlán and Zinacantepec.

The validation of traditional agricultural knowledge

For Geertz (2003), man as a rational animal is within a world of meanings, therefore, culture is a set of links that constitute the horizon of meanings from which man moves and exists. In this line, the conceptions of social and cultural reality are particular to the place where they are experienced, so, worldviews change socially and each people has a culture and a particular way of life, remaining dynamic and not static, in this way, time and space will be decisive in traditional agricultural knowledge and in the set of elements that make up its biocultural heritage.

Habermas (2003) defines culture as a collection of knowledge in which participants in communication provide themselves with interpretations to understand each other about something in the world. Thus, the cultural reproduction of the world, in its semantic dimension, ensures that the new present situations are placed in relation to the already existing states of the world, in this way, the continuity of knowledge and culture is ensured, the continuity of the biocultural heritage is strengthened, and its coherence is measured in rationality as soon as knowledge is accepted as valid.

For Mélich (1998), the processes of symbolic reproduction of the world of life are closely related to education; so that the daily communicative practice, the traditional agricultural knowledge, continue to emerge and reproduce from the family and group aspect of the original peoples. For symbolic anthropology, no matter how much the world of life evolves, essential and traditional symbols remain and reappear; therefore, Habermas (2003) maintains an acute criterion of rationality in the form of validity of the knowledge accepted as valid, that is, he asserts that its origin comes from within a historical educational process.

Therefore, if a technology is composed of conditioned imperatives that prescribe how subjects have to organize themselves in a rational way with similar arrangements, the validity of knowledge is expressed in the action of the subjects in a rational way and with similar arrangements according to certain criteria on what can be done and what rules adapt; that is, the rational way to participate in the world, so the application of technical rules can only be effective if, even implicitly, it expresses a knowledge about the laws of nature (Habermas in Garrido, 2011).

If culture, in the broad sense, includes knowledge, beliefs and other habits and capacities acquired by man as a member of the society where he develops, for Mélich (1998) culture will be interpretation, communication and worldview, it is the form of construction of the world.

Transmission of traditional knowledge

For Habermas, the rationality of the world is epistemologically constructible and deconstructible in the apprehending of collective action; by addressing the biocultural heritage, from traditional agricultural knowledge, ontological to the symbolic system of beliefs that integrate into the worldview of the original people, it is possible to direct the construction of social scenarios by the individual and the autonomous society, always destroying and constructing the meaning and sense of the plot of life and its perspective (Ávila, 2012).

It is necessary to specify how important is the behavior, not individual, but that of individuals responding to their communicative actions, also called 'emancipatory wisdom', it constitutes a reference of social action. In this sense, Habermas (2003) analyzes the conditions of the rationality of social action from the interaction based on the use of language, supported by the principle that the underlying reason in the action of the subjects is a property of the structures of communication, but not of individuals alone (Garrido, 2011) that in an organized way, converted into subjects, reach a holistic sense in their experience, actions that become alternatives to prolong their identity project, generating social movements by rescuing knowledge, as a defense mechanism to the conditions exposed to a society by the outside (Castells en Aldana, 2000).

When speaking of traditional agricultural knowledge that is inherited and transmitted, we speak of the spirit of communication of social subjects within the universality that behaves as does the grammar of a language with respect to the individuals who speak it or as a system of norms with the individual agents and that does not underline the moment of universality, but it allows the peculiar connection that occurs between the two (Kobialka, 2014).

Therefore, the balance between nature, territory and culture in the original people, socially speaking, is based on the time and space occupied by the social group and on those expressions of collective action that unite and give integrating substances to the system of symbols that forge the structure of beliefs, rituals and myths that give rise to the original worldview; that is, their magical religious beliefs, the validations of their agroecosystems and their integrative traditionality.

The postpositivist theoretical approach internalizes in the reality of the interaction of the constituent parts of traditional agricultural knowledge and recognizes the historical interactions and the explanation of the social structure with its function and significance in collective productive

activities within its worldview and territoriality. For Boege (2010), when apprehending the dimension of biocultural heritage, it is necessary to clarify its components: intervened biotic resources, use of natural resources by cultural patterns, traditional agroecosystems and domesticated biological diversity.

For Dussel (1998), it is the study strategy that faces the problem through the construction of an analogical paradigm, based on a proposal of pretension of hegemony among those below, the original peoples, which qualifies as a policy of liberation, this proposal starts from the importance of the apprehension of biocultural heritage and traditional agricultural knowledge as a means to achieve food sovereignty, integrated into the new movements that incorporate demands of other movements into their own, since, in each of them, what is at stake is a problem of survival against the same system.

Therefore, the theoretical foundation of the rationality of the world of life of Habermas allows the apprehending of the collective action of the ñätho hñähñu, together with the validity of traditional agricultural knowledge as part of the biocultural heritage and its ancestral transmission that, in turn, has allowed internalizing the reality of survival and worldview built throughout its historicity by the social group.

The theoretical paradigm supports the existence of traditional agricultural knowledge as a collective action that are substantive to huarache agriculture as Torres (2017) refers to. Agriculture based on ethnobotany, agroecology and sustainability has been positioned in the debate as the foundation of several guarantees to which peoples are entitled: food sovereignty, self-determination, territoriality and absolute respect for their uses and customs.

For Boege (2010), knowledge is the result of productive practices, understood as praxis, and organized under a system of traditional knowledge is called corpus, creating an inseparable association between its worldview and territoriality. By using the alternative paradigm, common sense is rescued over modern science, it is possible to emancipate the subjugated knowledge over the rational-scientific discourse and a valuable route is opened for the study of the biocultural heritage of the indigenous peoples (Bartra, 2010).

Conclusions

Today the ñätho hñähñu coexist harmoniously with their peers and the ecosystem, take advantage of and defend their vast natural resources, manage them and maintain a relationship of respect with the land, the sun and water. In their Huähi ne Nxutahngu, they produce corn, beans, broad beans, peas, lentils, wheat, oats, potato, chili, tomato and forty-six other species, as well as medicinal plants and fruit trees, so they are self-sufficient and full nourished, within their agricultural worldview, man and woman constitute the primordial natural relationship of their relationship with the environment that surrounds them. They continue to transmit knowledge to understand agricultural times, the development of agroecological systems and the manufacture of tools: hoe, planting spade, weeding board and plow and develop irrigation systems.

Finally, at the crossroads for food sovereignty, they not only raise their hands, as owners of their biocultural heritage and immense natural reserves in communal and ejido property, they are participating in collective action; that is, the Otomi who were so often called 'the faceless' are on the move and, from their Huähi ne Nxutahngu, they will continue to produce food and defend their heritage as did the Xhitas who gave rise to them.

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