The leadership of the Oaxacan municipalities against COVID-19: The case of Santa Catarina Cuixtla, México, an analysis from the crisis management approach

El liderazgo de los municipios oaxaqueños frente al COVID-19: El caso de Santa Catarina Cuixtla, un análisis desde el enfoque de gestión de crisis

Emanuel Lorenzo Ramirez Arellanes
renzinn@gmail.com
https://orcid.org/0009-0006-2468-3821
Universidad de la Sierra, México

ABSTRACT

In the state of Oaxaca, Mexico, two regimes of social and political organization coexist, political parties and indigenous regulatory systems (SNI), the latter present in 73 per cent of Oaxacan municipalities, a context where the main characteristic elements are the community assembly, the cargo system and tequio. During the Covid-19 pandemic, some municipal governments of the SNI regime have stood out for their leadership in managing the health crisis, innovation and implementation of actions to contain and minimize effects in their territories, and prioritizing the protection of public health. In this sense, the objective of this communication is to analyze the strategies that the Oaxacan SNI municipal governments have implemented to face the Covid-19 pandemic, through the crisis management approach. The case of Santa Catarina Cuixtla, Oaxaca, whose socio-political organization system preserves its uses and customs, highlighting features of social cohesion, is presented. The management of the pandemic is characterized and analyzed from ten executive tasks for effective crisis management (early recognition, creation of meaning, decision making, coordination, accountability, learning, resilience, among others) identifying innovation actions, participation, and social cohesion.

Keywords: indigenous regulatory systems, Covid-19, Mexico, crisis management.

RESUMEN

En el estado de Oaxaca, México coexisten dos regímenes de organización social y política, los partidos políticos y los sistemas normativos indígenas (SNI), estos últimos presentes en el 73% de los municipios oaxaqueños, contexto donde los principales elementos característicos son la asamblea comunitaria, el sistema de cargos y el tequio. Durante la pandemia por Covid-19 algunos gobiernos municipales del régimen de SNI han destacado por su liderazgo en la gestión de la crisis sanitaria, implementando e innovando acciones de contención y minimización de efectos en sus territorios, priorizando la protección de la salud pública, en tal sentido el objetivo de esta comunicación es analizar las estrategias que han implementado los gobiernos municipales de SNI oaxaqueños para enfrentar a la pandemia por Covid-19, por medio del enfoque de gestión de crisis. Se presenta el caso de Santa Catarina Cuixtla, Oaxaca, cuyo régimen de organización sociopolítica conserva sus usos y costumbres, resaltando rasgos de cohesión social. Se caracteriza y analiza la gestión de la pandemia desde diez tareas ejecutivas para una gestión efectiva de las crisis (reconocimiento temprano, creación de sentido, toma de decisiones, coordinación, rendición de cuentas, aprendizaje, resiliencia, entre otras) identificando acciones de innovación, participación y cohesión social.

Palabras claves: sistemas normativos indígenas, Covis-19, México, gestión de crisis.

INTRODUCTION

The health crisis due to Covid-19 means a change in ways of life both at the individual level and in the socio-political organization of the world's territories, so that the different sectors, such as the public, social and private have adapted various strategies to ensure survival in the turbulent environment that has plagued the planet since November 2019. In this context, governments at the federal, state, and local levels have an important role to play in protecting the health of the population, reducing the impact and lead processes of adaptation to the new normality.

Mexican municipal governments, specifically those of the Oaxacan province, present characteristics of institutional weakness (Díaz, 2011); however, they also highlight exceptional cases where the management of the health crisis has been effective, due to the actions and results obtained. The starting point of the study is the legal obligation that municipal governments have to ensure the well-being of their population, in the Oaxacan case, such attribution is established in the third article of the Municipal Organic Law for the State of Oaxaca, which mentions that: "The City Council's primary mission is to serve the population within the legal framework for peace, equality between men and women, justice and social development", so in a crisis situation such as the pandemic, the local government has the duty to serve its population, establishing various public policies that contribute to the preservation of life and health.

In article 44, the law identifies that the city council should not, "Issue agreements or actions that contravene provisions of authorities in health matters that put the health of the population at risk." In the same way, article 61 identifies as a serious cause for the revocation of the mandate of a member of the City Council: "Disobeying sanitary measures or public health protocols, in the case of health emergencies, epidemics, or any health crisis."

These legally established restrictions show the obligation that the Oaxacan municipal governments have regarding the provision of public health in their territories, these are the main reasons for dedicating an analysis to the actions that the

Oaxacan city councils have conducted to face the pandemic.

In this order of ideas, the research question is: What effective strategies have the municipalities of Oaxacan indigenous regulatory systems implemented to face the Covid-19 pandemic? In such a way that the objective that corresponds to the question is: to analyze the effective strategies that the municipalities of indigenous normative systems of the state of Oaxaca have implemented to face the Covid-19 pandemic, through the crisis management approach. The study municipality is Santa Catarina Cuixtla, a population of Zapotec origin, located in the Sierra Sur region of the state of Oaxaca, whose sociopolitical organization regimen is the indigenous regulatory systems.

Indigenous normative systems include collective norms that have been present and have survived for several centuries. This regime has its own political institutions which are differentiated and inveterate, such as the community assembly, the system of community charges and the tequio (in-kind cooperation and work by members of a community for a common goal such as public works, clean-ups, and parties). These systems include internal rules or specific procedures for the renewal of mayors and councils, in accordance with the federal and state constitutions. Each municipality in the regime has its own regulatory systems.

Indigenous peoples maintain their systems traditional normative in collective acts and of relevant importance for community life, such as the work commissions, the tequio and the election of local authorities. This system of social and political organization, commonly known as uses and customs, grants its own cultural identity and represents an example of direct participatory democracy in government through the community assembly (Carlsen, 2003).

MATERIALS AND METHODS

This is a study with a qualitative approach, with an exploratory-descriptive scope, since it is a new phenomenon and characterizes crisis management (Boin, Kuipers & Overdijk, 2013), according to the design, it is both documentary and field research, because secondary sources were used to obtain information. Data from the context of the pandemic and for theoretical support, later field work was carried out, through a semi-structured interview instrument (Annex 1) in this sense five councilors were interviewed. Due to the particularity of the analysis, the case study was used (Stake, 1991 & Prats, 2005), whose key informants were the members of the city council of the aforementioned municipality; In relation to temporality, it is a cross-sectional analysis (Tamayo & Tamayo, 2007), carried out in the months of September - November of the year 2021.

In the first part of the document, a general overview of the pandemic is presented, as an emerging phenomenon, which took the world by surprise, before which both governments and civil society and individuals have designed strategies to lessen the effects, in this In this sense, some figures are presented on the effects of the disease at the global, national and local levels. Then, the theoretical approach that supports the document is addressed, taking Boin et al. (2013) and Culebro (2021) as main references, who have studied public policies and government actions from the perspective of crisis management, a scenario where frames the current health contingency. The theoretical approach is complemented with social cohesion, an important characteristic of native peoples.

Next, the analysis of the strategies and actions carried out by the local government of Santa Catarina Cuixtla is presented. The analysis follows the order of ten executive tasks for effective crisis management according to Boin et al. (2013) namely: early recognition, meaning making, critical decision making, coordination, coupling and uncoupling, meaning generation, communication, accountability, learning and resilience. This theoretical approach was taken up again, as it was considered integral and ad hoc to the problem addressed, clearly establishing the categories of analysis.

The municipality was chosen because its confinement measures made national news, specifically on May 15, 2020 (Andrew, 2020) when, in the midst of the pandemic, residents of the municipality, backed by the municipal authority, did not allow entry to the town of a funeral procession from the country's capital, one of the points hardest hit by the pandemic. This situation attracted the attention of the outside towards the management of the crisis of the city council, when observing the organization of the citizens and the city council, to protect the resident population in the municipality.

RESULTS AND DISCUSSION

This The world facing an unknown enemy, the Covid-19

At the end of December 2019, the media around the world announced the outbreak of a hitherto unknown coronavirus. It was in the city of Wuhan, Hubei province, China where the first case of infection was presented on November 1st, 2019 (Guzmán, 2021); however, it was not until December 31 of that year, when the Municipal Commission of Wuhan

Health and Sanitation reported 27 cases of atypical pneumonia to the World Health Organization (WHO), including seven severe cases (Sanitaria 2000, 2020).

In this regard, the World Health Organization (WHO, 2020) reported that the "causative agent of this pneumonia was identified as a new virus of the Coronaviridae family" called SARS-CoV-2, whose associated clinical picture is called Covid-19. The cases spread relatively quickly through several countries, so on January 30, 2020, the WHO declared the Covid-19 outbreak a public health emergency at the international and later global level. The first case in the American continent was reported in the United States, on January 20, 2020. For the Latin American region, Brazil registered the first contagion on February 26, 2020, since then the coronavirus has spread to the 54 countries and territories of the continent, according to the Pan American Health Organization (PAHO, 2020).

In Mexico, on February 27 of the same year, patient zero was detected, and the first death from the new coronavirus in the country was registered on March 18 (Guzmán, 2021). By April 30, the number of patients had reached 19,224 confirmed cases and 1,859 deaths, that is, a mortality rate of almost 10 per cent, a relatively high figure (Suárez, Suárez, Oros, and Ronquillo, 2020). On March 11, 2020, the day the World Health Organization had declared the health crisis a pandemic, 118,000 cases had been detected in the world, with 4,291 deaths in 114 countries. A year later, on March 11, 2021, according to The Coronavirus Resource Center of Johns Hopkins University, the number of positive cases in the world had reached 117,971,734, with 2,618,000 deaths, in 255 countries and territories on the planet (Johns Hopkins University, 2021).

The scenario for Mexico unfolded as follows: on March 11, 2020, 11 cases, and 0 deaths were recorded, exactly one year later, according to official figures, 2,144,558 cases with 192,488 deaths had occurred (Milenio, 2021), a critical situation for both society and governments. By September 17, 2021, deaths were counted at 322,582, which placed the country in fourth place overall in number of deaths worldwide and sixth place in deaths per million cases (Penna, 2021), with these the data reflected the low competitiveness in the management of the pandemic by the federal government.

University database (2021) on October 08, 2021, showed 236,940,594 cases worldwide, with 4,837,772 deaths, and 6,418,953,258 doses of vaccines administered. The outlook for the state of Oaxaca for the same day showed a total of 78,554 cases, and 5,266 deaths (Johns Hopkins University, 2021).

Faced with the new health challenge, the country's health infrastructure was overwhelmed, because even with the experience of Influenza AH1N1 in 2009 "no important public policies were generated to safeguard health. At the time the country only has a national institute for diagnosis and epidemiological reference, but it is not enough" (Guzmán, 2021) according to these data, the Mexican health system has been inefficient in responding to the demands presented for the pandemic.

Some of the measures established by the governments of the world to curb the contingency were perimeter closures, strict curfews, or reduction of social activity (RTVE, 2021). From this new challenge, the governments of the countries followed four models of epidemiological intervention to face the effects of the coronavirus, China implemented the orthodox model, based on the isolation of the detected cases from the rest of the population to prevent the spread of the virus, lower the contagion curve and reduce cases, it is a restrictive, authoritarian and total isolation model, where borders are closed and massive reviews are carried out, resorting to isolation by quarantine, this model was also used in other countries such as the United States United States, Canada, and Italy (Hernández, 2021).

South Korea leaned towards the population technology model, based on mass testing and the use of QR technology to monitor epidemiological progress. Under this model, massive tests are constantly used in strategic and broad sectors of the population, basically using PCR and antigen tests. The natural history model of the disease, commonly known as herd immunity, was used in countries such as England and Sweden. This method consists of keeping all the activities of the population open, allowing the free movement of people, which which will allow contact between them to generate some immunity to SARS-CoV-2.

The general surveillance model for complex phenomena, also called sentinel monitoring, was used in Mexico. It consists of creating a group of surveillance sites, where the behavior of the disease and the number of cases are monitored, generating information to determine a health traffic light that determines the restriction or opening of essential activities. Around 347 sentinel centers were created in the country, located mainly in hospitals and health centers.

According to the intervention model, Hernández (2021) presents the following figures (table 1) on the behavior of COVID-19 in some countries, including Mexico:

Table 1. Behavior of Covid-19 according to intervention model

Epidemiological intervention model	Country	Total population	Number of cases	Number of deaths
Orthodox	China	1,439,323,776	96,335	4,636

Population technology	South Korea	51,269,185	325,804	2,544
Herd immunity	Sweden	10,099,265	1,156,248	14,848
Sentinel	Mexico	128,932,753	3,699,621	280,607

Source: Hernandez (2021).

Perform It is possible to observe that, although China has the largest population in the world, thanks to the orthodox model it has registered a lower number of deaths than Mexico, which has followed the sentinel model, from this it is observed that the policy that the Mexican federal government has followed to manage the pandemic has been the least efficient, compared to the models followed by other countries, in relative terms with respect to the number of cases and deaths. The mortality rate in Mexico is also due to complications from chronic diseases present in the population.

The context of indigenous regulatory systems in Oaxaca

The state of Oaxaca, Mexico has a vast cultural and political diversity, in this multicultural context, the Rural Water and Sanitation Information System (SIASAR, 2021) mentions that around 19 ethnic groups coexist in the entity: Afro-Mexicans from the small coast from Oaxaca, Amuzgos, Chatinos, Chinantecs, Chocholtecos, Chontals from Oaxaca, Cuicatecs, Huaves, Ixcatecos, Mazatecs, Mestizo, Mixes, Mixtecs, Nahuas, Tacuates, Triquis, Tzotzils, Zapotecs, and Zoques.

According to information from the Secretariat of Indigenous and Afro-American Peoples (SEPIA, 2016), 65.7 percent of the Oaxacan population recognizes itself as Indigenous, 32.2 per cent speaks an original language, and multiculturalism is present in the eight regions of the state: Cañada, Costa, Isthmus, Mixteca, Papaloapan, Sierra Norte, Sierra Sur, and Central Valleys. Such ethnic and cultural diversity has resulted in a social and political framework that is reflected in particular forms of government at the local level.

In the political context, the electoral legislation for the state of Oaxaca recognizes two types of political systems for the local sphere, the municipalities governed by indigenous normative systems and the municipalities under the regime of political parties. In the first article, third section of the Law of Electoral Institutions and Procedures of the State of Oaxaca, it is established: "The recognition, safeguarding and guarantee of the democratic institutions and practices of the municipalities that are electorally governed by their indigenous normative systems". According to the second article, section XXIX of this legal system, the indigenous regulatory systems are:

...the set of principles, oral or written norms, practices, institutions, agreements and decisions that the peoples, municipalities, indigenous and Afro-Mexican communities recognize as valid and in force for the election or appointment of their authorities and representatives, the exercise of their own forms of government and the resolution of internal conflicts.

The State Electoral and Citizen Participation Institute of Oaxaca (IEEPCO, 2021), contemplates the indigenous regulatory systems, commonly known as uses and customs, refer to the general principles, the oral or written norms that the municipalities and Indigenous communities recognize as valid to apply in their daily life. In other words, the indigenous normative systems represent the forms of social, political, even economic, and cultural organization of the native peoples of the state of Oaxaca, manifesting themselves in daily coexistence, social interaction, forms of political organization, popular election, and the municipal government.

Each municipality that is governed by this regime has its own regulatory systems; however, common and distinctive factors such as the community assembly, the cargo system and tequio, among others, persist. The Indigenous peoples maintain their traditional normative systems in force in collective acts of relevant importance for community life, such as work commissions, the tequio, and the election of municipal authorities. This system of social and political organization, where uses and customs stand out, grants its own cultural identity, and represents an example of direct participatory democracy in government through the community assembly (Carlsen, 2003). Indigenous regulatory systems comprise collective norms present in Indigenous peoples for several centuries, which are not infallible, but have proven their flexibility, coherence and ability to coexist with the modern State (Ramírez, 2013).

In this regime, their own, differentiated, and inveterate political institutions have been developed, which include internal rules or specific procedures for the renewal of their city councils, in accordance with the federal and state constitutions in the aspect of the rights of Indigenous peoples. The election of municipal councilors is carried out according to the norms that the community has established over time, such as participation in the community assembly, the designation of contenders at the time of the election, the way of registering the votes, and the criteria for nominations among other things.

Another characteristic aspect of the uses and customs is that the general community assembly is recognized as the main consultation body for public affairs, and where recognized citizens participate in full use of their faculties. When there are problems at the community level, the city council summons the population to meet in assemblies, where issues that concern all the inhabitants are discussed together, in such a way that important decisions are made collectively, and in an ideal context legitimize the actions of the municipal government.

In Oaxaca, the Indigenous community is particularly numerous, representing almost half of the state population (Recondo, 2006), which is not homogeneous, since it belongs to 19 of the 56 ethnolinguistic groups present in the country, observing different cultural characteristics. The diversity of municipalities and the number of human settlements is mainly due to historical reasons related to the defense of the towns, their municipal and territorial categories, as well as cultural issues, changes, and some confusion in state legislation (Gaceta Parlamentaria, 2002).

Within indigenous normative systems, the cargo system represents a complex form of local self-government and reflects the way in which peoples identify the community or collectivity as the center of daily and cultural life. Medina (1996) mentions that the cargo system is a political-religious institution that has characterized a large part of Mesoamerican indigenous life, which is made up of a certain number of positions, or community responsibilities, recognized and respected by the members of the community.

The importance of regulatory systems in the Oaxacan context lies in the fact that 73 percent of the municipalities are governed by this political regime, where the sociocultural factor stands out, since the forms of organization and culture, including political and governmental institutions, are observed in a model of society, determine the visions of local development. In the context of the native peoples, through the assembly, collective decision-making is carried out, with the government and the population interacting directly, then it is possible to say that there is a direct democracy, since the citizens and residents are important actors in the solution of collective problems, by expressing directly in the institution called assembly, their needs, complaints, demands, disagreements, and opinions for the solution of problems.

The native peoples usually present a high sense of identity towards their municipality, thus weaving a scenario of social cohesion, where the population stays together, to face the problems that arise in the local territory, and to fight externalities. In a modern world, generally Westernized, where individualism, transculturation, and Western hegemony permeate, social cohesion serves as a protective element of the essences of the original peoples.

Parsons (1961, in Institute of Legal Research, 2021) points out that, "An individual is socially integrated when he internalizes the norms and values (structures of expectations) that regulate his action in congruence with the social position occupied," which is also related to the sense of identity that the community gives to the individual and the importance that the municipal government gives to each person, since there is a close relationship between the government and the governed. Social cohesion includes aspects such as internalized values, economic equality among community members, participation in cultural events and public decisions, including the political, economic, social, and cultural areas of the municipality.

Social cohesion is manifested in personal interrelationships, union mechanisms, such as the community assembly, community committees, social organizations, which generate a sense of belonging to the community. According to the Council of Europe (2005 in Institute of Legal Research, 2021) social cohesion is:

the ability of society to ensure the well-being of all its members, including equitable access to available resources, respect for human dignity, diversity, personal and collective autonomy, responsible participation and the minimization of disparities social and economic in order to avoid polarization.

It is then about social union, a fabric that seeks the well-being of individuals in the community, in the social, economic, political, cultural, and environmental spheres, with a view to achieving socioeconomic equality of the members of a community. This community attribute works as a protection element against external agents that tend to destabilize the local environment, as in this case the Covid-19 pandemic.

With the contribution of Tironi (2010 in Instituto de Investigaciones Jurídicas, 2021) social cohesion implies a sense of belonging of the members towards their community, they accept and abide by the rules and values developed in community. Cohesion thus encompasses the capacity of a society to generate conditions of union, respect, and collective well-being, seeking equal opportunities to access services and guaranteeing respect for social, economic, political, cultural, and environmental rights.

In the original municipalities, there is usually a significant degree of social cohesion, manifesting itself in the sense of identity and belonging of the members of the community, in addition, equality between people is sought, allowing there to be no marked differences between social sectors. In an ideal context, this characteristic gives rise to the members of the municipal government, before exercising the mandate in an authoritarian manner, to preserve the sense of belonging to the social group that elected them, seeking the general welfare. In this sense, social cohesion was one of the elements that

allowed the development of effective strategies to contain and confront the Covid-19 pandemic in some Oaxacan municipalities with native populations.

According to information from the National System for Epidemiological Surveillance of Respiratory Diseases (SISVER), by January 2021, the second year of the pandemic, 102 indigenous municipalities in the country had remained free of infections, 80 per cent in the Oaxacan territory. "Only four entities –Oaxaca, Chiapas, Puebla, and Veracruz– present indigenous municipalities that do not appear as the municipality of residence of any covid-19 case registered in the SISVER" (Matías, 2021). As part of the sense of belonging, neighborhood, and community, from the indigenous worldview there is a sense of social responsibility, which translates into collective care, above individual well-being, a characteristic attribute of native communities.

As an example of this, in Villa de Talea de Castro, a Zapotec municipality in the Sierra Norte de Oaxaca, self-isolation was established by shared decision between the municipal government and the population, as a barrier to prevent the arrival of the coronavirus: "In this Instead, the community assembly and the municipal authority determined by a majority vote of their representatives the lockdown of the residents" (Rodríguez, 2021), thus manifesting the general concern for the collective well-being in the face of the health contingency, in such a way that the cohesion and the sense of vulnerability led the population and the municipal authority to declare self-isolation. In this context, the orographic conditions and the scarce sanitary infrastructure that permeates the entity are added. In this regard, Montes (in Matías, 2021) states that:

> In the native peoples there is awareness and respect for these community decisions, even if they are harsh, there is a great maturity to safeguard the population, they have even suspended their community festivities (because) they know that since there is no hospital network and the proper medical structure in the region the panorama could become tragic.

With confinement measures such as the mandatory use of face masks, a sanitary filter, among others, the population of Talea de Castro managed to avoid contagion within the territory until March 2021, more than a year after the start of the contingency: "No one who is not a neighbor or resident in the locality [...] can enter the town. Only the locals could go inside the municipality crossing the sanitary filter, where their medical behavior is recorded" (Montes in Matías, 2021).

The native populations developed various strategies and actions to avoid contagion, in some cases limiting the population's departures abroad, with the aim of safeguarding public health. This municipality was included in a list of 22 localities in Mexico where, according to the National Council for Political Evaluation of Social Development (CONEVAL, 2021), more than a year after the start of the pandemic, no deaths from Covid-19 had been registered, nor cases, situation that allow to observe the effectiveness of the decisions made by the people.

The Indigenous communities are aware of their vulnerability and marginalization from health systems, which is why they have faced the pandemic in their own ways, which in various cases have been effective, both by staying free of contagion and by keeping a low number of infections and deaths from the virus. Cortés (in Ortega, 2021) affirms that, "rural areas are generally more vulnerable with respect to access to health, this was precisely a factor that prevented COVID-19 from arriving", thereby reaffirming the situation of backwardness to which indigenous communities face, which worsened during the pandemic, "these regions and the Indigenous have historically found themselves on the margins of public health, so facing the pandemic represented a particular challenge" The health contingency represents an unknown situation for all the peoples of the earth; however, due to restricted access to health systems, for the original communities it represents a significant crisis situation and a challenge for their local governments.

Theoretical aspects: The crisis management approach

Crises mean challenges, problems, threats, and obligations for individuals and communities, specifically the mission of governments at all levels is to lead society towards optimal living standards, in a context of development and well-being, a scenario in which crises represent obstacles and challenges to achieve such desired scenarios. Christensen, Lægreid, and Rykkja (2013) mention that in recent years more studies have been carried out that analyze crises and their management from the governmental sphere, where the contingencies faced are caused by phenomena such as terrorism or natural disasters (Jann, Jantz, Kühne, & SchulzeGabrechten, 2019). Pandemics or health contingencies also generate crises; thus, the emergence of the Covid-19 pandemic represents a critical situation for civil society, companies, governments, and individuals.

As background to this writing Culebro (2021) analyzes: "The nature and characteristics of the organizational/institutional dimensions that influence the coordination and regulation mechanisms during the management of the COVID 19 crisis in Mexico, based on the response of governments local" this study represents an important reference for the analysis of effective crisis management by governments in the country.

In a critical context, governments have the responsibility to protect, guide, and organize the population so that

catastrophic shocks are as few as possible. In this sense, Boin, Stern, and Sundelius (2016) mention that critical events put people at risk. Social welfare, then crisis management and effective leadership become important elements to give direction and designate responsibilities from the governmental spheres, a premise that coincides with what was expressed by Cruz, Culebro, and Méndez (2021, p. 4) "during a crisis, citizens look to their leaders mainly to try to avoid or minimize its possible damage, and because they serve as a guide to get out of the catastrophe, explain it, and guarantee that such a situation will not happen again".

In this context, municipal governments have the duty to act as leaders in their territories (Constitutional article 115), to implement emerging and effective strategies that allow them to deal in the most appropriate way with crisis situations caused by natural phenomena, social movements or health contingencies, as in this case the Covid-19 pandemic.

A crisis represents an unknown situation that causes high levels of uncertainty and instability in people, systems, populations, countries, and organizations, as Cruz, Méndez, and Culebro (2020, p. 3) consider it when stating that: "The crisis can be understood as a situation, shared perception, or socio-linguistic construct about a serious threat to the basic structures or to the fundamental norms and values of a system" idea that coincides with ISO22301 where it is stated that the crisis is: "A situation with a high level of uncertainty that affects the basic activities and/or the credibility of the organization and requires urgent measures" (Deloitte, 2021).

Cruz et al. (2021) mention that a crisis represents a situation or social construct, which encompasses a threat to the structure, norm, and values of a system, altering peace and order, to which the governments of the three orders must respond immediately and effective to prevent its advance and damage to the population, since "a crisis requires urgent action by the authorities to prevent its materialization, since it generally alters the peace and order of societies" (Backman and Rhinard, in Cruz et al. 2020). In these terms, the Covid-19 pandemic represents a crisis that emerged abruptly at the end of 2019, becoming more acute during the two subsequent years.

Boin et al. (2005 in Cruz et al., 2021) consider that in a critical situation, governments in general and public servants in particular play a fundamental role in managing the crisis, since the population seeks answers, help, guidance and measures that allow it to be safeguarded, so as not to be significantly affected, in this context, municipal governments should take on the role of leaders to face and overcome crises, in this case the pandemic: "citizens, in order to avoid, or at least minimize, its threat and possible damage, they look for their leaders, be they politicians, public administrators […] because they must serve as a guide to get out of the crisis…" (Boin, et al, 2005 in Cruz et. al. 2020, p. 2).

Theoretically Culebro (2021) considers that the Covid-19 health crisis can be analyzed from the crisis management approach, focusing on government action. Crisis management is understood as the main role of a government aimed at strengthening and coordinating the resistance of the population and critical infrastructure networks (Baubion, 2012) and is made up of all the activities aimed at minimizing the impact of the phenomenon, in this case the Covid-19, in the population, the infrastructure and in public institutions. At the local level, those who must exercise leadership to manage the health crisis are the city councils, as the governing body in the municipal territory.

The outbreak of the new coronavirus represents a critical context due mainly to three elements present: a scenario of uncertainty in the face of a new disease, since there were no medical care protocols, nor the necessary medications to treat it, which demanded the most effective as possible in the face of the other two elements, the urgency, in this case to stop the spread of the virus in the population and the threat as it is a disease that, depending on various health conditions, can lead to the death of the infected person.

From the perspective of Boin et al. (2013), contextualized in Mexico by Culebro (2021b) and Cruz et al. (2020) the effective management of a crisis can be evaluated through leadership in the implementation of ten executive tasks: early detection or early recognition; creation of meaning or giving meaning to the crisis; critical or strategic decision making; horizontal and vertical coordination of instances; coupling or decoupling to the crisis; construction or generation of meaning of the crisis; communication of measures, strategies and results; accountability for performance; learning lessons and improvement of the resilience of the government and the municipality in the face of the crisis, in this order of ideas Boin et al. (2005 in Cruz, Méndez and Culebro, 2020, p. 3) argue that:

> This is not an easy task as it requires a large, complex and saturated operation, which involves many organizations from both the public and private sectors, as well as supervising the development of the crisis, maintaining communication with key actors, investigating what went wrong, be accountable for actions, create initiatives to improve and re-establish a sense of normalcy, all this in light of the continuous evaluation of the leaders and leadership of different actors.

Effective management of a crisis begins with the early recognition or recognition that a threat has arisen (Boin et al., 2013), in this case those who have to share that recognition first are all the councilors of the city council, that is to say the regime. Afterwards, information about the emergence of a crisis must be shared with the administrative apparatus that

collaborates with the municipal government, and in a third moment, communicate to the population about the emerging threat, which requires immediate attention. Often a crisis can be foreseeable (Boin et al., 2013), for this analysis it is considered that the Covid-19 pandemic effects could have been visualized in the Mexican context in the 2020 early, when the first cases in China were announced.

There are two factors that stimulate the forecast of a contingency: experience in crisis management and organizational development, in this regard Culebro (2021) argues that early detection or early recognition of the crisis is necessary, based on the information provided by the environment and the first signs of an unusual event, in this case the municipal governments had to turn on the alarm signals, based on the communications and guidelines established by international, federal and state organizations, at the end of 2019 and the beginning of 2020. Early detection allows the creation of possible scenarios and the design of strategies to deal with the phenomenon in advance.

The second executive task is to create a sense of the crisis, that is, to understand, assume, and internalize its importance and the possible effects on the local population, this task implies a task of raising awareness and political will to recognize the magnitude of the event, based on this possible containment and solution alternatives are generated. Subsequently, the city council must make certain critical decisions (Culebro, 2021) prioritizing the management of the pandemic in the local territory, in the face of other existing public problems. This is a complicated stage (Boin et al., 2013) since it is an unknown phenomenon, in view of which the municipal government as leader must promote a collective understanding of the nature, characteristics, consequences, scope, and potential effects of the crisis.

Creating a sense of the crisis is important for governments to make informed decisions, with common sense and the appropriate dimension of the problem. Boin et al. (2013) consider important to establish criteria to process information about the crisis, share it with the right people, consider their comments and feedback, create scenarios about possible futures, and consequences, in addition to visualizing information requirements for decision making. So, both the government and the municipal population must build a meaning by dimensioning the effects of the pandemic in the health, social, economic, political, and environmental fields, to face uncertainty and envision effective strategies in the short, medium, and long term, in order to lessen the consequences.

The third action is making critical decisions, crisis management is carried out from the strategic level, that is, by the political regime of the municipal government, the councilors, who are responsible for managing the situation, so making decisions is a task important and crucial (Boin et al. 2013). Strategic crisis managers, in this case municipal governments, should only concern themselves with strategic issues, avoiding focusing on operational decisions.

Attention should be directed towards effective strategies that can contain and lessen the crisis, in this regard Heifetz (1994 in Boin et al., 2013) mentions that effective crisis leaders organize an adaptation process, they do not focus on seeking technical solutions. In this task, micro-management must be avoided, where the political regime must be in charge of establishing strategic decisions, and the administrative regime is in charge of operationalizing them at a technical and operational level.

The next executive task corresponds to vertical and horizontal coordination (Culebro 2021). Vertical coordination is aimed at the municipal government joining its efforts to contain the pandemic with the federal and state governments, seeking the implementation of effective strategies between the three levels of government. At a horizontal level, the city council must show a close collaboration between its members, and then with the administrative system. Coordination also implies joint work with the social and economic sectors that interact in the municipal territory, through social participation mechanisms.

Managing a crisis requires intense cooperation between a variety of organizations and actors who have not previously worked together (Boin et al., 2013). Working in isolation is not effective in a crisis, as authoritarian management of the crisis and excessive control tend to be counterproductive. According to Boin et al. (2013) and Culebro (2021) there is an important self-organization capacity of the affected communities, where local organizations and citizens can be significantly adaptable, creating nodes of cooperation to overcome the critical situation. In a pandemic context, leaders, more than controlling the situation, must be oriented towards coordination, decentralization, and delegation.

Then crisis managers should be oriented towards coupling and decoupling of the situation. Decoupling consists of the leaders isolating the problem or the nodes most affected by the crisis (Boin et al., 2013) turning off the parts of the local system that require analysis, allowing the other parts to continue working. Coupling consists of adaptation to the conditions that the pandemic context poses, in this case the functional parts of the system continue to carry out their actions, but receive support or power to be able to face the new environmental conditions.

The sixth executive task corresponds to generating the meaning of the crisis, according to Culebro (2021) and Boin et al. (2013) in an emergency situation, the population in general expects from their leaders, in this case the municipal governments, an interpretation of the situation, and above all they seek to listen to solutions and strategies aimed at

returning the situation to a state of normality. So, the citizens expect their municipal authorities to provide hope and confidence that the situation can be neutralized.

If governments fail to generate trust in the population, chaos will be created, allowing speculation and uncertainty about the future, thereby hindering efficient crisis management and delaying solutions. The creation of meaning is important for the construction of legitimacy of public institutions (Boin et al., 2013), the security, tenacity, and efficiency in the actions of local governments, have a direct impact on the consequences of the crisis.

The next essential task in management is communication, in a critical context, communication in all senses and levels is important, as long as it is objective information, based on hard data such as statistics, projections and prospects, because according to Boin et al. (2013) a subjective communication or with false data is one of the main sources of problems. Lack of communication or poor communication can lead to serious repercussions for the safety of people.

Horizontal communication includes the type of communication both social and political, from the city council to the population, in this sense mass communication is effective, which must explain the crisis, its consequences and actions to minimize the effects. Through communication, the municipal government must also offer practical advice, explaining to the population actions that must be followed, who must do them and why. The context of a crisis is confusing, fast, and turbulent, for this reason there are difficulties in verifying the information, so only real situations and objective information should be communicated to avoid generating panic in the population.

Accountability for performance is the eighth task of leadership in a crisis, carried out before the population, informing in a timely manner about the entire pandemic context both in the municipal territory, and in other latitudes, in such a way that it is communicated at first to society and then to other government agencies on progress, crisis management, investments, and results. Crisis managers have the responsibility to explain what was done before and during the crisis, the reasons for such actions, as well as recovery plans (Boin et al., 2013 & Culebro, 2021b), so the municipal government must explain both the gains and the losses arising from the situation.

Accountability not only satisfies the legal requirements of government action, it also allows the restoration of confidence in the functioning of public institutions. Governments often find this task difficult, as they focus more on avoiding blame than on generating credibility and legitimacy, in such a scenario accountability is affected by the politicization inherent in a crisis, so governments must establish strategies of transparency and accountability.

The ninth executive task is learning, the identification of lessons learned from the experiences lived, the decisions made, and the results observed (Culebro, 2021b), in order to build a bank of information that can be useful in managing future crises. Each critical situation is unique and different, so leaders are required to have the ability to improvise, discover, and experiment, but the ability to learn from the crisis is also needed (Boin et al., 2013).

This ability serves to distinguish what is working during the crisis and what worked after it. Learning is required to adapt to subsequent contexts, through the lessons generated, dysfunctional processes are corrected, and solutions are provided. Learning is a complicated process, it basically follows the logic of trial and error, where different actors and levels are involved, such as the human factor, organizational culture, regulation, and system characteristics. Effective learning takes time and requires a culture of research on data and behavior of the crisis, so city councils should allocate an area in charge of collecting information, processing it, and storing it, to be a source of information for future critical situations.

The tenth executive task in crisis management is resilience building. According to Boin et al. (2013) a prepared, experienced organization can better manage and contain a crisis, so from the municipal institutional development approach, municipalities must have a certain degree of flexibility and ability to adapt to negative situations. Effective crisis management is carried out by resilient and strong organizations, which can absorb shocks and recover quickly.

For building resilient municipal governments, it is important that they engage in preparatory practices such as vulnerability analysis, drills, scenarios, exploration, and networking exercises, which foster a culture of awareness and a shared belief that everyone involved is ready to face some crisis, it means the resilience of a city council as an institution, overcoming the crisis in the best way, and that the variables of the environment do not affect its organizational structure, a scenario where institutional development plays an important role in maintaining the integrity of the government. This resilience is transferred to the entire municipal territory, so that the population can recover from the effects in the shortest possible time.

These executive tasks are distributed in three stages: preparation, response, and learning. Early detection, making sense and constructing meaning correspond to preparation; making sense, critical decisions, coordination, constructing meaning, communication, coordination, and accountability are located in the response stage; critical decisions, coordination, accountability, learning lessons, and resilience building are found in the learning phase. This set of strategic actions does not represent a panacea to mitigate critical situations; however, from various studies (Boin at al., 2013; Culebro, 2021 & Cruz, Méndez and Culebro, 2020) it has been shown that following these ten executive tasks it has enabled governments to deal effectively with crises.

Research findings and discussion: Crisis management by Covid-19 in the municipality of Santa Catarina Cuixtla

The following lines analyze the leadership actions from the crisis approach, carried out by the municipal government of Santa Catarina Cuixtla, located in the Sierra Sur region of the state of Oaxaca. This municipality is governed by indigenous normative systems, a regime in which the uses and customs of the population are preserved and manifested in the social and political aspects of collective life. In the management of the pandemic, significant social cohesion and government-population coordination were observed to deal with the health contingency due to Covid-19.

In the early detection task, the municipal government learned about the declaration of the pandemic by the media (news on television and notes on social networks), formally through a statement from the Secretariat of Health of the State Government, during the first days of March 2020. Subsequently, the city council received a notification from the federal government, from which a town hall session was held to analyze the situation and discuss the strategies to be implemented to avoid contagion, in this regard the mayor expressed that in the early stage of the crisis they internalized that they had to protect the population of the municipality "we had to safeguard our people, our citizens, the people of the community" (G. C. Jiménez, personal communication, October 17, 2021).

At the local level, the city council took action based on the information received from abroad, once they were formally notified of the start of the crisis by the other two orders of government. The first action of the councilors was the interpretation of the situation, deciding as a first measure the establishment of a sanitary filter at the entrance of the population, since the risk of contagion in the population was visualized due to the daily movement of people from the municipality (merchants and workers) to the district capital, the city of Miahuatlán de Porfirio Díaz, as the health councilor referred to it, "we talked with the council and put on a filter, we began to sanitize (sic), first of all, as we did not know how it came the situation we began to sanitize (sic) with chlorine diluted with water to the units (vehicles) that came from Miahuatlán" (L. G. Ramírez, personal communication, October 19, 2021).

The sanitary filter was established on Friday, April 03, 2020, a date on which there were still no cases of Covid-19 in the district of Miahuatlán, so it can be deduced that there was an early detection of the crisis at the local level, establishing this first containment measure. The mayor expressed that from the moment they received the first official communications about the declaration of the pandemic, the city council mobilized, "then we began to agree on how to deal with this situation, the filter was raised [...] during the time the filter was in place, there was no contagion in the community" (G. C. Jiménez, personal communication, October 17, 2021).

Given the magnitude of the pandemic, the city council organized itself early to carry out different actions focused on preventing the spread of the virus in the population, including the health filter, the establishment of rules for traveling to other populations, the constant issuance of recommendations to the population through loudspeakers and social networks, the restriction of entry to the municipality for people with a different residence, including the suspension of vehicular traffic to the outside for two weeks, establishing community self-isolation.

Another of the measures established to prevent the entry and exit of people to the municipal territory was the establishment of a local community flea market, so that people stocked up on the necessary food, according to the information provided by the councilor of finance and education. "It was an agreement [...] the councilors took care of it, every Sunday, to prevent them from going out on Monday" (B. L. Ruiz, personal communication, October 20, 2021). In México, the tianguis is a traditional market, which takes place in a specific day of the week, in Miahuatlán de Porfirio Díaz it takes places every Monday.

Regarding the creation of meaning of the crisis, the pandemic represented a challenge for the city council and an obstacle at the same time, since the beginning of the pandemic was conceived during its first year of government, the period includes January 1, 2020, to December 31, 2022.

The mayor stated that the projects and works scheduled for the first year could not be carried out within the established time, since various procedures were stopped in the other orders of government, derived from the confinement. In economic terms, the municipal government also identifies that the pandemic has generated important repercussions on the population, reflected in monetary losses, since the majority of the inhabitants depend on the commercial activities carried out in Miahuatlán de Porfirio Díaz and on the monetary transfers they receive from the relatives who work in other cities of the country such as Monterrey, Nuevo Léon, Mexico City, Huatulco, Puerto Escondido, Oaxaca de Juárez, among others.

The economic depression caused by the crisis generated some tensions and differences between the municipal government, merchants, and carriers, mainly due to the confinement measures established by the city council (confinement, shutdown of shops, transportation service shutdown, closure of the entrance to the village, prohibition of traditional festivals and house parties), affecting the economic income of merchants, public service providers, and employees. The generation of sense of the crisis from the city council was significant, in this regard the councilor of finance and education expressed the following, "we gave a lot of importance (to the pandemic) especially to the care of citizens, protecting everyone's health, we

would have wanted that no losses (deaths) have been recorded" (B. L. Ruiz, personal communication, October 20, 2021).

It is then identified that there was a high sense of importance towards the health crisis, focusing the efforts of the city council towards the protection of the population's health; however, the crisis also meant a challenge for the municipal authority, since it was an event atypical: "the pandemic was a challenge for us, we were also afraid at the time, because we did not know everything, we had no information about it" (B. L. Ruiz, personal communication, October 20, 2021).

The health and finance councilors stated that from a meeting called by the state government they identified the magnitude of the phenomenon "in the first meeting [...] we saw the seriousness (of the pandemic) it was a challenge to face this situation, but we decided to act, from the filter, take care of people, support people" (B. L. Ruiz, personal communication, October 20, 2021). The creation of a sense of the crisis in the municipality of Santa Catarina Cuixtla was carried out through the internalization of information visualizing the magnitude of the pandemic.

The councilors held constant meetings and town hall sessions to make decisions aimed at containing the crisis. The meaning given to the contingency was high, manifesting itself in the established actions, promoting confinement in the population and the self-isolation of the municipality, allowing the entry and exit only of the premises that had to move to other places due to urgent situations.

Strategic decision-making was exercised from the political regime, that is, the members of the city council, who outlined the main guidelines to deal with the phenomenon. The mayor convened council sessions to analyze the situation and jointly make critical decisions, that is, the sessions represented the spaces for strategic decision-making.

As it is a small municipality with 1,495 inhabitants (DATAMEXICO, 2021), the administration staff is small, only made up of the municipal secretary and her assistant, the municipal treasurer, and the police force, so the operationalization of the decisions was executed mostly also by the city council, with the help of the municipal police, made up of 24 elements in total, but every week only six elements are active. Specifically for the operation of the sanitary filter, a councilor and two elements of the municipal police were in charge, in shifts of eight hours.

The mayor considers that in financial terms, the cost of facing the pandemic has not been high, since some expenses were made for the acquisition of accessories and necessary equipment "it has been invested, some devices were bought to sanitize and sanitizer (liquid) to support citizens, face masks and gel were bought, the health center and schools have been supported" (G. C. Jiménez, personal communication, October 23, 2021).

In the same way, the city council has supported with the purchase of oxygen tanks, the availability of the ambulance and provided pantries to people who have suffered from the disease. The pandemic led to a refocusing of efforts, since the works, social actions and investments had to be stopped in the first months, so that the city council could fully focus on dealing with the pandemic.

For coordination in horizontal terms, the city council carried out tasks first internally, delegating responsibilities to all the councilors (political regime), the secretaries, and municipal police force (administrative regime). The organization with the population was carried out through loud communication and social networks, to avoid going to the nearest population center. From the municipal government, the constant issuance of recommendations to the population has been maintained, so that the necessary sanitary measures are followed, and the holding of meetings and parties was avoided.

The councilor of the treasury stated that "the colleagues (councilors) went through the streets with the megaphone recommending care, avoiding going out, taking care of the elderly" (B. L. Ruiz, personal communication, October 24, 2021). In the same way, the city council coordinated the population to carry out sanitizations in homes, walking the streets, this action was carried out three times during the months of May, July and September.

In the words of the mayor, the majority of the population corresponded to the coordination and instructions issued by the city council, "ninety percent agreed with the measures, and ten percent did not agree, the majority of people continue supporting the decisions of the authority" (G. C. Jiménez, personal communication, October 25, 2021), then there has been a legitimization of the population towards the actions undertaken by the municipal authority.

Within the framework of horizontal coordination, during May 2020, a self-organization manifestation of citizens emerged, manifesting some features of social cohesion, when an event occurred that mobilized the majority of the inhabitants of Santa Catarina Cuixtla, a family originally from the municipality but with residence in Mexico City wanted to enter the population to carry out the burial of a corpse, in the face of such an action, the population prevented entry, since the people came from an important source of contagion by Covid-19 in the country.

This event made national news, Andrew (2020) wrote about it "Inhabitants of Santa Catarina Cuixtla, Oaxaca, prevent the burial of a woman who died in CDMX". Citizens organized themselves to request the mayor to prevent access to people, since there was a fear that they would carry the virus and it could spread in the population:

The municipal authority explained that based on its legal powers, decreed sanitary measures and with the support of the citizens, an agreement was made not to allow access to this community of people from our municipality from the Valley of Mexico to bury a relative (Juárez, 2020).

Feeling vulnerable, the residents of the municipality came together to protect themselves from contagion, a situation that evidenced the social union and a notorious capacity for self-coordination among the residents, in this case to safeguard their health "In an assembly in the middle of the road, the mayor, backed by residents, prevented the passage of the body" (Andrew, 2020).

With these facts, an important horizontal coordination between the municipal government and the inhabitants is visualized to protect the health of the population "I want to thank the entire population of the Municipality of Cuixtla since they have complied with the regulations of the filters that have been put in place" (Andrew, 2020). As a result of what happened, the inhabitants organized themselves to support the municipal authority to reinforce surveillance in the sanitary filter, integrating groups on social networks (mainly by text messaging) to communicate with each other.

With regard to coordination with the economic sector, the city council issued circulars so that health recommendations are followed in the town's businesses, also reducing customer service hours; according to the councilors, in most of the businesses in the town the instructions issued by the town hall were followed. However, in this context of coordination, the city council stated that some people in the population did not give greater importance to the pandemic, expressing an exaggeration in the measures issued by the municipal government, acquiring a greater meaning when the first infected in the territory.

In the vertical sense there was no effective coordination between the municipal government and the other levels of government, federal, and state, the health councilor commented that, "from the Ministry of Health, the General Secretary of Government, we received several notifications (about measures) they were nothing more than pure notifications, here we organized ourselves for protection activities, but the actions were ours" (L. G. Ramírez, personal communication, October 27, 2021).

In this sense, at least in the municipality of analysis there was no significant intervention by the federal and state governments for the prevention and mitigation of the effects of the pandemic, their action was limited to the issuance of indicative notifications. During September 2020, the city council requested the support of the Ministry of Health, to carry out a fourth sanitization with the humidifying equipment provided by said body, but it cannot be considered an effective coordination action.

Regarding coupling and uncoupling, it was found that the city council promoted the isolation of Covid-19 cases from the rest of the population, as a measure to prevent the spread of the virus. However, they also admit that some relatives of those infected, having been in contact with an infected person, did not respect the quarantine. During the deaths, the members of the city council carried out the excavations of the graves for the corpses of the people who died of the virus, using the backhoe equipment, in order to avoid further contagion.

Through isolation, we sought to prevent the spread of the virus, all areas of the city council worked to face the pandemic, headed by the mayor, the councilor argued "where Tino goes (referring to the mayor whose name is Constantino) we all go" (B. L. Ruiz, personal communication, October 26, 2021) thus observing the close collaboration between the members of the city council as parts of a system.

The areas of the city council that received the support and feedback were the municipal presidency and the health council, as the main responsible for facing the pandemic, but the councilors stated all the members of the city council have collaborated proactively. In this sense, the city council states that it has adhered to the measures required by this new normality, reprioritizing the actions to be carried out and attending to the health emergency. The city council states that the majority of the population has adapted to the new measures and forms of collective life that the contingency has generated.

An important social event that has undergone modifications in the municipality is the celebration of the catholic stewardships, festivities held annually to commemorate the divinities that are venerated in the town, during 2020 the three stewardships and the celebration of Christmas were totally suspended. For the first months of 2021, the celebrations were modified, reducing the number of participants, the call for massive events and the necessary restrictions. The butlers (festival organizing committees) have complied with the measures and the population has reciprocated. During the Day of the Dead celebration, most people followed the recommendations, including the constant use of face masks and disinfectants.

In relation to the generation of meaning of the crisis by Covid-19, the members of the city council commented that they had to quickly assimilate the dimension of the phenomenon, since it was totally unknown, it represented a change in the form of political organization, originating a reprioritization of the actions of the municipal work plan, focusing on the protection of the population as one of the main policies of the municipal government.

According to what was expressed, the projected works had to wait longer to be carried out: "this situation is quite a challenge, we could not work more on works, we are aware that we take care of the population, before carrying out works, for us the important thing is the citizenship, if we had not carried out these actions, there would have been (sic) more deaths" (B. L. Ruiz, personal communication, October 27, 2021). In this way, it is observed that the health crisis had an important meaning for the municipal government, promoting prevention actions, and acting to help those affected by the pandemic.

Regarding the social effects that the pandemic has generated, the councilor for education mentions that "there has been a lot of desertion, with the pandemic they lost their interest in school, there are many children who are lagging behind, there are children who do not want to continue, they have lost interest" (B. L. Ruiz, personal communication, October 27, 2021).

It is observed that several children and adolescents in the three educational levels that are taught in the municipality (preschool, elementary and secondary) had abandoned academic activities, since working online is not very stimulating, even some students do not have the electronic means to follow up to virtual classes. This situation represents a scenario of delay in academic content, generating school dropouts.

In economic terms, the effects of the pandemic are also evident in the municipality, as the local economy was depressed, some people lost their jobs, or merchants in the city of Miahuatlán saw their sales decrease, however, at the same time, the pandemic meant a encouragement for other businesses to open in the town, mainly fast food, such as taquerias, restaurants and family dining rooms, allowing the population to have some consumption options, mainly with home delivery, thus beginning to reactivate the municipal economy.

Some changes have also been generated in the uses and customs of the population, especially in the celebrations of the patron saint festivities, modifying social and cultural coexistence, since the agglomeration of people is restricted. In the same way, community assemblies have not been held, leaving all responsibility for decision-making in the hands of the city council. In terms of tequio, the pandemic has made it possible to resume this action that was born since pre-Hispanic times, by inviting residents to participate in various collective actions, including cleaning the streets and the municipal cemetery.

In this same area of the meaning of the crisis, it is necessary to reinforce the information that the city council provides to the population, particularly about the repercussions that Covid-19 has on public health, to continue avoiding cases, because as a result of the application of the vaccine in March 2021, some people have relaxed the protection measures. The city council has established containment measures, mainly the sanitary filter, the prohibition of the entry of people whose permanent residence is not the municipality, the prohibition of crowds, the exhortations to local businesses, the sanitization of homes and streets, among others.

However, the city council did not directly try to reassure the population to avoid panic, since this aspect exceeded its framework of action, since the population received information about the pandemic from the mass media, naturally the interpretation of the data was in accordance with the criteria of each person, the action of reassuring the population in a crisis situation corresponds more effectively to the national and state governments, regulating the information disseminated to the population.

In terms of communication, the city council stated that it had effective internal communication, given the close relationship between them and their daily coexistence. The main means of communication between the councilors are the town hall sessions, spaces for analysis and discussion of collective problems, they mentioned that the extraordinary sessions to deal with issues related to the pandemic are held constantly.

Other means of communication between the councilors are text messages on cell phones and radios, thus allowing information to flow quickly. With regard to external communication, towards the population, it is the mayor and the trustee who coordinate the review of the information that is communicated to the residents; however, all the members of the city council participate in such review, both the owners and the substitutes.

The information provided to the population consists mainly of the sanitary measures that must be followed to avoid contagion, the indications on the entry and exit of people to the municipality, the restrictions for the concentration of people and the measures for the celebration of events social and religious. During the first months of the pandemic, the city council transmitted information related to the nature of the virus and the possible sources of contagion.

The main means of communication that the municipal government uses to communicate with the population is the loudspeaker in the city hall and in official vehicles, making tours of the population. In addition, social networks, mainly Facebook, have been used to issue official statements. In the same way, the city council mentions that the telephone lines of the presidency and the municipal police are available so that the population can report an emergency or ask for help.

The councilors commented that internal communication has been effective, since the key to working in a coordinated manner has been the unity and sense of belonging of the members of the council "Tuesdays, Thursdays and Sundays we all

meet, that has helped us, to team up, that has taken us forward, we have not had conflicts between us here, of course sometimes we argue, but things are said here and leaving we are friends as always" (G. C. Jiménez, personal communication, October 28, 2021).

Being a small town, there are close family and neighborhood relationships between the members of the municipal government, a factor that has been key to organizational cohesion, which has been reflected in effective results for the population, in terms of pandemic management: "We have remained united, we have not left the health councilor alone, all of this has helped us, we are united" (G. C. Jiménez, personal communication, October 17, 2021).

The treasury councilor expressed "teamwork, unity, we are here most of our time, when it comes to work, we are all here, not because we are women we stay in the office" (B. L. Ruiz, personal communication, October 17, 2021) revealing the union and sense of belonging of the councilors.

Regarding external communication, the city council commented that communication with the population needs to be further strengthened, although social communication actions have been carried out, it is important to continue informing the community and invite them to continue with the protection measures. From the first moment of confinement, the city council informed and communicated with the population, through printed and digital media, so it is possible to say that the communication has been timely.

In the executive accountability task, it was observed that the city council has only reported the actions it has taken to contain the pandemic, however, due to the resulting restrictions, it has not been directly accountable to the population in a community assembly as is customary; semi-annually. During January 2021, an assembly was held, which was very brief, to avoid contagion, the mayor commented that in said event "we invited the people, that whoever had any questions should go to the office or with the treasurer to review the (expense) book" (G. C. Jiménez, personal communication, October 17, 2021).

This action reflects the commitment to accountability and openness of public information to the population of the municipality. The treasury councilor argued that social networks have been used to inform the actions carried out and issue security measures, both the federal and state governments have not requested any specific information on the management of the pandemic, in the sense of control.

In terms of accountability, the city council has made expenditures derived from the needs that the crisis has caused, such as the purchase of sanitization material and equipment, oxygen tanks, medicines, in-kind support, among others, these expenses are reported to the state congress through the financial reports and accounting statements issued by the municipal treasury.

The city council explained that they have suffered a budget cut, specifically from Branch 33 Fund IV Contribution Fund for the Strengthening of Municipalities and Territorial Demarcations of the Federal District (FORTAMUN) "there was a cut in the budget, we received one million one hundred thousand pesos, now we get nine hundred thousand pesos" (G. C. Jiménez, personal communication, October 29, 2021), this situation has affected the adjustment of expenses in items such as infrastructure maintenance and security. At the end of 2020, the city council did not carry out the government report as determined by law, due to contingency restrictions, this action was corrected a month later in the aforementioned community assembly.

Regarding the learning that the crisis has left, the councilors mentioned that "working as a team and in unity can do everything, we organize ourselves, due to our uses and customs, many people have contributed their grain of sand, they came to help us, also from part of the citizens who are outside there was a lot of support (B. L. Ruiz, personal communication, October 30, 2021). With these arguments, it follows that the city council was effectively organized to face the pandemic, where teamwork is a key factor for the results obtained.

Most of the population has expressed support and shown cooperation with its municipal authority, including people who live in the state of Nuevo León, Mexico City, State of Mexico, and the Oaxacan coast, among other places, have made contributions to collaborate with the expense derived from the pandemic. This collaboration and participation show a significant social cohesion, identity, and sense of belonging of the population and legitimacy of the municipal government.

In the area of learning lessons, the city council commented that the implementation of the filter has been one of the most effective measures that were followed to avoid the damage caused by the pandemic, because during the first eight months of the pandemic, when the sanitary filter was working, there was no contagion, this action, as stated, would be implemented again if a similar situation arose.

Regarding the actions that would not be implemented again, the health councilor stated, "none of the actions have been in vain, everything has turned out (in a positive way) now we are adapting to living with this disease" (L. G. Ramírez, personal communication, October 29, 2021) the municipal government commented that the actions they implemented have been useful for managing the pandemic at the local level, since the emergency they had to innovate actions, asking for the

collaboration of the population.

Regarding the recommendations that it would make to the population for future crisis situations, they mentioned "the population should not ignore the recommendations of the Ministry of Health and the authorities"(L. G. Ramírez, personal communication, October 29, 2021) because a sector of the population (10 per cent) initially was incredulous about the pandemic existence.

The recommendations to the future municipal authorities to face a health crisis revolve around the establishment of a health filter "we could tell the new administration about our experience as a suggestion, it is very feasible, the objective is the safety of the population was our focus, caring for citizens" (L. G. Ramírez, personal communication, October 29, 2021). The councilors argued that the experience with the filter and the sanitization of the population, as well as taking care of the confinement, were effective in containing the entry of the pandemic for several months.

In the aspect of improving resilience, in terms of strengthening the municipality as a system, the city council stated that having established the sanitary filter is one of the actions that provided the best results, since contagion was avoided during its operation, however, due to Due to pressure from the population, but living in other places, the municipal authority decided to withdraw it in October 2020. The councilors expressed that in the event of a new health crisis, this action should be implemented again and maintained for facing overcoming the crisis.

Regarding the actions that have been carried out to recover from the effects of the pandemic, the city council has authorized the establishment of new businesses, verifying that they follow the corresponding sanitary measures or indicating the delivery of products at home. With regard to public investment, the money that was not allocated to socio-cultural events has been invested in public works, including street maintenance and the improvement of educational infrastructure. Another recovery measure has been the extension of the service hours of collective taxis on the Cuixtla – Miahuatlán route.

Regarding sociocultural events such as catholic stewardships, parties and meetings, the city council has authorized the celebration, but monitoring the restriction measures. Social coexistence has a positive impact on the emotional state of the inhabitants, who undergo a process of adaptation to the new normality. For future health or other contingencies, the city council has not contemplated carrying out drills, to prevent further damage to the population.

In relation to the action of the population in containing the crisis, the city council argued that approximately 90 per cent of the inhabitants have followed the sanitary measures to avoid the spread of Covid-19, they consider that 10 per cent of the inhabitants have shown some resistance, expressing their disagreement with the protection guidelines, directly to the members of the city council or through social networks. With these data, it is inferred that most of the population corresponded and complied with the established measures, thus highlighting features of social cohesion and political legitimacy.

CONCLUSION

The Oaxacan municipal government has historically been characterized by a framework of institutional fragility, presenting various areas of improvement, municipalities often resort to improvisation, strategic planning is unusual, and management results are not optimal. However, there are also innovative experiences that show that political will, organization, and a spirit of service can achieve important results for social well-being.

During the Covid-19 pandemic, some municipalities have stood out, taking the leadership in their territories to face the pandemic in the best possible way, safeguarding the integrity and health of their population. Some important cases are the Villa de Talea de Castro and Ixtlán de Juárez in the Sierra Norte of the state, municipalities that resorted to measures such as self-isolation, the establishment of sanitary filters, the taking of rapid samples to detect Covid-19, the request of records specifying the reasons for entering the municipality, among others.

In the Sierra Sur, a particular case was the municipality of Santa Catarina Cuixtla, which distinguished itself from the municipalities in the area for its early action, establishing the sanitary filter and promoting confinement in its population. These actions had an echo at the national level as they were news, mainly because its inhabitants, in coordination with the municipal authority, prevented the access of a family from Mexico City, with the intention of burying a corpse, since it was feared that people could carry the virus and cause infections in the population, which has a significant percentage of older adults.

The actions and strategies implemented by the municipal government of Cuixtla were analyzed, using the theoretical approach to crisis management proposed by Boin et al. (2013) and the studies carried out in Mexico by Culebro (2021). The management of the pandemic was framed in ten executive activities that reflect government leadership, in this case the city

council under study.

In the first executive task, early detection, the city council perceived the pandemic in February 2020, during March the phenomenon was assimilated, establishing the sanitary filter in the first days of April, observing a detection and early action on the crisis. At the same time, the city council took the meaning of the phenomenon, organizing and establishing protection and containment measures. In this activity, the city council should have been more incisive and decisive so that the entire population abided by the rules established since the beginning of the pandemic, establishing sanctions for those who did not respect the confinement.

With regard to critical decision-making, by not having enough administrative personnel under its command, the political regime was the one who operationalized the strategies, sharing the time between decision-making and their operationalization. The city council could have hired operational personnel to assist in specific activities, because at one point, both the city council and the municipal police force were overwhelmed in their functions and responsibilities.

In terms of coordination, there was no joint work between the three levels of government, since the federal and state levels only limited themselves to issuing communications so that the municipal authorities followed the confinement measures. In this regard, the federal and state governments should have exercised comprehensive leadership, coordinating efforts to better manage the pandemic. With regard to local coordination, the initiative of the population to reinforce the sanitary filter and cooperate with the confinement measures could have been capitalized, favoring the delegation of responsibilities. Greater coordination with doctors who provide services to the population is also suggested.

For the coupling and uncoupling, the council resorted to the isolation of infected people, this action should be more closely monitored, establishing sanctions for the relatives of the victims who did not respect the quarantine. In the same way, it is suggested that the city council emphasize the transition to the new normality, resuming activities, but taking care of protection measures.

Regarding the generation of meaning, both the city council and the majority of the population gave an important meaning to the pandemic, however it is suggested that for future contingencies the city councils carry out the task of reassuring the population to avoid panic or psychosis, in this sense the municipal government can resort to specialists in the medical and psychological area for the implementation of measures of emotional containment and attention to the population.

On the aspect of communication, internally the city council manifested an adequate communication between the councilors, however it is necessary to reinforce the channels of communication towards the outside, mainly with the population, the economic sector, the social sector, and the federal and state governments. In this way the results of crisis management will be more effective. A formal helpline for the population is suggested, or efficient use of social networks such as Facebook and WhatsApp.

In the field of accountability, the city council has briefly informed the population about the management of the pandemic and the expenses generated, however, it did not comply in time with the annual government report that by law it must present during the first days of December (2020). Although, there is a significant openness of the municipal government on the control of both the population and the higher bodies, it is suggested to use digital media for the preparation of the government report, in this way greater legitimacy will be achieved.

The learning of the crisis for the city council is reflected in lessons on effective strategies, it is suggested in this item to document the actions carried out to generate a bank of experiences, which will be useful for future municipal governments that have to face health contingencies or other kind of phenomena. The most effective measure that the city council highlights is the establishment of the sanitary filter, which was able to contain the entry of the virus for several months.

Regarding resilience to overcome the health crisis, the city council has established actions to comply with the new normality, a greater involvement in the economic sector is recommended, promoting entrepreneurship in the population for economic recovery, as well as carrying out social activities that have repercussions in the emotional well-being of the population, including the celebration of cultural events, taking care of sanitary measures.

Greater attention to the victims of the pandemic is also required, in order to provide medical and psychological follow-up to overcome the consequences of the disease. Another important measure in this area is the strengthening of activities of identity and belonging of the members of the population, such as tequio and social participation in various public activities.

It is convenient that the municipal government of Santa Catarina Cuixtla establish measures such as the integration of a municipal civil protection committee, to prevent disasters, since the municipality is located in an area of high seismological risk. In addition, it is necessary to reinforce the training of the health council and the personnel of the health center so that they carry out preventive actions on health contingencies, reduction of the prevalence of chronic degenerative diseases,

among other aspects that have repercussions on public health.

In an approximation towards an evaluation of the fulfillment of the ten executive tasks of the municipal government, it is possible to conclude that the municipality of Santa Catarina Cuixtla acceptably carried out six tasks: early detection of the crisis, creation of meaning, coupling and decoupling, the generation of meaning, communication, and learning from the crisis. On a regular basis the local government carried out the other four tasks: critical decision-making, vertical coordination, accountability, resilience, representing areas of improvement that can be strengthened to achieve better results. Some of them have been influenced by factors external to the municipal government, such as vertical coordination and communication.

Based on this, it is possible to say that, given the nature of the municipality, the institutional limitations and the socio-economic context of the Sierra Sur, the management of the Covid-19 crisis by the municipal government of Santa Catarina Cuixtla is acceptable, since almost two years after the start of the pandemic, 11 people have died, that is, 0.73 per cent, a relatively low mortality rate.

Managing the Covid-19 crisis represents an important challenge for municipal governments, since they are immediately responsible for providing public services to their population and for ensuring general well-being, including the protection of public health. Through the crisis management approach, strategies are identified that have generated positive and effective results in the health of the population, protecting people from external attacks. In addition, certain areas of opportunity are identified that local governments can address to improve their management and fulfill their mission as a city council.

The crisis management approach proposes ten executive tasks that municipal governments can follow to generate acceptable results, fulfilling their obligation as leaders in local territories, also establishing retaining walls to protect the population. It is not an infallible recipe; however, its effectiveness has been demonstrated in various latitudes, which can be replicated in the management of the crisis generated by Covid-19.

Social cohesion as a contextual variable is important in achieving efficient results, since there is a co-responsibility between the municipal government and the population, so that actions are designed, strategies are executed and optimal results are achieved for the sake of social welfare, protection and the resilience of the population.

Some of the main theoretical limitations of this article is the elementary approach to social cohesion, regulatory systems and the social capital of the indigenous communities in Oaxaca. Future research could deepen these important issues for understanding the singular management of the crises in these particular contexts.

A methodological limitation of this study is that a survey aimed at a population sample was not included. To complement the research in the future, it is possible to contemplate the application of research instruments to the people of the municipality to broaden the panorama and know the social perspective on the crisis management in the community context.

Some possible research lines for the future, which can be glimpsed from this study, is the correlation between social cohesion and crisis management; characteristics and aptitudes of the mayor in managing the crisis and deepening more in community participation in the crisis management.

REFERENCES

Andrew, H. K. (May, 2020). Habitantes de Santa Catarina Cuixtla, Oaxaca, impiden sepultar a mujer fallecida en CDMX. Noticieros Televisa (México). Retrieved from https://noticieros.televisa.com/ultimas-noticias/habitantes-de-santa-catarina-cuixtla-oaxaca-impiden-sepultar-a-mujer-fallecida-en-cdmx/

Baubion, C. (2012). OECD Risk Management: Strategic Crisis Management. OECD.

Boin, A., Kuipers, S. & Overdijk, W. (April, 2013). Leadership in times of crisis: a framework for assessment. International Review of Public Administration (USA). Vol. 18, No. 1.

Boin, A., Stern, E. & Sundelius, B. (2016). The politics of crisis management: Public leadership under pressure. Cambridge: University Press.

Christensen, T., Lægreid, P. & Rykkja, L. (September, 2013). After a Terrorist Attack: Challenges for Political and Administrative Leadership in Norway. Journal of Contingencies and Crisis Management (USA). No. 21, 2013. Retrieved from https://www.researchgate.net/publication/259368886_After_a_Terrorist_Attack_Challenges_for_Political_and_Administrative_Leadership_in_Norway

Coneval. (August, 2021). Hallazgos - 31 de agosto de 2021. Visor Geoespacial de la Pobreza y la COVID-19 en los municipios de México. Consejo Nacional de Evaluación de la Política de Desarrollo Social (México). Retrieved from https://www.coneval.org.mx/Medicion/MP/Paginas/Hallazgos_31_Agosto_2021.aspx

Cruz, H. P. A., Culebro, M. J. E., Méndez, B. B. (September, 2020). Liderazgo y gestión de crisis en México en las primeras 104 respuestas al COVID-19: el papel de los gobiernos sub-nacionales. Revista Buen Gobierno (México). Doi: 10.35247/buengob_29_05. Retrieved from https://www.researchgate.net/publication/344228603_Liderazgo_y_gestion_de_crisis_en_Mexico_en_las_primeras_104_respuestas_al_COVID-19_el_papel_de_los_gobiernos_sub-nacionales

Cruz, H. P. A., Méndez, B. B. & Culebro, M. J. E. (December, 2020). Liderazgo y la gestión de crisis en México: un área de prácticas improvisadas en gobiernos sub-nacionales. Revista Mexicana de Análisis Político y Administración Pública. Universidad de Guanajuato (México). Julio-diciembre 2020. Volumen IX, número 2, pp. 33-47.

Culebro, M. J. E. (September, 2021). Políticas de salud y gestión de crisis. Balance de la primera mitad del gobierno de AMLO. Análisis y perspectivas. Universidad Autónoma Metropolitana-Foros CSH. Retrieved from https://youtu.be/IHWmRxwUPdA

DATA MEXICO. (Octuber, 2021). Santa Catarina Cuixtla, Municipio de Oaxaca. DATA MEXICO. Retrieved from https://datamexico.org/es/profile/geo/santa-catarina-cuixtla#:~:text=La%20poblaci%C3%B3n%20total%20de%20Santa,%25%20mujeres%20y%2045.2%25%20hombres.

Deloitte. (August, 2021). ¿Qué es una crisis? Concepto y tipología de crisis. Deloitte. Retrieved from https://www2.deloitte.com/es/es/pages/governance-risk-and-compliance/articles/que-es-una-crisis.html

Díaz, M. F. (2011). La facultad reglamentaria municipal. Oaxaca: Secretaría General de Gobierno - Subsecretaría de Fortalecimiento Municipal.

Fernando, G. A. (February, 2021). Covid-19: A un año del paciente cero en México. Gaceta UNAM (México). Retrieved from https://www.gaceta.unam.mx/covid-19-a-un-ano-del-paciente-cero-en-mexico/

Congreso del Estado de Oaxaca. (2002). Gaceta Parlamentaria Número 9. Órgano Informativo de la LVIII Legislatura del Estado Libre y Soberano de Oaxaca. No. 9.

Hernández, Z. M. A. (September, 2021). Políticas de salud en tiempos de pandemia por Covid-19. México. Balance de la primera mitad del gobierno de AMLO. Análisis y perspectivas. Universidad Autónoma Metropolitana-Foros CSH. Retrieved from https://www.youtube.com/watch?v=gw7Rjd0P8S8&list=LL&index=4

IEEPCO. (2021). Sistemas normativos indígenas. Instituto Estatal Electoral y de Participación Ciudadana de Oaxaca. Retrieved from https://www.ieepco.org.mx/archivos/documentos/2016/Los%20Sistemas%20Normativos%20Indi%CC%81genas.pdf

Instituto de Investigaciones Jurídicas (2021). Cohesión social. Instituto de Investigación Jurídicas de la UNAM-INE (México). Retrieved from https://farodemocratico.juridicas.unam.mx/que-es-la-cohesion-social/

Jann, W., Jantz, B., Kühne, A., Schulze-Gabrechten, L. (July, 2018). The Flood Crisis in Germany 2013. In: Lægreid, P., Rykkja, L.H. (eds). Societal Security and Crisis Management. New Security Challenges. Belin: Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-319-92303-1_4

Johns Hopkins University. (October, 2021). COVID-19 Dashboard by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University. Coronavirus Resource Center. JHU. Retrieved from https://coronavirus.jhu.edu/map.html

Juárez, A. (May, 2020). Por temor a Covid 19, impiden acceso de cadáver a comunidad de Oaxaca. Agencia Cuadratin (Yucatán). Retrieved from https://yucatan.quadratin.com.mx/nacional/por-temor-a-covid-19-impiden-acceso-de-cadaver-a-comunidad-de-oaxaca/

Carlsen, L. (2003). Autonomía indígena y usos y costumbres: la innovación de la tradición. Derecho de los pueblos indígenas. Revista Chiapas. Universidad de Buenos Aires y Universidad de Quebec. Retrieved from https://chiapas.iiec.unam.mx/No7-PDF/ch7carlsen.pdf

LXIV Legislatura. (August, 2019). Ley de Instituciones y Procedimientos Electorales del Estado de Oaxaca. Periódico Oficial del Congreso del Estado de Oaxaca. Última reforma: decreto número 706, aprobado el 10 de julio del 2019 y publicado el 24 de agosto del 2019.

LXIV Legislatura. (June, 2021). Ley Orgánica Municipal para el Estado de Oaxaca. Periódico Oficial del Congreso del Estado de Oaxaca. Última Reforma: decreto número 2431 aprobado el 17 de marzo del 2021 y publicado el 12 de junio del 2021.

Matías, P. (January, 2021). De Oaxaca, 82 de los 102 municipios indígenas sin contagios de covid-19. Revista Proceso (México). Retrieved from https://www.proceso.com.mx/nacional/estados/2021/1/27/de-oaxaca-82-de-los-102-municipios-indigenas-sin-contagios-de-covid-19-257117.html

Medina, A. (1996). Prólogo a Korsbaek, L. Introducción al sistema de cargos. México: Universidad Autónoma del Estado de México.

Milenio. (September, 2021). Cifras a un año de que la OMS declarara la pandemia por covid-19. Milenio (México). Retrieved from https://www.youtube.com/watch?v=-wx3kYCfR0E

Myrberg, G. (2019). The 2015 Refugee Crisis in Sweden: A Coordination Challenge. In: Lægreid, P., Rykkja, L.H. (eds). Societal Security and Crisis Management. New Security Challenges. Berlin: Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-319-92303-1_8

Organización Mundial de la Salud. (January, 2020). Brote de enfermedad por coronavirus (COVID-19). OMS. Retrieved from https://www.who.int/es/emergencies/diseases/novel-coronavirus-2019

Organización Panamericana de la Salud (January, 2020). Informes de situación de la COVID-19. OPS. Retrieved from https://www.paho.org/es/informes-situacion-covid-19

Ortega, A. (May, 2021). A más de un año de pandemia, hay todavía 91 municipios libres de COVID-19. Expansión Política (México). Retrieved from https://politica.expansion.mx/estados/2021/05/07/a-mas-de-un-ano-de-pandemia-hay-todavia-91-municipios-libres-de-covid-19

Penna, C. (October, 2021). Las cifras de la pandemia en México; el análisis de TResearch. TResearch (México). Retrieved from https://www.youtube.com/watch?v=4krx5nC-KBQ

Prats, J. (1992). Case study in American methodological thought. Current Sociology, 40, 17-48

Ramírez, A. E. L. (May, 2013). Evaluación de la gestión ambiental municipal en el régimen de usos y costumbres en el estado de Oaxaca. Universidad de la Sierra Sur. Oaxaca: UNSIS.

Recondo, D. (2006). Las costumbres de la democracia: multiculturalismo y democratización en Oaxaca. Meeting of the Latin American Studies Association (USA). Retrieved from www.usosycostumbres.org/pdf/Multiculturalismo_2006.pdf

Rodriguez, O. (March, 2021). Autoaislamiento en Talea de Castro asegura a este municipio cero casos de Covid-19. Diario Marca (México). Retrieved from https://www.diariomarca.com.mx/2021/03/auto-aislamiento-en-talea-de-castro-asegura-a-este-municipio-cero-casos-de-covid-19/

RTVE. (February, 2021). La pandemia del coronavirus en datos, mapas y gráficos. Corporación de Radio y Televisión Española (España), 2021. Retrieved from https://www.rtve.es/noticias/coronavirus-graficos-mapas-datos-covid-19-espana-mundo/

SANITARIA 2000. (May, 2020). ¿Dónde empezó el Covid-19?. Sanitaria 2020-Redacción Médica. Retrieved from https://www.redaccionmedica.com/recursos-salud/faqs-covid19/donde-empezo-el-covid-19

SEPIA. (June, 2016). Plan Estratégico Transversal para la Atención de los Pueblos Indígenas y Afromexicano de Oaxaca. Secretaría de Pueblos Indígenas y Afroamericano – Gobierno del Estado de Oaxaca. Retrieved from https://www.oaxaca.gob.mx/sepia/pet_pueblosindigenas_enlinea-2/

SIASAR. (August, 2021). Oaxaca, México. Sistema de Información de Agua y Saneamiento Rural. Retrieved from https://globalsiasar.org/es/paises/oaxaca-mexico

Stake, R. E. (1999). Investigación con estudios de casos. Madrid: Morata.

Suárez, V., Suarez, Q. M., Oros, R. S. & Ronquillo, De J. E. (May, 2020). Epidemiología de COVID-19 en México: del 27 de febrero al 30 de abril de 2020. Elsevier Public Health Emergency Collection. Doi: 10.1016/j.rce.2020.05.007, PMCID: PMC7250750, PMID: 33994571. Retrieved from://www.ncbi.nlm.nih.gov/pmc/articles/PMC7250750/

Tamayo y Tamayo, M. (2007). El proceso de la investigación científica. Guadalajara: Limusa.