

# Management Of Public Space: Canal Nacional In Mexico City

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## Abstract

The Canal Nacional, the last and most important waterway built in today's Mexico City, is 2,000 years old, and despite the landscape and environmental benefits it provides, it has remained abandoned for a long time, becoming a place with garbage and unsafe conditions. Based on the above, Mexico Territorio Creativo [MXTTC] and the De La Rosa Foundation have carried out an intervention project aimed at restoring and giving life to El Canal, through a set of actions that have provided an important ecological support for the rehabilitation of this emblematic public space, demonstrating the importance of coexistence, empowerment and the construction of the social and cultural fabric, and have repaired the damage caused to its ecosystem. Presenting the case of El Canal Nacional at an international level has made visible the neighborhood work carried out for its safeguarding, which in parallel has favored the implementation of participatory workshops on environment, art and culture.

**Keywords:** Canal Nacional, public space, natural heritage, community action, social and cultural restoring.

## Resumen

El Canal Nacional, el último y más importante camino de agua construido en la hoy Ciudad de México con 2000 años de antigüedad, y que no obstante de los beneficios paisajísticos y ambientales que brinda, ha permaneciendo por mucho tiempo abandonado, convirtiéndose en un lugar con basura e inseguro; con base en lo anterior México Territorio Creativo [MXTTC] y la Fundación De La Rosa han realizado un proyecto de intervención destinado a restablecer y dar vida a El Canal, mediante un conjunto de acciones que le han brindado un soporte ecológico importante para la rehabilitación de este emblemático espacio público, demostrando la importancia de la convivencia, el empoderamiento y la construcción del tejido social y cultural, han resarcido los daños causados a su ecosistema. Presentar el caso de El Canal Nacional a nivel internacio-

nal ha hecho visible el trabajo vecinal realizado para su salvaguarda mismo que paralelamente ha favorecido la implementación de talleres participativos sobre medio ambiente, arte y cultura.

**Palabras clave:** Gran canal, espacio público, espacio arquitectónico, Acción Colectiva

## I. Introduction

The public space, whether natural or built, together with the institutions of Collective Action, have played an extremely important role for coexistence, particularly in those where nature and human work are combined, such is the case of the so-called architectural spaces that, when analyzed under the logic of Collective Action, allow to understand the way in which man can contribute to the environment, being

able to contribute to the restoration of the social fabric and the beautification of the landscape, by restoring the built heritage, which, as a whole, contributes to the restoration of the social fabric and the enhancement of the landscape, which, in turn, contributes to the restoration of the environment, allow to understand the way in which man can contribute to the environment, being able to contribute to the reestablishment of the social fabric and the improvement of the landscape, by restoring the built heritage, which as a whole turn the architectural space into a worthy space for a good coexistence.

An architectural space is a space of life and history, such is the case of El Canal Nacional, located in the heart of one of the largest cities in the world, Mexico City (CdMx), which with more than 2000 years of useful life, is still a hydraulic system, originally built with the intention of "regulating the flow of water from the lakes of Chalco and Xochimilco, as well as to function as the main canoe path that once [it] supplied food" (Asamblea Legislativa de la Ciudad de México, 2018, p. 218 ).

Today, El Canal Nacional, also known as Gran Canal and/or Acequia Real, is connected to the lake area of the Ejidos of Xochimilco and San Gregorio Atlapulco, forming an ecosystem with natural flood plains, induced water bodies, tulares, yellow lily *Nymphaea mexicana* and salamander *Ambystoma mexicanum*, the latter being a unique species in danger of extinction. Based on the environmental and sociocultural importance of El Canal Nacional and in order to contribute to its conservation, the Collective Action of neighbors organized in Civil Society Organizations [CSOs], the local public administration and benefactor institutions, have turned it into a

modern, functional, accessible urban-architectural public space with imminent ecological, landscape and sociocultural benefits, which are documented below.

## 2. Public Spaces

Ramírez Kuri (2003, p. 7) and García Vázquez (2017, p. 2) point out that public space corresponds to "that territory and/or common place [...] where any person has the right to be and circulate freely, whether [in] open spaces such as squares, streets, parks or closed ones such as public libraries, community centers ... [where] people carry out daily, functional and ritual activities that bring the community together".

The concept of public space, as a political dimension and urban social order, has been transformed historically, from its identification as an open space in the Renaissance period, to its incorporation as a space of sociability that alludes to audiences, stages [where plays or concerts are performed], but above all, to the relationship between public spaces with political and cultural figures, and to the links between the citizen and the street as a meeting place in the 20th and 21st centuries.

It is in this context that public space incorporates various forms, gradually acquiring the meaning that currently refers to the social life that takes place outside the private domain and a wide diversity of people who make up a cosmopolitan urban public, whose scenario is the capital city where complex social groups converge in the dimensions of public space identified by Kuri (2015, p. 67) which make everyday life, a binomial public space-society in which human existence makes sense (Table 1).

Table 1. Dimensions in the Public Space

Dimension	Description
Physical-territorial	It is the support so that all other dimensions can be related in an organic way.
Political	It expresses the dialogue between the public administration as the legal owner of the territory and the citizens who exercise a real use of it, giving it the character of public domain. In other words, appropriation qualifies the collective space and gives it the status of public space, the dynamics of which depend directly on the level of appropriation given by the people, rather than on how it is equipped.
Social	It is the basis of any true form of social integration, in the sense that it releases the justification of our origin, social condition, idiosyncrasy and establishes us as equals with each other. Moreover, public space is presented at the same time as the point where this equality based on anonymity is systematically confronted with the power relations that condition the possibility of its equitable use.
Economical	The park, the square, the avenue, the means of public transportation are nowadays traditional spaces for commerce in cities and are inherent to the public space, just as the conflicts that arise from these dynamics are also inherent to cities.
Cultural	It is a space of history, of identification with the past of every city, which expresses identities and common origins: both in its monuments and in its accidents. From this identity with the past, the public space becomes a space of social relationship, of daily symbolic identification, of cultural expression and integration, physically representing the idea of the collective in the territory of the city as a fact of everyday life.

Source: (Kuri, 2015).

### 3. Urban public spaces

In cities there are various types of public spaces that provide the necessary functions to satisfy the range of demands of society based on user profiles, considering age groups, gender, physical abilities or socioeconomic characteristics. The essence of urban public spaces lies precisely in the possibility of serving the different people who make up their society and interact with each other, following certain rules and conventions that allow them to coexist peacefully (Montijo, 2017).

Thus, urban refers to "a set of characteristics that a locality or region possesses, such as a high demographic density, an economic activity linked to the industrial and service sectors, as well as the presence of administrative centers and physical infrastructure" (Mora, 2009, p.33), such as paving, aqueducts, electrical services, etc.

In this sense, the physical infrastructure surrounding a public space is an important criterion when classifying something as urban; for example, buildings, residences, industry and administrative centers, among others. It is worth mentioning that transportation and communication logistics also represent a characteristic widely used to define what is urban.

#### **4. The vocation of urban public spaces**

One of the elements to consider when it comes to the study of urban public spaces and their influence on the quality of life is the analysis of their vocation. Technically, there are linear and non-linear spaces, which have different characteristics and serve different needs.

Linear public spaces consist of elements with a vocation to connect, and can even accommodate other uses. In general, the movements that occur in these spaces are clear in terms of directionality and are contained by edge elements, examples of which are urban environments or linear natural elements such

as a river, the sea, or plant elements. In many cases, mobility in these spaces is only pedestrian, and in others it is shared with cars, bicycles and transport items (Galicía, 2020).

Non-linear public spaces are formed by elements with a vocation to remain, they are generally non-directional so that they can admit several uses and activities; in them, the border elements are marked depending on each case. In the organizational scheme of public spaces, these elements would have a function of nodes or poles of attraction, being connected through linear public spaces. Although there are exceptions, non-linear public spaces are generally pedestrian in nature, and their function is to accommodate meetings on a larger or smaller scale, serving as a spatial framework for the social relations of human life.

The relationship between public spaces and the landscape is a fundamental aspect from the point of view of design and the ecological and economic perspectives; each place has its own intrinsic characteristics and singularities that differentiate and challenge it. This essence of public space has much to do with the concept of *Genus Loci*, (2000) cited by, Garcia (2020) as referring to the protective spirit that gives life and importance to places, as criteria to be taken into account when designing a public space, since respecting the identity of a place, means knowing it and being able to analyze and integrate both physical and immaterial elements of the environment, its memory and culture; Thus, according to Moro (2016), construction in public spaces collaborates with the preservation and recovery of heritage, through the use of native species, which together are essential elements for the preservation of identity, improvement of biodiversity and promotion of the green, circular and proximity economy; achieving at the same time the integration of public spaces with the landscape, Galicía (2020, pp. 40-43).

Within this framework of ideas, public policies for environmental management and a wide range of initiatives by civil society have been implemented (Riojas-Rodríguez, 2013), which show the importance of preserving vegetation, and in particular its forest component, since it harbors biological diversity, fixes or retains soil, regulates hydrological cycles and influences the local climate, among other functions, whose interactions are multiple and occur at scales that extend from the global to the local (SEMARNAT, 2017).

For several decades, the different practices related to green spaces have not always obeyed programs and actions derived from comprehensive public policies for sustainable urban planning. Particularly in the National Canal (Canal Nacional), until March 2021, a Management Plan has not been issued which contributes to the preservation and conservation of this place, a situation that leaves this site vulnerable to losing the ecosystem services it currently provides.

### **5. Effect of urban public space management on quality of life**

The quality of life of human beings is linked to the policy for social development, which is why it is considered the new multidimensional goal. This policy allowed the construction of the Quality-of-Life Index for Mexico [INCAVI], composed of variables such as: health, economy, education, security, good governance, community life and well-being of the person, which as a whole according to Chávez (2016, p. 35), are related to the objective and subjective aspects of the quality of life.

A broad concept of quality of life is offered by Cutter (1985) cited by Nasution (2012, p. 62) who refers that this is "an individual's happiness or satisfaction with life and the environment, including needs and desires,

aspirations, lifestyle preference, and other tangible and intangible factors that generally determine well-being". In this context, it has been shown that architectural and urban projections are necessary to realize pleasant and useful public spaces, and that these have a positive influence on improving the quality of life of people.

From urban public spaces, a society can move towards the goal of making the city as a whole truly common, finally making it its home, a place where the diversity of its members is respected and where it is understood that each group is an enriching element of the whole, since its ensemble constitutes a multicultural wealth that is greater than the sum of each one of them (Secretaría de Desarrollo Social, 2010) since a city is more than a set of public spaces made only of stones and other inanimate materials; It is a habitat made above all of the relationships that are established between people and the territories in which they converge.

Therefore, the search for and construction of public spaces capable of favorably influencing the effects that globalization generates in urban-metropolitan systems and their society, are registered as a concrete alternative of Collective Action to subtract them from the logic of uniform development imposed by global processes, to restore them to the instances and local needs of a specific citizenship and thus form a functional urban public space (Chávez, 2016).

### **6. The experience of Collective Action in the management of urban public space El Canal Nacional de la CDMX**

Between 1977-1993, the Grand Canal lost its splendor and architectural value, as it ceased to have water and was segmented into sections, it became a refuge for criminal groups and drug addicts, a clandestine garbage dump,

a focus for the proliferation of harmful fauna and flora, and it was also piped and its borders reinforced, but only to carry wastewater, which in its entirety had a negative impact on the population of the surrounding neighborhoods and on the infrastructure itself (Aguilar, 2018 y SEDEMA, 2019).

Based on this situation, in 2003, in the Calzada de la Viga-Río Churubusco section, the residents of the following neighborhoods: Prado Churubusco, Paseos de Taxqueña, Campesre Churubusco and Hermosillo, joined together to request the authorities of the Coyoacán Delegation to urgently fumigate and clean the Canal. When the government authorities did not respond to their requests, the neighbors organized themselves and took action on their own, creating the ecological foundation Club de Patos para el Rescate del Canal Nacional, a non-profit civil association based on three main lines of action: Health, Biodiversity and Culture of Volunteering.

Regarding the first axis, the settlers have worked to reduce the risk of gastrointestinal, viral and mosquito-borne diseases (Vega, 2019).

In the biodiversity axis, the conservation of native species has been proposed, as well as taking advantage of the rainy season to capture the water that accumulates in the subsoil through infiltration, generating a microclimate that supports the locals with the water supply in times of drought (PAOT, 2014). Additionally, during 2009, 22 ecological days were carried out with the help of 19 volunteer groups from different schools, civil organizations and companies, managing to keep the channel free of accumulated garbage. It is worth mentioning that in order to carry out this activity, the Coyoacán delegation provided several garbage collection trucks and different mass media participated in the dissemination of the project (Aguilar, 2018).

Other actions related to the biodiversity axis were: the protection of the netted area to ensure its maintenance, while preventing ducks and geese from eating the newly planted grass. The trees and ornamental plants planted in the vicinity of El Canal benefited from the installation of an automated irrigation system established by the Federal Government in April-December 2009 through a SEDESOL-INDESOL Social Co-investment Project, for the irrigation of green areas, (PAOT, 2014), while the General Directorate of Urban Services of the Government of Mexico City, provided support in the maintenance of these areas, repairing the lights from the streets of Pegaso to Cruz del Sur in the Prado de Churubusco neighborhood. At the same time, the Mexico City Water System completed the comprehensive rehabilitation works of the Coyoacán Wastewater Treatment Plant started in November 2008, increasing the treatment capacity at the secondary level from 150 to 250 liters per second (Pensado, 2016) and finally, 570 meters of internal edges of the canal were restored, regarding the Prado Churubusco neighborhood, since they were very eroded using labor provided by the Coyoacán Delegation (Vega, 2019).

Regarding the third line of action, the promotion of the Culture of Volunteering and co-responsibility with the general public, an interdisciplinary research-action team was formed and encouraged to participate, composed of biologists, veterinary doctors, zootecnicians, ornithologists, arborists, historians, engineers, architects, photographers, waterfowl breeders, environmental educators, graphic designers, civic judges, among others; whose Collective Action, in December 2011, gave rise to the initiative of the Civil Associations Bartola Axayácatl and López de la Rosa, presenting to the Legislative Assembly of the Federal District (today CdMx) the initiative to

reform the Law for the Safeguarding of the Architectural Urban Heritage of the Federal District in order to recognize the canals of Chalco, Cuemanco and Nacional as "Monumental Open Spaces" (Vega, 2019, p 78).

In this context, on May 3, 2012, the Reform Decree was published in the Gazette of the Federal District mandating the local government to publish within 30 days after the entry into force the decree establishing the responsible authority to develop and follow up on the Program for the Management and Safeguarding of the National Canal, whose failure to comply led to the filing of an amparo lawsuit against the Head of Government of the Federal District on January 22, 2016, for omission and failure to comply with such mandate (Aguilar, 2018).

At the initiative of residents and Civil Society Organizations [CSOs] involved in the restoration of the National Canal, in April 2017 a meeting was held in the ex-convent of Culhuacán, in order for the different actors involved in the recovery of the Grand Canal to meet, which led to the founding of a network of associations and individuals interested in it, called the Front of Civil Associations and Neighbors in favor of the National Canal (Vega, 2019).

All this set of activities carried out by the Collective Action of the social actors for the Grand Canal, have provided the surrounding population and its visitors, opportunities for recreation and collective meeting, as well as other environmental services that are not perceived with the naked eye, such as: refuge for flora and wildlife, capture of suspended particles, infiltration, barriers against wind and noise, among others. These environmental services range from climate regulation at the local level, where the vegetation along the Canal cushions and prevents sudden changes in temperature at a local scale, thus avoiding the for-

mation of heat islands; another is sediment retention and erosion control, providing soil retention within the ecosystem, preventing soil loss by wind and rain, and stimulating the fixation of nitrogen, phosphorus, and potassium. In the same way, this ecosystem serves as a refuge and breeding ground for resident and migratory species; as a whole, it is an urban public space where it is possible to have areas for recreational activities associated with health conservation such as hiking or cycling and others of a cultural and educational nature.

An effect of international impact that the aforementioned Collective Action has had in contributing to the preservation of the National Canal as an urban public space, has been the recognition by World Monuments Watch 2020 as one of the twenty-five sites chosen to be part of the biennial selection of Cultural Heritage Sites at Risk, as it combines historical importance and current social impact. These reasons also led to its recognition as one of the seven historic sites to receive financial support from the main private organization dedicated to saving important cultural heritage sites, World Monuments Fund (WMF), in coordination with the American Express Foundation, resources to be used for cultural programs in the period 2021-2022.

It is worth mentioning that Watch 2020 received more than 250 nominations of urban-public spaces that, because of common threats to symbols of global identity, such as violent conflict, erosion, natural disasters, climate change and rapid urbanization, protecting these irreplaceable sites for future generations can improve community resilience, social inclusion and develop new capacities.

Watch 2020 sites represent a wide variety of challenges and opportunities. However, given that, the objectives for each site are unique and driven by the needs expressed by their local stakeholders, some require outreach to change the course of a decision made by the

government; others need physical conservation to ensure structural stability, some seek international expertise and collaboration to pursue the best paths to sustainability.

In parallel, another effect of the Collective Action of those who care for El Canal Nacional and in the framework of World Design Capital CDMX 2018, with the collaboration of Design Your Action and Fundación López de la Rosa, Design Week Mexico / Mexico Territorio Creativo MXTC, have carried out a program called Residencia Semilla, which aims to promote dialogue and collaboration between citizens and experts from various disciplines; For this purpose, 30 neighbors, architects, designers and urban planners from Mexico, Guatemala, Colombia and Brazil have been invited to work on a system of short, medium and long term projects to achieve the rescue and permanent safeguarding of El Canal Nacional as an urban public space.

In prospective and thanks to the self-management capacity of the neighbors of the Grand Canal and donor institutions, between 2021 and 2022, WMF and American Express will provide funding for the integration and implementation of community programs on heritage, environment, arts and culture for the preservation of the National Canal, in two axes of intervention: a) Heritage, Arts and Culture and b) Community and Environment. These programs will ensure that the construction by the local government is adopted by the community and will help give local and international visibility to the project benefiting more than 8 million people, including neighbors, indigenous peoples, workers and visitors to the National Canal, empowering the community through individual and collective ownership and enjoyment of the site.

## 7. Conclusions

Mexico City's National Canal has had several functions over the years, from a means of transportation and livelihood for fish and amphibians in pre-Columbian times, to sewage drainage at the beginning of the 21st century, due to the total abandonment of government actions aimed at the maintenance of this work, its infrastructure and environment, which prevented it from fulfilling all the dimensions that a public space should provide.

This situation led the neighbors of El Canal to organize and intervene systematically and progressively in the generation of local actions that in the last 20 years have restored its architectural, landscape, environmental and cultural significance. This Collective Action based on the axes of health, biodiversity and volunteer culture, has achieved the restoration of the ecosystem, the design of this region for its conservation, the rehabilitation of its infrastructure and architectural heritage and with it the dissemination and enjoyment of El Gran Canal, as an urban public space, which entails its perception as a living site whose natural and cultural heritage are of substantial importance for the social, cultural, economic and environmental welfare of Mexico City and has contributed to the reconstruction of the social fabric.

Based on the above, it is possible to point out that the National Canal, as an urban architectural space, at the beginning of the second decade of the 21st century contributes to an improvement in the quality of life of the people who live around it, generating an additional satisfaction, derived from its self-management capacity that has contributed to improve the appearance and functionality of the canal, through a Collective Action proposal that promotes recreational and cultural activities, and has achieved the distinction of Cultural Heritage at Risk site by the World Monuments Watch 2020, allowing it to consolidate the support and plans for the rehabilitation of

the Canal initiated by the neighbors in coordination with the López de la Rosa Foundation and other local CSOs, which by joining forces will be able to improve this emblematic public space.

This proposal includes the implementation of cultural activities and workshops to facilitate neighborhood recognition, in addition to establishing a new relationship with the environment by reappropriating the public space through drawing workshops, community murals, sculptural works and even a pavilion or aquatic structure. With this, it is proposed to recover, protect and strengthen the

cultural heritage of the National Canal, as well as to create spaces for reflection on the cultural and environmental value of this space.

In this sense, the proposal is a social intervention that seeks, on the one hand, to preserve the architectural richness of El Canal Nacional and, on the other hand, to incorporate the active participation of citizens in the identification and appropriation of values that care for and preserve the natural and cultural heritage of the area, thus promoting social cohesion.



View of the Canal Nacional from the bridge of Colorines 2020

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