

NEW URBAN PROCESSES IN ENCARNACIÓN CITY, PARAGUAY. THE WATERFRONT DEVELOPMENT AND URBAN RENEWAL

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Keywords: urban development; revaluation; waterfront; segregation.

Abstract

The purpose of this paper is to analyze the recent transformations experienced by the city of Encarnación (Paraguay), as a result of its new urban development, influenced by the effects of the additional work done on the Yacyreta hydroelectric dam, built by Argentina and Paraguay on the Parana River. Based on an exploratory and descriptive research approach, I argue that there has been a change in the patterns of urban land occupation, not only because of the growth of the reservoir located in the Parana River (new waterfront) and the consequent relocation of the population affected, but also due to the emergence of urban renewal processes, regeneration, and high-quality public works. All these changes have resulted in a new urban configuration of the city and an architectural modernism that is generating new public spaces, sanitation, infrastructure, and new opportunity structures for urban life. Among them are the creation of extensive beaches on the riverfront and new business areas. However, on the other hand, the massive displacement of poor people toward other urban or peripheral areas has rapidly enabled a new fragmentation of the city.

Among other conclusions, we will argue that, despite having highlighted the benefits of the urban transformation that the city is undergoing, Encarnación is experiencing a differential change of its urban space characterized by accentuated and discontinuous interventions in different socio-spatial spheres and the creation of an increasingly more segregated city, causing a disconnect between the new, highly qualified central areas and the new urban peripheries.

Encarnación City

The socio-urban consolidation of the city of Encarnación is recent, but the city originated in 1615, on the shores of the Parana River, as a Spanish colony. Today the city is the municipal capital of the department of Itapúa and is home to a predominantly urban population of 118,300 inhabitants, and is the third largest city in Paraguay, after Asunción and Ciudad del Este.

Since 2009, the old urban make-up of Encarnación city is undergoing major changes as a result of additional work being carried out on the Yacyreta dam. These changes are occurring not only at a territorial level, but also on an environmental, social, economic and cultural scale. Raising the level of the reservoir from 76 to 83 meters above sea level has led to the flooding of large areas of the city and other traditional areas such as Villa Baja, an area considered to be patrimony of the local and cultural identity.

Figure 1. Map of South America: Location of Encarnación City.



Source: Author.

The flooding, on the other hand, has generated impacts of varying complexity, not only because of the consequent displacement of the affected population, but also on the urban renewal and expansion programs. The works have generated new, high-quality, public spaces and the

treatment of the river's waterfront have enabled the creation of extensive sandbars, creating a landscape that the city previously lacked. On the other hand, coastal avenues, docks, squares, hotels and large bridges were built in different parts of the city, thus weaving the new urban identity of the city. The articulated set of these works can be understood as "large urban projects" of economic and social complexity (Lungo, 2011).

The current urban structure of Encarnación is largely characterized by the effects of the hydroelectric dam Yacyretá, including coastal treatment programs and the relocation of the population that lived within range of the reservoir. However, interventions have also originated from a municipal level and have accompanied this change on a legislative level, in coordination with the actions of private enterprises that include the construction of, for example, residential buildings, new shops etc.

Due to the extension of its residential areas and since its consolidation as a city, Encarnación has increased its urban growth. However, because of the effects of the additional works done by the Yacyreta dam, the heterogeneous pattern of occupation of the urban space, it is becoming increasingly diverse, with a strong contrast emerging between the development of new urban centers as well as growing, peripheral populations.

The Great Transformation: the Yacyretá effect and urban discontinuities and continuities

The Yacyretá dam, built on the Paraná River, located 90 kilometers from the city of Encarnación¹, is a hydroelectric project of large dimensions, and one of the greatest engineering works worldwide. In 1973, the signing of the Binational Yacyretá² Treaty marked the beginning of work done on the dam and generated great repercussions throughout the region. However, 33 years later, its full operation in the region generated the formation of a 140,000 hectare lake.

In recent decades, and in an accelerated manner, Encarnación has modified its urban morphology due to the effects of the Yacyretá project and the processes derived from it (urban renewal, displacement), a process that is generating a particular dynamic in the city and will continue to do so. Some major problems are developing in the vast territory that has begun to develop as a consequence of the city's fragmentation, resulting in a marked inequality between services and infrastructure available in city centers and the lack thereof in these new, precarious territories.

Once the final design level (83 m) of the artificial dam on the Parana River was reached, about 800 hectares of the area of the city of Encarnación were flooded. The growth of the lake also increased the flow of the city's internal streams, which created a new waterfront. Therefore, the streams that crossed the urban ecosystem generated sub-reservoirs, often doubling the width of the river.

¹ The dam also affects the Argentine city of Posadas, located along the Parana River, in front of the city of Encarnación. Both cities are connected by the international bridge San Roque González de Santa Cruz, inaugurated in 1989 and built to accompany the expected effects of the dam.

² A year later, in 1974, the Yacyreta Binational Entity (EBY) was created, an autonomous, Argentine-Paraguayan agency responsible for managing the hydroelectric project.

In Encarnacion City, the EBY has conducted more than 27 kilometers of works in defense of the city's coast. This colossal project has involved the participation of some 15,000 workers, employed by 120 construction companies contracted by EBY. Furthermore, a significant injection of resources has been made in the context of these actions, destined both to the relocation and socio-economic rehabilitation of the affected population, as well as to environmental treatment projects and other big urban works, among which are: the creation of a new waterfront and public spaces of high environmental quality, such as parks (300 hectares of green space), and beaches for the recreation and leisure of the population, all actions that have helped to give the city a more modern appearance.

Amongst the positive effects frequently mentioned is Encarnación's recently acquired title as the "city of the 7 bridges," being that the lake formed in the Parana River has caused an increase in its main stream, the Mboi-Cae, fragmenting the original urban layout of the city and transforming its morphology. Thus, the lake has transformed the traditional downtown area of Encarnación into a peninsular area, almost completely physically separated from the rest of the city. The emergence of this new "river front", implicated the construction of new bridges that connects the new urban weft, creating together with other works, an urban reform of the city. This has been officially interpreted as opportunities for urban and regional development, highlighting some positive connotations for both tourism and the quality of life of the population. The new commercial, recreational and cultural urban features (such as the expansion of infrastructure networks), further strengthen this official point of view. So these interventions find their sustenance in the "strategic embellishment and tourism", generating classist environments or reorganizations of classes in the urban territory. (Boito and Espoz, 2014, pg. 75).

As a result of this millionaire investment as well as of the royalties received from EBY, the city has been able to build long-awaited works for infrastructure such as: the port and airport, several public buildings, hospitals, and other works and urban facilities that did not previously exist. Furthermore, it has allowed for the expansion of water networks, sanitary installations, construction of a sewage treatment plant, as well as the creation of infrastructure extending from the southernmost part of Encarnación to the urban sector of the Cambyretá municipality.

In compensation to the flooding that occurred in the commercial "low zone" of the city, EBY had to build the new commercial circuit of Encarnación, which currently houses all relocated traders. A significant portion of traders were considered by the company to be street vendors and, as a result of their new status as beneficiaries, were allocated sale venues. The construction of the "new commercial circuit" of Encarnación involved the relocation of 691 commercial shops. Another 476, mall-like stalls were constructed on a area located at the head of the international bridge. These actions were also complemented by self-relocation and compensation implemented to cater to 623 establishments and small crochet stores, as well as other industrial and service establishments located in the different neighborhoods of low areas of Encarnación. The EBY estimated that it has had to replace more than 2,500 shops of various kinds throughout the city of Encarnación (PTY, 2011, pg. 29).

The Mboi-Cae and Quiteria area have developed a new environmental interface that hybridizes urban landscapes with the natural environment (Acuna, Ishibashi, & Segovia, 2013, pg. 41). In this context, the incorporation of renewal projects - that encompass coastal treatment processes

developed on the basis of maintaining an urbanistic vision that its base that is respectful of the aesthetic value of the riverfront - to the city have generated numerous development opportunities within the real estate market. This situation has created a new structure of opportunities for the development of numerous real estate projects that are capitalizing public works, creating a synergy with the real estate market and boosting new areas of urban revaluation. As Cuenya (2011) states, the new physical and social landscapes that include changes to the city's central, modify the profitability of urban land use.

In recent years, in parallel to the revaluation of the new shoreline, the city of Encarnación has begun to experience a progressive expansion of urban growth towards peripheral areas, some of which are far away from the urban area of the city, bordering other municipal districts or overflowing its limits. However, the presence of residential settlements of different socio-economic backgrounds is observable in the new areas of coastline that the EBY has created. In fact, parts of the San Pedro housing complex constructed for the relocated/vulnerable population is located on the edge of the renewed Mboi-Cae basin, as is the situation of the San Isidro housing complex, which is located along a bank of beaches on the Parana. Similarly, the Pacu Cuá and Mosquito neighborhoods as well as several other settlements have emerged amidst revalued territories located between the international bridge and the new Encarnación Coastline.³

Coastal treatment, with its consequent public works and landscape renewal, have caused a revaluation of urban land and therefore are fragmenting the market value linked to land and homes in these areas. The central urban area of the city and its historical center is also suffering from pressures exerted by the real estate market, due to the fact that the area has well-developed infrastructure, equipment and services, besides surplus land to attract investment⁴.

EBY's actions on parts of Encarnación City have created new opportunities for urban and social development through a process of renewal and replacement of infrastructure and services. However, the implementations of many development projects have been sectoral and deterministic (Acuña et al 2013), creating an imbalance between different areas of the city. Talesnik & Gutiérrez (2002, pg. 23) argue that the rehabilitation of the coastal borders (waterfront) through urban renewal operations entail negative consequences, such as the displacement of some of the population and social inequity in urban spaces.

The new riverfront is not the only area that has undergone modifications, by means of transformations of a modernist architectural aesthetic, but the city limits have also experienced changes due to a new populations emerging in the city limits, inhabiting neighborhoods that lack a fluid connection to the neuralgic areas of the city, located in districts with rural characteristics, where there is a shortage of goods and services for sustainable urban life and various forms of habitational adversity. This situation has generated new urban dis-continuities and continuities that are affecting Encarnación city today.

³ In this sense, we can say that features of social heterogeneity persist within the settlement patterns of Encarnación's urban spaces, at least in some areas subject to revaluation.

⁴ In fact, the international developer Puerto Madero Corporation SA was in Encarnación, making a diagnosis of investment possibilities and viability.

Figure 2. Map of Encarnación City

Source: Google Map

The relocation process and its effects

In order to execute the necessary, complementary works of Yacyretá, it was necessary to oust people of the areas close to the flood zone, situation that required the relocation of thousands of families to other parts of the city. In this context, EBY has gradually built housing complexes to compensate displaced households, families that had previously lived in areas located under the level of affectation of the river and who increased in number due to the hydroelectric project experienced delays. By 2005, EBY had recorded a total of 18.004 families (9.031 in Argentina and 8.973 in Paraguay), representing a population of approximately 80 thousand people relocated. (PARR, 2009, pg. 3).

The relocation process in Encarnación has been intermittent and, although there are no scientific studies on the effects that this phenomenon has had on the city, there exist some technical reports on the subject, including the Resettlement and Rehabilitation Action Plan (PARR). The EBY has built 6.854 homes in eight large housing complexes that have been erected both inside the city and outside city limits.

In general, studies conducted on relocation programs show that the decisions made during the planning portion of the project have tended to be the main factor that offsets the effects of losing the most predominant good: housing (Bartolome, 1985, pg. 11). However, the fact that families were relocated to new neighborhoods built in areas poorly articulated to the urban center, and where there are no services and basic infrastructure, is an imbalance that unleashes new

problems. Thus, the fact that resettlement sites are located far from city centers (in low cost real estate) is often an adjustment variable that guides the location of the housing complexes.

The PARR report (2009, pg. 10) shows that out of the total of the housing complexes built, 5 have been built in the city of Encarnación: Buena Vista for families that own their properties, with 601 homes; The Arrabales with 25 homes, Ita Paso with 674 homes; San Pedro with 1.972 homes and San Isidro with 1.661 homes. Meanwhile in the neighboring municipality of Cambyretá they have built 2 housing complexes: Arroyo Pora with 1.504 homes and San Francisco with 85 homes. Additionally, there was one housing complex built in the municipality of Carmen del Paraná, with 329 homes, aimed at families that both owned and rented their properties.

Table 1. Number of homes built by housing complexes

Township	Housing complexes	Number of houses
Encarnación	San Isidro	1.661
	San Pedro	1.972
	Ita Paso	674
	Los Arrabales	25
	Buena Vista	601
Cambyretá	Arroyo Porá	1.504
	San Francisco	88
Carmen del Paraná	Carmen del Paraná	329
TOTAL		6.854

Source: Calculations based on PARR. 2009. Yacyretá Binational Entity

From 2006 onwards the implementation of the Yacyretá Completion Plan (PTY), has accelerated the construction of housing, which has been implemented in stages, contributing to the completion of the relocation process. In Encarnación, more than 50% of the homes built have been completed under the PTY. However, the location of many of these houses- close to other districts - is viewed unfavorably by the population affected, as well as the habitational socio-community components (drinking water, urban transport, schools, health center, etc.), all of which function poorly.

Throughout this intermittent relocation process, several acts of resistance to the relocation process have been registered, in the form of different types of social struggles (such as protest camps, marches, and protests) without marked positive results. The work of Hansen and Oliver-Smith (1982) show that, behind processes of resistance against any form of resettlement, is the importance of the value of "place" in a culture. In fact, "Any compulsive resettlement constitutes a drama in and of itself and, thus, brings to light the basic mechanisms that sustain the social framework of a community, particularly those linked to the physical and social environment" (Bartolomé, 1985, pg. 12).

The alienation associated to "place attachment" (Cernea, 1989) is an often notorious effect of relocations, together with the dismantling of social networks and community ties previously

available in the context before relocation. However, we note here that the impact caused by the relocation is not homogeneous; displaced families are exposed to multiple risks and are affected differently according to their differential ability to overcome the constraints presented.

The relocation process was executed by resettlement department of the EBY, and entailed a detailed logistics in order to carry out the move. In order to generate social support for the resettlement process and help families adapt to their new homes, EBY implemented the Resettlement and Social Support Plan (PRAS). This plan included a significant allocation of resources and technical assistance to social rehabilitation such as: social and community support, the restructuring of social networks in order to reestablish strategies for subsistence and economic and employment inclusion, support for community workers, and access to basic health services, formal education, etc.

In general terms, the relocated population living in these housing complexes is characterized as being families living in conditions of impoverished and social vulnerability. These conditions include characteristics such as: large families; low income; high level of unemployment, etc. The main problem that affects this population are such where the household economy is assuaged by a recurring difficulty to acquire monetary income. On the other hand, the repeated complaints and demands of the resettled population are widely disseminated, from the dissatisfaction experienced with some aspect of the housing, the resettlement locations, or irregularities in the provision of services, to a more widespread discontent with the responsibility that this “new, legal life” imposes on them, such as paying for services like water and electricity, for transportation, taxes, etc. Unlike their previous way of life, the change involves a new increase in their expense structure.

On an urban level, the location of the housing projects is another aspect of crucial importance that greatly affects the population, being that it has enabled the creation of new fragments of city, extending the urban layout toward peripheral areas, far from their places of origin. The uprooting, the socio-spatial segregation and the emergence of new vulnerabilities inherent to these new living conditions, have resulted in repeated protests and social upheaval.

In this context, it is necessary to refer to the dimension of urban segregation understood as a social process resulting from the separation of certain social groups that end up with little or no interaction with the rest of society or other social sectors (Roitman, 2004, pg. 9). Furthermore the Marxist perspective of segregation as provided by Castells (1999) is a useful tool for understanding how this segregation is the result of the contradictions of the capitalist system, and therefore of the class reorganization of the city.

Neighborhoods in the context of urban regeneration: Pacu Cua and Mboi Caé

The traditional neighborhood Pacu Cua was affected by the construction of the International Bridge, and much of the neighborhood was relocated in 1999. Now it is located on the banks of the Parana River and extends to a length of 1,000 meters, from Japan Avenue to the beginning of the Bridge, an area with an outstanding panoramic view of the river. Among the complementary urban effects it has experienced are, the disappearance of the ferryboat where

the boats previously arrived, the consequent decline of commercial activity, also affected by the construction of the Bridge, and more recent works related to the infrastructure provided by Yacyretá (such as work on the waterfront, public squares, and public spaces in general).

The population of the district Pacu Cua is characterized by being households that experience high levels of socio-economic vulnerability, and survive by means of informal labor activities characterized by instability, with a high proportion of female employment.

As a result of the works done by the Yacyretá Entity, the immediate surroundings to coast line are sites that are benefiting from the construction of works related to various commercial activities, such as restaurants, bars (private enterprises) and other entertainment activities that take advantage of the Paraná waterfront (canteens, beaches, green areas, squares, etc.).

The Mboi Caé neighborhood is located to the north of the city, bordering the train line and close to the Juan Pablo II Avenue. It extends from the Quiteria neighborhood to the Mboi Caé stream, reaching all the way to the river. As a result of the completion of the coastal treatment of the Mboi sector of the Parana River, the area is characterized by an improvement of the waterfront, the presence of drainage canals, sanitation, parks, etc. Like the Pacu Cua neighborhood, the Mboi Caé was affected by the relocation of families living in some of these neighborhoods. Both districts share similar characteristics and can be considered as being popular settlements that remain in revalued areas of the city.

Before the coastal treatment, the fundamental characteristic of Mboi Caé's terrain was its low market value due to waterlogged soil, instability of relocation, legal uncertainty of land tenure, lack of services etc. Currently the Mboi Caé district is strategically located within the urban context of Encarnación, on the banks of the Parana River and the Mboi Caé stream, which has widened its flow and, despite the works and improvements made by the EBY in the sector, is an area characterized by the poverty of its residents. It is estimated that about 900 families live in the district, many of them in precarious social and living conditions, and whom subsist by doing various informal and independent jobs (handmade pottery, brick crafting, and other activities such as workshops and small shops), which are also not included in EBY's care plan.

Despite the existence of problems related to structural poverty and shortages in terms of adequate living conditions, amongst the residents of this neighborhood, there is a widespread consensus that evaluates positively its current location. The Mboi Caé neighborhood is a settlement that is located within an area of urban renewal-appreciation and, as in other areas of the new riverfront that border the town, is experiencing a boom in the construction of new and large homes, as well as an increase in land offered by real estate companies.

Among the major works of urban regeneration provided by Yacyretá, in the area of Mboi Caé, is its sandy beach (700 meters in length), and coastal cliffs. Additionally, the municipality has provided the paving of streets and accesses to the neighborhood, as well as the development of some private businesses, with various facilities (restaurants, pubs, health centers, etc.). With a unique natural landscape and an extensive sand beach, the Mboi Caé neighborhood, located on Costanera Avenue, has acquired notoriety.

As a result of its landscape value and the influx of tourism during warm seasons, the beach and its surrounding area have acquired complementary services and infrastructure, becoming an attraction for investors and the real estate sector. Realtors estimate that the properties have

increased in value by around 200%, influenced by the infrastructure and other works implemented by the Yacyretá Entity in the surrounding coastline. As result of the speculation regarding future works done in the area, a piece of land (around 300 square meters) in the Mboi Caé area has increased in value from 30 or 50 million Guaranies (\$Gs) to 150 and 200 million \$Gs.

All these works are restructuring urban areas and are generating a renewal and revaluation of urban land, with consequences that are difficult to ponder, such as speculation, conflicts, social substitution in the occupation of space, residential displacement, segregation and urban gentrification, among other potential effects.

Conclusions

The urban transformation of the city of Encarnación has received the singular impact of the Yacyretá hydroelectric project as well as from the infrastructure replacement works that accompanied its construction, including: housing projects, new business areas, coastal treatment works, construction of beaches and public spaces, etc. All of these actions have derived in a new urban system and in territorial objectifications that have impacted in the city's urban space as a whole.

The relocation of thousands of families and the disappearance of entire neighborhoods has been an emblematic part of these transformations. EBY's actions, implemented at a local level, triggered large-scale effects such as: territorial restructuring, displacement, space fragmentation, urban renewal, re-functionalization, intervention and revaluation of new areas. These actions make up the context within which various intervention programs have made use of a discourse on development that is focused on works on the waterfront and proposes a necessary break with the previous urban order.

The new urban configuration of Encarnación City and its riverfront, appealed to an architectural modernism, that in terms of the positive (and often valued) effects, spurred the construction of new, high-quality public spaces, environmental sanitation works, new infrastructure, renewed public spaces and new opportunities structures for urban life. Among them is the creation of extensive beaches on the riverfront, allowing for a shift towards tourism as an important economic activity of the city.

Despite the positive effects of these urban transformations, the Encarnacion City is also experiencing a differential change of its urban space, including the existence of intensive and discontinuous interventions into differential, socio-spatial areas, creating an increasingly more segregated city that is an expression of the disarticulation between new, central highly-qualified urban areas and the new periphery.

Traditionals neighborhoods that were left out of the riverfront area are today the target of pressures exerted by the real estate market, by the advancement of the legal city and therefore the demand of those with greater purchasing power. All these processes and transformations make up the base for the emergence of an urban residential space that is becoming increasingly segregated and differentiated.

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