

# The role of Participatory Social Mapping in the struggle of the territory and the right to the city: A case study in Buenos Aires

## Case Study

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### ABSTRACT

We present a case study of Social Mapping and Participatory Cartography over a *shaded* territory in Buenos Aires City, Argentina. The project "Caminos de la Villa" was possible thanks to the collaboration of multiple NGOs that worked together to provide visibility on development issues in poor neighborhoods, commonly called "Villas" and "Asentamientos". We take a critical perspective on how developing such tools are embedded of expectation, negotiations and interactions between actors. Doing ethnographic research and documentation analysis, we found that the value for residents is not in the tool itself but in the appropriation process and empowering, led by acquiring new knowledge at working collectively.

### CCS CONCEPTS

• **Human-centered computing** → **Empirical studies in collaborative and social computing**; *Social engineering (social sciences)*;

### KEYWORDS

Social mapping, Participatory cartography, GIS, Right to the city, Community building

### ACM Reference format:

Manuel Portela and Lucía Paz Errandonea. 2017. The role of Participatory Social Mapping in the struggle of the territory and the right to the city: A case study in Buenos Aires. In *Proceedings of C&T '17, Troyes, France, June 26-30, 2017*, 5 pages.  
<https://doi.org/http://dx.doi.org/10.1145/3083671.3083676>

## 1 INTRODUCTION

The city of Buenos Aires has neighborhoods, or slums, called "asentamientos" and "villas urbanas" which population is more than 200.000 inhabitants that are living in poor conditions. The complexity of the topic around poor and social housing in Buenos Aires is sometimes oversimplified on how it is represented in the news and political discourses. This leads to build stereotypes of how these

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*C&T '17, June 26-30, 2017, Troyes, France*

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ACM ISBN 978-1-4503-4854-6/17/06...\$15.00

<https://doi.org/http://dx.doi.org/10.1145/3083671.3083676>

people live, and escapes the detail on how relations are built [8]. As Pierre Bourdieu described it, "referring to a -problem suburb- or -ghetto- almost automatically brings to mind, not -realities- [...] but phantasms" [5][p. 123].

This situation is worse when the territory is made invisible, hiding the unpleasant. This situation is reflected in the lack of public policies oriented to enhance the quality of life and the living conditions of people. The *site effect*[5] caused by displacement is not just a consequence of location, but a matter of inhabitants' identity and empowerment.

Cartography in general has the power to act as a transmitter and as concealer of the message. At the same time, it naturalizes the reality in which is embedded[12]. In fact, "the importance of space itself in having an impact on people's lives is rarely highlighted in such studies as a fundamental aspect of life in poverty" [26][p. 410].

In this paper, we review **Caminos de la Villa**, a case study that address the problem of representing these territories. We use the concept of Social Mapping and Participative Cartography as an example of the exercise of community building. The case, shows how Participatory Social Mapping can help to tackle the lack of publicly available territorial representations. At the same time that bring the opportunity to build a network of collaborations and negotiations that results in different benefits, with impact that covers the identification and empowerment from the locals to a defense of the civil rights in the territory. We take the *right to the city* approach. This right, has to be understood not as an individual liberty, but the exercise of a collective power that reshape the processes of urbanization [15, 19].

For the case analysis, we collected documentation from the project (news articles, the project's website and official data released by the government), visited the field to observe the local conditions and problematics, interviewed the team of the involved NGOs and held informal talks with local government representatives. This research was held as a part of a Master program in Urban Studies during 2015 and 2016. We believe that it is an important case for the field, where social mapping becomes not only a tool to tackle specific problems but generates a big impact on how social actors become aware of their own capacities to organize themselves.

## 2 DIGITAL MAPS AS TOOLS FOR EMPOWERING COMMUNITIES

Collaborative mapping practices in the digital era are not new. The use of Geographic Information Systems (GIS) for participation in communities is a practice that has been discussed in the academia

for a decade [2, 10]. The main concern is usually focused on the veracity of information, but keeping a community engaged within participatory mapping projects is also a burden issue.

In the Volunteered Geographic Information (VGI) approach, the qualitative data provided by non-expert volunteers is critical [13]. In [21], Roche highlighted the capacity of VGI when we consider that citizens become sensors of their own city. By the other side, a more bottom-up approach was suggested by Turner [25], where *neo-cartography* could be truly appropriated as it is created by the community itself, with their own resources and skills. The author argues that the difference resides in the decentralization that helps to escape to the scientific scrutiny. Although, Sieber & Haklay [22] criticize the importance given to the qualitative data obtained by volunteers, since it is usually submitted without any scientific methods, and the trustworthy of the data becomes obscured when the origin of it is unknown.

## 2.1 Participatory limits within technological skills

Technological advancements, including mobile Internet and digital mapping, provide new opportunities for creating decentralized information. Although digital divide could be a barrier for the creation and manipulation of digital cartography. In [14], Haklay categorizes different types of participation regarding the knowledge of actors, or *hacking skills*. He defines 4 levels of appropriation of digital cartographies: *meaning, use, shall technical, and deep technical*. When more skills are needed, the appropriation of the platform rises, but the number of participants diminishes. We will see in the further case study that technical skills are necessary, but alternative solutions arise thanks to collaboration between actors. There are many groups and organizations like *MissingMaps, Ushahidi, OpenReblock* or *FieldPapers* that work together in the development of absent cartographies with *OpenStreetMaps*, supporting and providing know-how to oppressed or excluded groups. Two closer projects are *MapKibera*, that mapped the slums of Nairobi in 2009, and *Know your City*, a global network of community-based maps of slums and settlements.

## 2.2 Social Mapping and Participatory GIS

Mapping practices in communities are not new, and we can find such activities in territory disputes back in the 1960's [6, 7]. Community mapping is related with the concept of critical cartography, as it provides not only a tool for representing the territory but as a form of agency and empowerment within the local actors [9]. In critical cartography, it is not the representation that coincide with the territory, but is the territory that fits on the map [20].

We should mention the importance in the relation with the territory, not only because its relation of power [4], but also for considering a place as a social construction [23]. Agnew [1] specifies the concept of *place* that can be considered as: a place where things happen, or *locale*; the reproduction and transformation for the social relations; and the symbolic belonging and attachment to a place, or *sense of place*. These three definitions are directly interwoven together when we consider analyzing a map or any spatial representation.

From another point of view, Jaramillo [16] defines Social Mapping as a set of methods to assist and facilitate participatory planning processes. In Social Mapping, the social production is recognized as a vital component of the mapping practice. Is the creation of subjective appropriation that makes sense of the community working [3]. The mapping of intangible relations in space creates a connection between actors. In this regard, Dotson [11] defines *community ergonomics* as an understanding where the community phenomena is, at the same time, a communitarian experience, a social structure and a communitarian practice.

By the contrary, Kim [17] argues that *critical cartography* is not necessarily a participative practice, because "the engagements with the subjects usually involved individuals rather than groups of vendors" [17][p. 223]. Differently is the concept of participatory mapping [17], by which not always represents the community and/or it is not owned by it. For presenting this case, we consider both Social and Participatory Mapping as it became a social construction among the participatory practice.

## 3 THE CASE STUDY: CAMINOS DE LA VILLA

In 2014, the NGOs Asociación Civil por la Igualdad y la Justicia (ACIJ) and Wingu, launched a collaborative project called **Caminos de la Villa** -Slum's roads-. This project was funded by AVINA, an international foundation, with the aim of mapping *villas* and *asentamientos* in the City of Buenos Aires. Therefore, the effort was to focus on five of them: Villa 21-24, Villa 20, Los Piletones, Fátima (ex Villa 3) y Zavaleta. This mapping process was made with local political organizations in which the inhabitants were represented, called *Juntas Vecinales*, and other institutions such as schools and other external actors. After a pilot, during the year 2015, this project was extended to the seventeen slums of the city.

The project tried to give an answer to the lack of presence of those territories in the official maps that were offered by the City of Buenos Aires' Government (GCBA). Since the cartography was not sufficiently detailed (lacking of street names and internal divisions), the citizens weren't able to make claims or report problems with public services to governmental offices through the official platform BA147. This situation increased the territory dispute that affected citizens and organizations who had the mission to protect the rights of those inhabitants.

The process of building this collaborative mapping had different stages and the goals were three [27]:

- (1) **Collaborative supervision of the public workings in neighborhoods:** Provide citizens, NGO and relevant local institutions a way to be informed about the ongoing public works, its plan and the information access to monitor it, at local and national level.
- (2) **Report problems on public services:** The limited access to basic services on slums such as potable water, electricity, waste collection, etc. is a real problem. Nevertheless, there isn't a system that could generate information about the critical aspects of each service. Generate that missing information and articulating with the government was central in the project.
- (3) **Demand for public information:** The city has a law that allows to anyone to ask for information to the government.



Figure 1: Participative mapping sessions. Image taken from <https://www.caminosdelavilla.org/blog/>

Despite this, for the slum's inhabitants this mechanism is not easy to access. In this matter, the project had the possibility to users for demanding public information with the intermediation and assistance of ACIJ.

Regarding these goals, the platform allows citizens, through a simple application, to check the state of current development of public workings and also, to create an arcade of information about the deficiencies on the public services and then articulate it with the corresponding governmental offices to be fixed. Finally, helps indirectly to require public information.

In a first stage, after the refusal received by the government for providing the official maps, they decided to make it with the community. They started a process of participatory workshops with local students and neighbors to create the basic cartography of each territory. This experience was useful to generate local knowledge and value inside the community. After this, they identified different local places and institutions recognized as points of interest by the community. Finally, those points were listed and integrated to the platform's database.

The whole design process of the platform -names and designed elements- was characterized by the participation and collaboration with the citizens (see Figure 1). According to one of the ACIJ's members *"The cartography had to be made in a participatory way with the community. As well as how it would be visualized (on the platform). We didn't want to impose even the visualization"*. The symbolic appropriation it was given to the platform through the creation process resulted in an affirmation of the communitarian identity.

Of course, having your home in a detailed map related with a street instead of a *grey zone* inside of a big block, was very valuable for locals. Therefore, the aesthetics of the platform was important, but also the storytelling and the narrative were vital to citizen's empowerment. At the same time, they used the maps as a way of self-representation of their identity and territory.

In 2015, after ACIJ has made the cartographies public and open-source, the City of Buenos Aires' Government decided to publish publicly the slum's blocks and streets developed by ACIJ on the official maps.

The relation between the local government and the NGO during this period had different stages but definitely changed after the publication of the maps. In the end, some governmental institutions like the Environmental Protection Agency [*Agencia de Protección Ambiental*] or the Habitat and Inclusion Secretariat [*Secretaría de Hábitat e Inclusión*] (SECHI) had called ACIJ to develop projects together based on the platform. Moreover, the office that have as a mission to guarantee the rights of the people in the city [*Defensoría General de la Ciudad*], started to use the platform as a hub of different issues and needs related with slums.

### 3.1 Difficulties in the process of appropriation

In order to promote the use of the platform, ACIJ run workshops to train the citizens on technical skills and to create new strategies for claiming. Despite an occasional increase of the citizen's interest about this matter, the enthusiasm dropped after each meeting.

In the interviews with ACIJ and Wingu – the organization that assisted to ACIJ in the technological aspect to create the platform - raised the fact that the report process to the government about public workings through the platform had not guarantee of transparency. The reason was that the reports were always supported by more traditional mechanisms of direct action. These complementary elements that compromised the transparency of the process and the long time that bureaucratic responses usually take, had a negative impact in the interests of the neighbors on continuing using the platform.

Although, different and unexpected appropriations with the cartography showed that the utility of maps can be found on how the socio-technical construction helps to build the meaning for the community. Some neighbors took the maps printed in paper and used it to place the claims and spotted problems to take it directly to the government office. This low-tech appropriation is just one of the examples that showed how participants themselves came with creative propositions to skip technological barriers.

### 3.2 Further steps of the project

Both processes of appropriation and re-signification of the territory must be considered in order to define new strategies. Nowadays, the project turned to have a new section where the communities are mapping those spaces that could be recognized as points of general interest for the community (local shops, schools, sanitary facilities, etc).

With this practice, ACIJ hopes that the slum's image become positive on the redefinition of the symbolic appropriation at the same time to giving it new uses. One of the members of the NGO claimed that *"the platform should be identified with the other side of the neighborhood. That is all the positive things, that neighbors built during these years, like the self-building of the habitat, because there was an absence of the government"*.

The urbanization process of some slums will start in the next years. This process means that the slums will become part of the city grid, with proper public services and state regulations, and it will be an opportunity to the platform to became an asset to the citizens to control the public workings and the process itself.

## 4 FINDINGS

If we consider the main goal of the platform (provide a place to centralize the reclaims in neighborhoods and use it as a replacement of legal or traditional reclaim process), this wasn't accomplished as expected. The platform itself wasn't a replacement for other negotiation methods. Rather than consider it as a failure, it provided very pragmatic outputs. Firstly, it raised the need of creating the absent cartography. Secondly, it helped to compile, systematize and provide visibility to information useful for different actors. And thirdly, brought new tools to the community.

We take this case as novel, not because the use of ICT tools, but because the agency among actors was vital to make it happen. We detected two important findings in the observation of this case, that we describe as follows.

### 4.1 Active maps, or the double role of mapping practice

The process of mapping is the reproduction of a discursive practice itself, where "its relational power to make a difference was negotiated and debated – evoked, challenged, denied, reasserted – pushed and pulled through a series of media lens and public debates, bound within a contingent set of emergent social, political and economic relations, embedded in specific sites" [18][p. 15]. Rob Kitchin, Justin Gleeson and Martin Dodge indicates that maps are spatial practices enacted to solve relational problems, and cognitive codes are as much important as the factual data.

At the same time, Bryan [6] states that community cartography is a constant negotiation of the territory where it doesn't exist an "after the map". In other words, "Maps are active; they actively construct knowledge, they exercise power and they can be a powerful means of promoting social change" [9][p. 15].

In the studied case, we observed clearly this duality of maps. By one side, the tool provided the complementary help to face the reclaims to the local government, as it provided local cartography, mapping the points of interest and a database to follow case by case. In other words, it becomes a tool for managing information and local knowledge. By the other side, the process of mapping helped to enhance new relations between actors, from inside and outside the communities. The connection between organizations, local institutions, government agencies and other relations, consequence of the mapping process, can be seen as a process of empowering and an exercise of power.

The main factor of empowerment can be accounted by the publication of the official cartography by GCBA, and the collaboration with Google in providing images for the Street View service. Although, regarding the process of empowerment, this has been evidenced inside the community by the constant use of the cartography to generate new points of interest, and holding new meetings between different local organizations for organize themselves by present specific cases and claims to the local government and the judicial instances. Outside the community, we highlight the collaborations that raised between ACIJ and the ombudsman of the city (DGC), or the local environmental protection agency (APRA). The maps also offered the opportunity for the neighbors to access to municipal services. While before the process, municipal workers or medical assistants and ambulances didn't enter to slums since they

were afraid of entering to an unknown territory. After the release of the cartography, this situation changed and neighbors receive the assistance as it is their own right as citizens.

### 4.2 Building a network, gather communities

In the introduction of this article, we mentioned the technological/hacker skills that are critical for managing the digital platforms. We accounted, in the interviews, that the solution resides in the collaboration. This is why, network building is a main concern in the practice of *Participative Social Maps*.

Although, applying the appropriation levels proposed by Haklay, we understand that reaching a high level of decentralization, collaboration and external organization is necessary. Most of the participants were involved just in a *use appropriation level*. Although a big proportion of neighbors have been involved in the *meaning level*, which helped to follow the goal of community building. The *shall technical level* was only appropriated by the NGOs that took part in the organization team. This simple analysis bring us the required roles that are related in the development of the case, where one group depends on the other to reach the goal.

In a non-technical aspect of the network, we evidence the critical role that the three NGOs played on the project, providing different resources, knowledge and community building. The funding from AVINA was necessary as well as the technological support from Wingu, but ACIJ's experience, working on a decade in and with the communities, reveals the needed strength in gather the community to participate on such kind of projects.

Lastly, we accounted that the processes of negotiation changed the relation between ACIJ with the local government, which started as a struggle, and became an opportunity to build new bridges for future collaborations.

## 5 CONCLUSIONS

The project had a meaningful impact on tackling inequality problems. Because it provided the visibility, and the tools for organize the neighbors themselves.

Weak points were also found in the analysis of the case. In first place, the technical assistance had to be continuously provided (from training, to infrastructure). This problem was present in zones where were a lack of infrastructure (such as internet connection), or where were an absence of technological skills in the communities, and also on maintaining and providing constant technological support for keeping the platform working. In this case, as the project support all the neighborhoods in the city, we were in the presence of a big project that called the attention of funding institutions to support it.

The second weak point is the motivation's decay in using the platform. It was mentioned in the interviews that workshops and other meetings helped to spread the interest on the platform. But engagement is not easy to retain when it is hard to measure the direct impact on real, complex problems. In other words, people have their own priorities in their daily life and intangible values are difficult to be prioritized when are just accounted on virtual spaces. For that reason, keeping a high interest on the platform required the constant assistance and a face-to-face presence, from ACIJ and Wingu.

We can conclude that, local and very personal experiences make the project rich for the community members. Undoubtedly, the practice of building the cartography was the most valuable process in the project, where the neighbors were involved actively.

Lastly, we consider this case, an example for the exercise of power among the struggle of territorial issues and identity affirmation, highlighting the importance of the *right to the city* as a collective exercise. As we pointed in the introduction, invisible and stigmatized communities are reproduced by media as they lack of voice. Once they are involved in this kind of projects, the media coverage and the interaction with other institutions provide them a tool for speaking on their own. Despite we can't declare that this project was a process of emancipation, they are one step closer.

Regarding the capacities of social maps, we can understand that the exercise of mapping brings a new opportunity to enunciate and systematize local knowledge in the inhabited territory, and for the denunciation of perceived conflicts and injustices [24]. In sum, this case is another example on how maps can be a tool for supporting legal reclaims and accounting against the inequality treatment from the local government offices.

## 6 ACKNOWLEDGMENTS

The authors acknowledge that were not involved at any of the organizations mentioned during the research process and didn't received any financial holdings that might be perceived as affecting the objectivity of this review. Although, the second author is a former employee of the SECHI secretary, whose condition didn't affect the objectivity of this work.

The authors gratefully acknowledge funding from the European Union through the GEO-C project (H2020-MSCA-ITN-2014, Grant Agreement Number 642332, <http://www.geo-c.eu/>).

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