



PARTICIPATORY GOVERNANCE APPLIED TO INFORMAL HOUSING REGULARIZATION PROJECTS IN THE CITY OF BATNA: ALONG THE COVERING OF THE CITY'S BELT CANAL

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Abstract

Background: The city of Batna is experiencing major urban development projects initiated as part of the 2010–2014 five-year plan, which aims to improve the image of the city and the quality of life of its citizens. These urban development projects mainly concerned the Oued Batna belt canal which crosses informal neighborhoods. However, they were not completed until 2019 due to the economic and political crisis. Furthermore, the reluctance of residents regarding the demolition of their informal homes had essentially slowed down the start of work, but they ended up giving in either by law or by consultation. As part of our PRFU project (2019–2024), we conducted a retrospective evaluation study of citizen participation and their satisfaction with these urban improvements and we share part of its results.

Aim: The objective of our study is twofold: to identify the modalities of participation of residents of informal neighborhoods and to assess their satisfaction with the improvement of the quality of life and services.

Materials and methods: The study is part of the CAP surveys (knowledge, attitudes, and practices). It is essentially based on the qualitative survey which includes closed questions associated with the semi-directive interview. From 2022 to 2024, this field survey was conducted with a representative sample of residents of informal neighborhoods which was obtained randomly. The data collected were processed by the 2019 software (version 16.0).

Results: Among the 350 residents surveyed, 52% of the cases were male with a sex ratio of 1.08, with a predominance of young adults between 18 and 28 years old. The regularization of informal housing affected almost more than half of the houses. More than 20% of the cases intend to sell their homes, and 22% of the owners have started a renovation of their facades to align with the urban regularization efforts and even with the construction of new levels intended for rental. In addition, 12% of the cases have converted rooms into commercial premises. 2% of the residents have rented their homes for professional activities, mainly medical. Almost 15% of the owners have rented their garages for commercial activities. The

non-regularized homes have kept the rural aspect. The overall average satisfaction rate of the residents was 46,5%.

Conclusion: The development of the El Oued de Batna canal has generated great satisfaction among the owners whose informal dwellings were spared from demolition. Good participatory governance resulted in the completion of the works despite a delay of more than 15 years and a land value increase encouraging stakeholders to cooperate to maximize potential benefits.

Keywords: Satisfaction, informal housing, urban governance, Batna city.

Introduction

The old districts, dubbed informal, form an integral part of the urban environment in cities worldwide (Dekel, 2020), including Algeria (Belmessous & Naceur 2018). Their establishment is unauthorized and lacks oversight from urban planning authorities. Consequently, the inhabitants of these under-integrated neighborhoods endure a shortage or even absence of essential services, safety concerns, and substandard building quality. In recent decades, the urban management of informal neighborhoods has given rise to either demolition or regularization operations by integrating them into urban development projects (Khalfallah & Amrane, 2023). [6] Yan Hong. (2018). The participation of the occupants in all phases of the development project is essential to complete the work on time. Their role is also important in cooperating with local authorities to regularize their homes and obtain state aid to renovate them (Yan Hong, 2018). The latter manage to disrupt their destiny.

In Batna City, notable urban enhancement projects were launched under the 2010-2014 five-year plan, aiming to improve the Image of the City and the living standards of its citizens. Among these projects is the Oued Batna belt canal development, which crosses the city center of Batna. Nevertheless, due to the prevailing economic and political crisis, the project is not scheduled for completion until 2019. Additionally, residents' hesitance to demolish their informal homes has caused further delays in starting the work. This demolition only affected a handful of constructions. However, the remaining illegal properties were allowed to remain after consultation with stakeholders, but on condition that residents improve the external appearance of the houses once they are regularized (DPAT, 2019).

As part of our PRFU project (2019-2024), we conducted a retrospective evaluation study on resident involvement and their satisfaction with these urban changes.

This study has two principal objectives: to identify how residents of informal neighborhoods participate in the enhancement process and to evaluate their satisfaction with the improved quality of life and available services.

1. Case study

We chose as a case study the Z'mala district in its informal part built on both banks of the El Oued canal. Figure 1 visualizes the case study neighborhood located a few hundred meters from the city center. It has a high density of more than 2,000 inhabitants per square kilometer, according to 2018 estimates (DPAT, 2019). The 156 informal dwellings located on both sides of the canal after its redevelopment cover a total area of 0.13 km² (<https://satellites.pro/carte-de-l-algerie>).

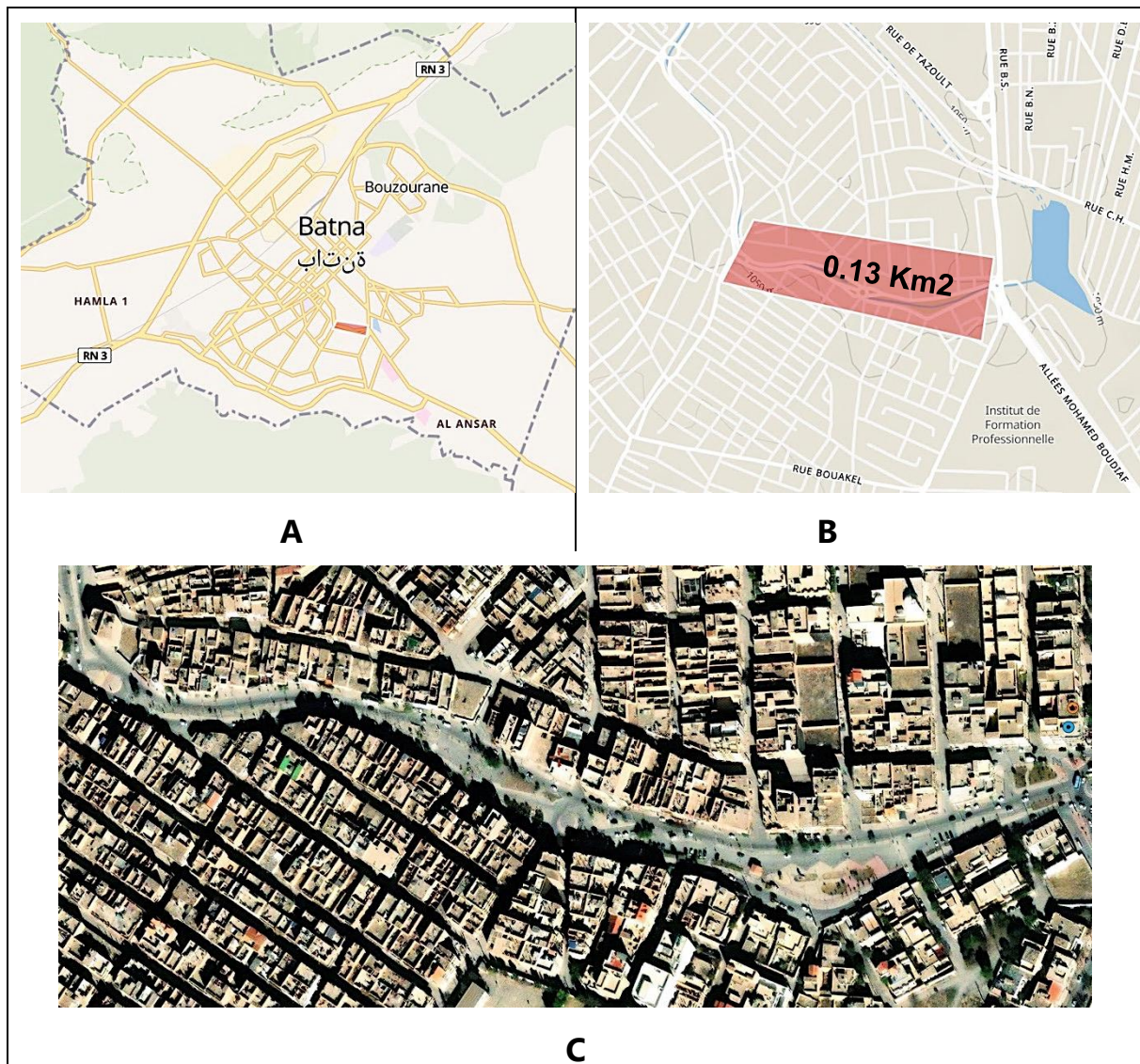


Fig. 1– Z'mala district in its informal part bordering the canal of El Oued Batna. **A:** Map of the city of Batna and limitation of the case study (pink rectangle). **B:** A map of the constructions bordering the canal and which extend over a total area of 0.13 Km². **C:** A satellite view of the informal dwellings located on both sides of the canal after its redevelopment.

The photos taken during (Fig. 2) and after the development of the El Oued Batna belt reveal positive findings. The radical changes in the urban landscape and the visual atmosphere of informal housing are highlighted in Figures 3 to 7, namely: a clear improvement in the urban atmosphere, the construction of new multi-story houses, the renovation of the facades of old houses, the construction of new floors, commercial and professional dynamics, play and parking spaces, basic infrastructure (street lighting, containers for household waste collection, expressways and roundabouts, etc.).



A



B

Fig. 2– Photos taken during the development work on the El Oued Batna belt. A: the left bank. B: the right bank



Fig. 3– A panoramic view of the entrance to the informal settlement after the completion of the development works



Fig. 4– A photo taken of part of the neighborhood showing: street lighting, easements for household waste and a highway. Houses for sale and others under construction.



Fig. 5– Construction of new multi-storey houses after demolition of old ones. Rental for residence, professional and commercial activity.



Fig. 6– A renovated house on the right and construction of another floor for the house on the left.



Fig. 7– A play area for local children.

Given these results, what changes have the residents made in terms of numbers? And are they satisfied or not? To answer these questions, we conducted a field survey among the residents of the informal settlement, the case study.

2. Methodology and materials

The study is part of the CAP (Knowledge, Attitudes, and Practices) surveys (Andrade & al., 2020). The methodological approach is based on a qualitative survey, which includes closed questions and semi-directive interviews.

From 2022 to 2024, a random sample of 350 residents of the neighborhood was interviewed with a confidence level of 95% and a margin of error of 5%. We also collected information on the 156 informal habitats bordering the redeveloped canal through semi-directive interviews. To construct the satisfaction questionnaire, we chose closed questions on a 5-point Likert scale with a rating system: a score of 1 expresses a very low degree of satisfaction and a score of 5 reflects a high degree of satisfaction.

Five key indicators of the quality of life in a neighborhood were chosen to assess the degree of satisfaction (Jégou, 2012): safety, visual ambiance, local shops, basic infrastructure (landfill sites, drinking water access networks, telecommunications networks, roads, street lighting, sewage system, etc.) and public spaces (Millot, 2007).

For the semi-directed interview conducted with 150 households, the questions asked concerned the following reforms:

- Regularization of housing
- Sale
- Renovation
- Construction of new floors
- Demolition and construction of new housing
- Change of use
- And rental for residential, commercial, and professional use.

The data collected were processed by the 2019 software (version 16.0).

3. Results

3.1. Results of household interviews

Only 28% (44/156) of informal settlements transformed (fig. 8). Regularization concerned 60% of cases although only 22% of houses were renovated as shown in Figure 9. Nearly 8% of owners demolished their houses and built new multi-story dwellings. The change of use mainly concerned commercial activity 27% against 5% professional activity.

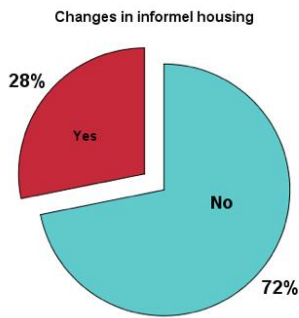


Fig. 8– Percentage of informal housing reformed.

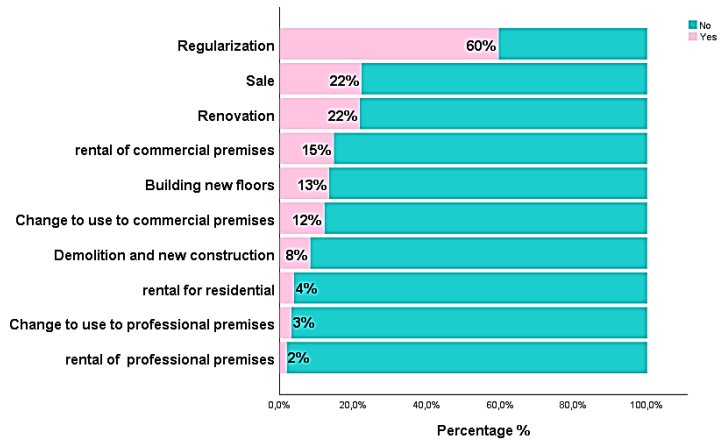


Fig. 9– The distribution of informal housing according to the reforms made by their owner.

The four main changes (renovation, sale, construction of new floors, and demolition and construction of new dwellings) had much more impact on regularized dwellings, as shown in Figure 10.

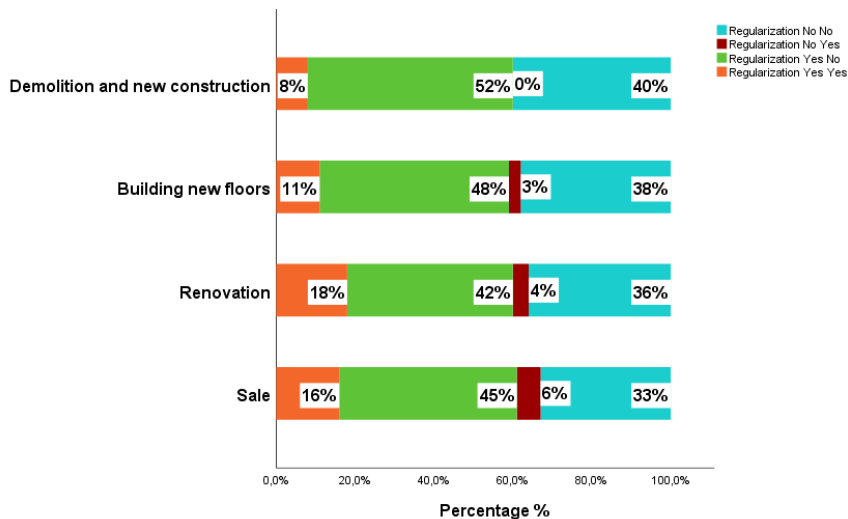


Fig. 10– Répartition des réformes principales selon la régularisation.

From Table 1, we note a significant positive correlation between regularization and the three indicators: demolition and construction of new housing, sale, and renovation (p-value <

0.05). The correlation is also significant between the sale and demolition and construction of new housing (p-value < 0.05).

Table 1– Correlations between indicators

		Regularization	Sale	Building new floors	Demolition and new construction	Renovation
Regularization	Pearson correlation	1	.120	.169*	.240	.228
	Sig. (bilatérale)		.201	.045	.004	0.007
Sale	Pearson correlation	.120	1	.124	.579	.105
	Sig. (bilatérale)	.201		.166	.000	.243
Renovation	Pearson correlation	.228	.105	.702	-.103	1
	Sig. (bilatérale)	0.007	.243	.000	.201	
Building new floors	Pearson correlation	.169*	.124	1	-.051	.702
	Sig. (bilatérale)	.045	.166		.527	.000
Demolition and new construction	Pearson correlation	.240	.579	-.051	1	-.103
	Sig. (bilatérale)	.004	.000	.527		.201

* The correlation is significant at the 0.05 level.

3.2. Results of the satisfaction survey

The mean age of the sample (350 people) was 40 years ± 17 years, with a predominance of young adults between 18 and 28 years (122/350) as shown in Figure 11. There were as many women as men with a sex ratio of 1.07 (181/169) (Fig. 12).

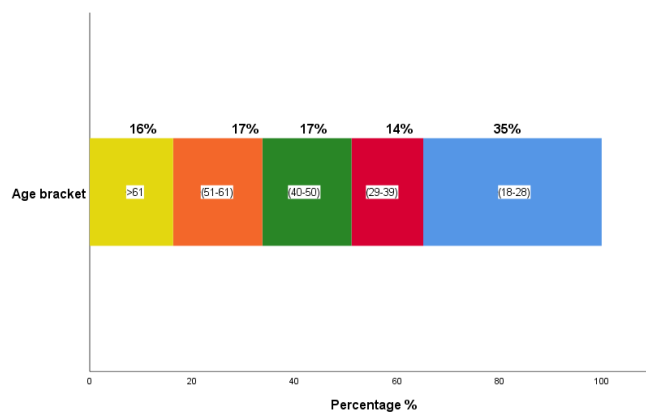


Fig. 11– Distribution of the sample by age group.

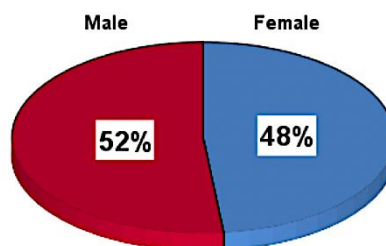


Fig. 12– Distribution of the sample by gender

The satisfaction rate thresholds are as follows:

- 70%: satisfactory result
- Between 50% and 70%: result can be improved
- < 50%: result not tolerable

According to this diagram (fig.7) and Table 1, the satisfaction rate was between 50% and 70% for safety and convenience stores, and It was below 50% for the other indicators. Only 3% of residents (13/350) were satisfied with the five key indicators. The overall average satisfaction rate is 46.5%, below 50% for the five indicators. This result is intolerable.

Table 2 – Table of frequencies and satisfaction and dissatisfaction rates for the five indicators studied.

	Satisfied		Dissatisfied		Neither satisfied nor dissatisfied	
	Number	%	Number	%	Number	%
Safety	224	64,0%	26	7,4%	100	28,6%
Basic infrastructures	167	47,7%	64	18,3%	119	34,0%
Public spaces	79	22,6%	49	14,0%	222	63,4%
Visual ambience	164	46,9%	97	27,7%	89	25,4%
Convenience store	179	51,1%	70	20,0%	101	28,9%

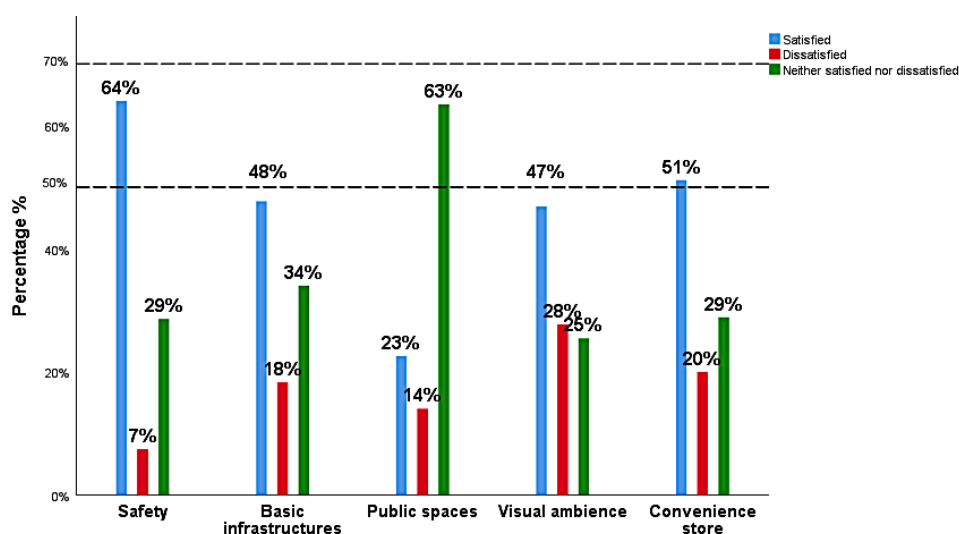


Fig. 13– Diagram of satisfaction rates for the five indicators compared to satisfaction rate thresholds.

4. Discussions

Informal settlements are a problem for local authorities. Their management is difficult because of the poverty of these residents and the lack of basic infrastructure (landfills, water access networks, roads, etc.). The lack of roads makes them inaccessible to household waste collection vehicles. Added to this is the insecurity caused by the presence of gangs. The best

but most expensive solution is the demolition and the mobilization of the houses to social housing located in the suburbs.

In the case of our study, the informal neighborhood is located near the city center, making it impossible to convince its residents to move to the suburbs. Thus, a development project, the regularization of more than half of the homes, combined with the effective participation of residents through the renovation of their homes or the construction of new homes, were the two best solutions to integrate this informal neighborhood and transform it into a real dynamic hub for commercial and professional activities. In addition, it has become a major landmark in the city of Batna. More than 1/5 of the residents were able to sell their homes at exorbitant prices when before they were worthless. Regularization had a significant impact on demolition by encouraging sales. Precarious homes are beginning to gradually disappear, making way for beautiful homes.

Despite these changes and improvements, the overall average satisfaction rate is intolerable. Dissatisfaction is expressed more for the quality of public spaces and the visual atmosphere. Indeed, currently this district, as a pole of attraction for commercial and professional activities, is very busy and it is therefore necessary to improve its image.

Conclusion

The development of the El Oued canal in Batna has generated satisfaction among owners whose informal settlements were spared from demolition. Good participatory governance allowed the completion of the work despite a delay of more than 15 years and an increase in land values encouraged stakeholders to cooperate to maximize potential benefits.

From our case study, two lessons to be learned are that the integration of an informal neighborhood is better managed with the participation of its residents. In addition, the regularization of informal housing is the key that opens the door to radical changes, mainly the demolition of precarious houses. Local authorities will also have to think about installing public facilities (health, schools, post office, etc.) and encourage owners to renovate facades by offering state aid. Informal housing is demolished by its owners who are launching new profitable houses: a fight against unemployment and the indignity of social housing.

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