

CONSOLIDATION OF LOW INCOME SETTLEMENTS

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SUMMARY

The consolidation of low income settlements has relied on the efforts and solutions implemented by residents without any institutional support from governmental agencies. In this article the author focuses his analysis on the consolidation process taking place in two government sponsored projects in the city of Brasilia, Brazil. Based on a research carried out in these projects, he attempts to look at this process within the scope of the household domain: how families create mechanisms to implement housing improvements, the effects of governmental planning decisions, the reactions of residents and so forth. The existence of socio-spatial patterns which are disregarded by planners and designers, the potentials of residents' participation, the dual relation between lay citizens and the State and the role of evaluation studies are discussed in the first part of the article, where the main ideas of the author are formulated. In the second part, the analytical procedures and the results of the research are presented in order to set a real ground of references, and give evidences of some failures of certain solutions designed and implemented. In the last part, a series of conclusions and recommendations are formulated. What levels of self-determination are planning and housing institutions willing to permit residents to achieve? There is a need to decentralise planning and design practices and give space for the participation of other actors involved with urban affairs. Residents' participation can improve the quality of the projects but it implies a reformulation

of existing institutional frameworks. In this respect, evaluation studies become an important instrument to generate information that can be used by planners, designers and governmental technicians, and by residents' organisations as a technical support for their negotiation with public institutions. In Brasilia, popular participation is a key issue and can influence the future development of the city.

A CONCEPTUAL GROUND OF REFERENCES: SETTING DOWN THE IDEAS

When we look at low income settlements, the existence of links among residents is not so evident. In Brasilia, I have experienced that several settlements present certain socio-spatial patterns that are structured under some kind of internal logic respected by residents in the use of space, in the establishment of family and private domain, in the levels of collective actions and mutual help, etc.

This aspects lays the basis for the development of these residential areas. A process that is fully in the hands of residents who are the main active actors in the consolidation of their living environment through individual actions eg. housing improvements, commercial activities, production of building materials, or through collective actions such as mutual aid housing improvements, community mobilisation for the provision of infrastructure and for legalisation of tenure when the settlement has an illegal character.

It seems that when governmental actions take place through upgrading programmes, resettlement

projects, provision of infrastructure and certain community services, the social environment is somewhat disturbed, especially in cases like Brasilia where residents are usually told about the benefits they will achieve when implementation has already begun. From the side of the Government, there is indeed a lack of understanding of existing internal structures and the nature of social forces that interact within the scope of low income settlements and which are very important for the survival of their residents in an urban scenario. A scenario that already imposes extremely unequal situations on them.

The evaluation, if it occurs, of these governmental interventions has been very much concerned with the stages of planning and implementation of projects, and have disregarded enormously the process of consolidation of low income residential areas. It is at this moment when real changes start, when a complex and dynamic network of actions is established and sponsored by the residents themselves. A series of informal 'schemes' is set up to facilitate the acquisition of material and financial resources, which are extremely important to support their struggle for a better living standard.

The fact is that, despite a range of constraints, residents are able to implement several changes in their living areas, more visible in the scope of the private domain, at the plot/house level where lots of efforts are done. And this explains the potentials that governmental programmes have simply ignored. Unfortunately the State is absolutely absent from this process. Since low income residents are already subject to a hard living due to long working periods, very low earning, poor social security systems and so forth, an institutional, financial or material support from the State would relieve them from extra tasks, and at the same time, facilitate community development, autonomous processes and self-determination among residents. It is a shame that planners, designers and governmental authorities show no awareness for the kind of practices that are behind the development and

consolidation of low income settlements when solutions are designed and implemented.

In Brasilia, more than in any other place, this is very apparent. The city is treated as a huge architectural model, and problems are discussed superficially, very often with a great deal of formality and aesthetic preoccupation and technical determination. Solutions are normally imposed by the Government with a strong technical character rather than with a multi-variable approach that could make the implementation of projects suitable to the socio-economic environment of residents. This is a result of a highly centralised planning framework that was established to manage the development of the city, and that has its roots in the legacy left by the followers of CIAMs - International Congresses of Modern Architecture - ever since the moment that the result of the project competition had been made public. Just like Le Corbusier imagined a city, Brasilia is a paradise for the planners, who have controlled the territory as a group of competent experts and who have disregarded the importance of the socio-economic and political context of society.

The centralised scheme in the provision of housing that emerged with the development of the city caused another effect concerning the relationship between the State and citizen. It increased the level of dependency and apathy within low income groups that created a flourishing ground for political control and manipulation. In this respect, the existing planning practices in Brasilia have inhibited severely the individual resident and therefore his participation in urban development projects has always been restricted. Historically speaking, residents have played a passive rather than an active role and this gave the opportunity for the establishment of extremely paternalistic schemes.

The question of participation raises a lot of polemics. Is the resident to be used as free labour at the implementation phase, or as a partner in the planning stage and one of the actors in

implementation, or simply as a passive receiver of governmental packages?

It is a fact that residents become aware of the advantages of their participation eg. control over certain stages of the housing production, influence over planning decisions, etc. when they interact with governmental agencies in a participatory scheme. This gives them the opportunity to experience the dual relation State-citizen and perhaps influence their attitude towards society: from a passive to an active attitude. Something that the administrations, which have been governing Brasilia, have been so much careful with and therefore have restricted residents' participation.

Housing became one of the few sectors where good opportunities for changes can be realised. Through participatory schemes, it is possible to predict the appearance of autonomous processes inside low income settlements which is a relevant aspect in the consolidation of these areas.

Concerning that, evaluation researches and surveys can play an important role when generating information about internal peculiarities in the process of consolidation of these settlements. Evaluation is a learning process that provides relevant feedback to planners, designers and decision makers. However, very few of these studies took into account what use there could be for residents' associations and community leaders. They just neglect this fact because they are more concerned with generating information to the institutional machinery rather than to return it back to the source: the residents. This information can become an important trump card in their negotiation with governmental agencies, and therefore an instrument that can promote changes in the process of interaction between residents and the State, with very positive consequences for low income settlements.

CONSOLIDATION OF LOW INCOME SETTLEMENTS: SETTING THE REAL WORLD

Between 1983 and 1985, a housing programme, addressed to low income families who lived in squatter settlements and labour camps, was designed and implemented by the Government of Brasilia, having basically a progressive development approach. Even though much has been written in books and reports, and several experiences were implemented in other parts of Brazil and in the world since the 1960s, in Brasilia this approach represents a very innovative way of dealing with low income housing. The arguments brought into this article are based on an analysis in two projects, implemented between 1983 and 1985, in which such an approach was used for the first time in the history of the city.

A peculiarity of the programme was that an incomplete core house unit was financed by the Government and the subsequent improvements were left completely in the hands of the family, according with their time and resources. This means that the consolidation of the settlement would be relied again on residents' initiatives because as always, as soon as the work is finished, the Government simply withdraws itself.

Because of this peculiarity, and because so many urban development projects have been implemented in Brasilia which have been left out from any kind of critical evaluation, it became indispensable to check what response residents gave to the programme's approach, what process could be detected in the further development and consolidation of the settlements and what lessons could be learned from it.

I carried on a research in the second half of 1986, which was based on a multimethod approach, that is to say, it combined a household survey with the application of questionnaires, direct open interviews with local leaders, planners, designers and technicians, the analysis of all reports and newspapers articles about the projects in question.

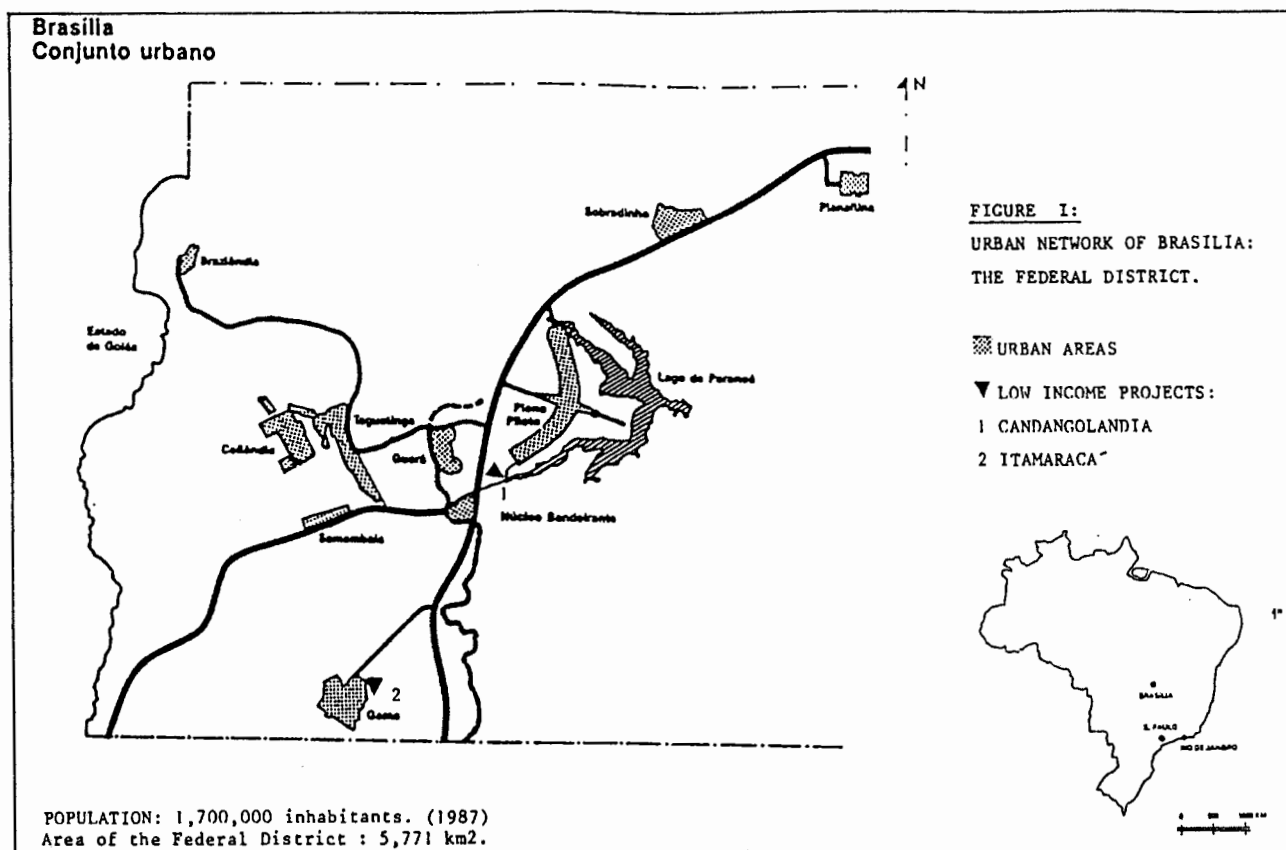


Figure 1 Urban network of Brasília: The Federal District

The application of questionnaires covered more than 10 per cent of the households in Itamaraca and Candangolandia (for location, see Figure 1). The latter was a former labour camp left from the construction period and was the last project implemented during the Programme. The former was an old squatter settlement, the first project implemented in the programme and in fact the first slum upgrading project ever implemented in Brasília. However, because of the total number of existing housing units that had to be relocated and, in Candangolandia also because of the number of families transferred from other settlements to the project area, both projects can be characterised as typical resettlement/sites and services projects.

From the design point of view, they represent examples of neglect of the socio-economic context of residents. Because of some cost calculations I made based on the price of every project component eg. land, infrastructure, etc. and based on a comparative analysis between them, it was possible

to determine how inefficient the urban layout design applied in both projects was. It showed clear waste of land and disregard for existing socio-spatial patterns of the original settlements.

On one hand, the result of these layout designs is a high project cost which consequently facilitated the appearance of a flourishing displacement process of target residents. This process is also related to a series of constraints faced by families eg. rise in the costs of housing expenditures (water, electricity, sewerage, land taxation etc.) and the impact of the costs of housing improvements (building materials, pipes, wires, connections, etc.) which increases the difficulties from them to afford living in the areas, especially for the poorest families. In Itamaraca, for example, the survey revealed that three years after the project implementation, two out of ten residents are newcomers.

On the other hand, the process of housing improvements revealed the existence of self generated activities linked to the building sector and

other commercial activities for income generation, more strong in Candangolandia, which has demonstrated that despite a range of difficulties, residents were willing to improve and consolidate their living area.

From the development point of view, a close look at this process revealed an interesting network of correlations between building actors, sequence of improvements, residents' motivation for core house extension and mobilisation of resources. For the purpose of this article, I will only mention some aspects which I find more relevant to highlight the question of consolidation of low income settlements.

Despite being poor, residents were able to invest a considerable amount of capital in the improvement of their dwelling. This capital was mainly originated from their private savings and served to acquire building material and, surprisingly, to hire building contractors. In Candangolandia, the participation of contractors alone was revealed in 37.2 percent of the cases studied, three times more than the house owner alone. This process stimulated the building construction market and the establishment of small building material suppliers in the settlements, that facilitated through informal credit facilities the access of lower income families. It also increased employment opportunities as I detected several residents who shifted their informal activities to the building sector.

Looking at the process of housing improvement taking place at the household level, the survey revealed interesting sequences of improvements methodically divided in six steps for the purpose of my analysis. The improvements were classified in main categories according to the importance given by the residents, as follows:

Category 1 implementation of plot division walls

Category 2 implementation of household connections to water and electricity networks

Category 3 implementation of excreta disposal system

Category 4 implementation of internal divisions

Category 5 implementation of roof extensions for laundry/cleaning activities

Category 6 implementation of core house extension.

Categories 7, 8 and 9 are exceptional cases and imply respectively the demolition of the original core house, the replacement of the core house in another location in the plot and the construction of a new house taking place in the moment of the research.

As shown in Figure 2, only three families out of 250 did not implement one of these categories, which means that 98.8 percent of the families reached one step of improvement.

More than 50 percent of the families surveyed reached three steps of improvement and only 10.4 percent were able to go through the whole sequence and implemented six steps of improvement. Two categories appeared to be the most preferable ones, category 2 with 98.4 percent and category 1 with 58.0 percent of the cases studied. Two other categories rose with relevant importance 18 months after the project implementation: core house extension with 40.8 percent and excreta disposal system with 39.2 percent.

The comic aspect of the excreta disposal tanks is that these facilities were provided with the core house, as an elementary septic tank system, which proved to be technically inappropriate for the type of soil and was wrongly placed in the plot. This means that any attempt to extend the core house made it necessary to replace the existing system to another location. Residents had to cope with two unforgivable mistakes and were forced to invest a considerable amount of resources eg. capital, time and energy in order to correct improper governmental solutions. This represented another constraint that impeded families to reach further steps of improvements.

FIGURE II : Sequence of Improvements and Number of Fam. per Category of Improvement.

CATEGORY OF IMPROVEMENT	NUMBER OF FAMILIES / STEP OF IMPROVEMENT						FAM./ CATEG. OF IMPROVEM.	
	1RST	2ND	3RD	4TH	5TH	6TH	TOTAL	PERC%
1 PLOT DIVISION WALLS	45	63	29	5	2	1	145	58.0
2 CONNECTIONS TO INFRASTRUCT.	196	48	2	0	0	0	246	98.4
3 EXCRETA DISPOSAL SYSTEM	0	37	45	8	5	3	98	39.2
4 INTERNAL DIVISIONS	0	32	40	28	11	0	111	44.4
5 ROOF EXTENSION	0	10	31	31	16	7	95	38.0
6 CORE HOUSE EXTENSION	1	17	15	34	20	15	102	40.8
7 DEMOLITION OF CORE HOUSE	0	0	0	0	0	0	0	0
8 REPLACEMENT OF CORE HOUSE	0	0	0	0	0	0	0	0
9 CONSTRUCTION OF NEW HOUSE	5	0	0	0	0	0	5	2.0
TOTAL NUMBER OF FAMILIES / STEP OF IMPROVEMENT	247	207	162	106	54	26		
TOTAL PERC % PER STEP OF IMPROVEMENT.	98.8	82.8	64.8	42.4	21.6	10.4		

Candangolandia: number of households surveyed:250.
Brasilia, Nov/86.

Figure 2 Sequence of Improvements and Number of Families per Category of improvement

Through computer analysis, I was able to check all the sequences of housing improvements implemented by families. It showed 88 different sequences resulted from combinations of the above categories. The sequence 200000 was the most frequent one with 15.6 percent, followed by 210000 with 5.2 percent. The latter means that the family firstly implemented the connections to the infrastructure networks and then decided to define the private domain through the construction of the plot division walls. No further improvement took place.

Making a correlation with the family income, those who carried out the sequence 200000 were precisely the families who belonged to the lowest income group in the settlement. Because the installations of the house are responsible for one quarter of the total cost of a government sponsored popular house (Brandao, 1975:13) it is more than obvious that the lack of this component in the core house implied a financial burden on the restrained family budget. Therefore it impeded residents, especially the

poorest ones, to reach further steps in the sequence of improvements.

Describing the process of improvements becomes very important because it reveals several aspects that seem to be hidden behind the limits of the households, and that are completely ignored by planners, designers and policy makers, if they ever get to know it. In case that there was any awareness about it, perhaps projects would have a different output and could be certainly more adequate to the context of residents.

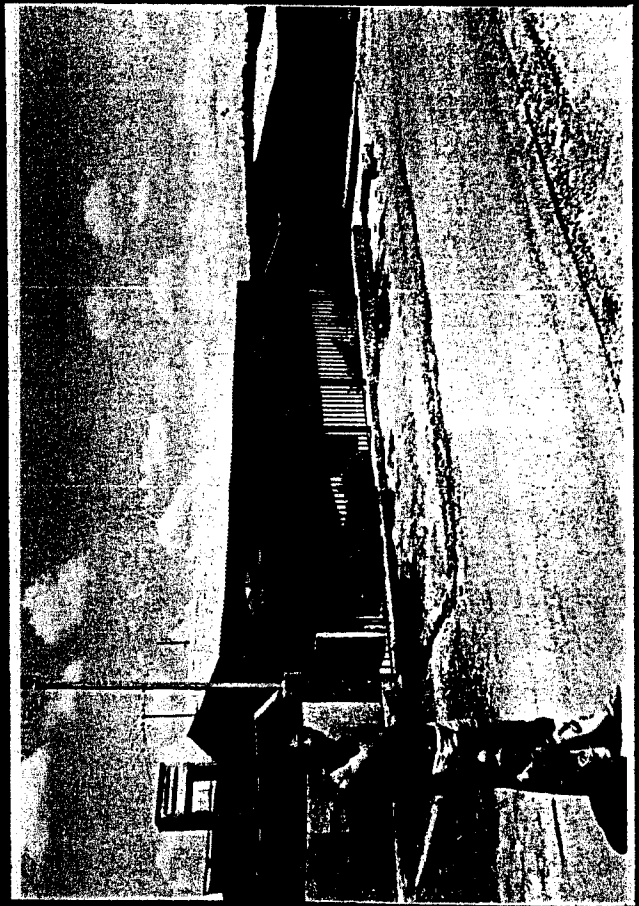
The evaluation of the core house design gave stronger evidences of this fact. A comparative analysis of the extension models provided by the government with the models illegally implemented by residents provided an astonishing case of neglect for the basic concept behind the project: the progressive development. Instead of making the extension of the core house an easy task, the project simply created more barriers to residents. This represents one more constraint in the process of housing improvement because it implies extra cost.

CANDANGOLANDIA

1	
2	3

1. A resident implements his own production of concrete blocks to use in the extension of his core house. He intends to increase his production and sell the surplus to other residents in order to generate an extra income.
2. A resident shows proudly the housing improvements he achieved: core house extension, new windows/doors, metal fence, water tower, new floor, plaster, etc...
3. An overview of the lowest part of the settlement. The first two houses in the left corner present interesting features: the first one present plot division walls and the second one, core house extension.

Nsv/86



Even with all these problems, the progressive development approach, in Candangolandia, stimulated the building sector and provided excellent opportunities for income and employment generation.

The level of improvement registered within the scope of the private household domain showed a great level of residents' determination to improve their living standard, gave to Candangolandia a significant speed of consolidation and a different picture as a recently improved low income settlement. However, for public spaces this cannot be applied since residents still expect general improvements from the side of the government.

From the residents' point of view, the weak community organisation was responsible for the low level of information among residents. According to them, their association was not sufficiently strong, and organised, to achieve better 'deals' with governmental agencies, although a very small percentage participated actively in community meetings. They demanded the implementation of non-conventional scheme eg. slum upgrading, sites and services, guided land development, building material loans programmes, etc. and showed a significant degree of knowledge over their problems. Residents complained about their difficulties to have access to material and financial resources and about the lack of public concern with their living area.

In this respect, evaluation studies become an important generator of information which can be used to increase, qualitatively and quantitatively speaking, the participation of the actors involved in the production of housing. From the point of view of planners, the research provided obvious evidences that they are not much concerned with effects and impacts of certain planning decisions. From the point of view of residents and their organisations, the information can be very valuable as a technical support in the discussions among their members and for the negotiations with the public sector. How this information will get back depends

on the compromise and the will that researchers should keep in mind when interacting with popular organisations.

SETTING DOWN A PRELIMINARY CONCLUSION: A RECOMMENDATION?

A lot has been evaluated in low income housing in developing countries and, very often, these evaluative studies propose a series of recommendations. There is a tendency to generalise the housing problem as a feature that characterises the context of countries from the Third World or Developing World, and when solutions or recommendations are put forward, they simply neglect a series of particularities and differentiations that exist among countries that belong to this group.

The first recommendation that would come out of this article is particularly addressed to researchers and professionals involved with evaluation procedures and policy making. There is a need to review some concepts and place the analytical framework in accordance to peculiarities that exist in each country region, city and settlement.

That is the reason I refer constantly to situations in Brasilia, which may be applied, in many cases, other cities of Brazil and perhaps of the 'Developing World'.

There are some lessons to be drawn from this evaluation exercise. In the first place, there is a question to make and not an answer to give: not what planning and housing institutions can provide for low income residents but what levels of self determination are they willing to permit residents to achieve? What space can be created within institutional frameworks in order to facilitate the establishment of autonomous processes in low income settlements?

In Brasilia, the question of residents' participation rises as the most important shift in public policies. At the political level, this participation gains strength as the city prepares itself for the first elections for Governor and City Council. that means

that socio-political forces will certainly enter the urban scenario and they can play a great influence in the future socio-spatial organisation of the city.

At the technical/institutional level, there are clear evidences that a more participatory process would facilitate the design of more appropriate programmes and projects. For example, a participative design process would have changed completely the shape and features present in the core house design applied in Candangolandia and in other settlements. This would imply that levels of conflicts and consensus between designers and residents would necessarily need to be achieved through a negotiation.

On one hand, designers/planners would be forced to create new forms of communication eg. 2-D and 3-D models, audio-visual techniques, etc. in order to translate technical symbols into more appropriate messages that can be understood by lay citizens. On the other hand, residents would have to achieve better degrees of organisation, rebuild their residents' associations and their peculiar forms of participation. This would create some qualitative and quantitative improvements in the interaction between residents.

A serious approach by the public sector can reinforce the process of resident participation and would imply the recognition of these organisations and consideration of their complaints - consequently increasing the interaction between residents' organisations and governmental institutions.

There is a claim for decentralisation of planning and decision making. A need to re-structure the institutional framework in order to give space for non-governmental organisations to play their role and assume their responsibilities, and therefore to give opportunities for the appearance of autonomous processes in low income settlements.

The existence of an immense informal sector in the context of satellite cities and in squatter settlements, gives all indications that there is an incredible effort put forward by residents in order to survive in an

urban economy. This is a potential that should be supported by an efficient institutional, financial or material support from the side of the Government. For example, residents demanded the design of non-conventional housing approaches in Candangolandia. A building material loans programme, that would include small and medium sized building material suppliers and producers, and easy access to credit facilities, can be an efficient way to reach a decentralised form of housing production. At the same time, an indirect support for employment generation and a stimulus for the establishment of building construction gangs.

At last, according to the survey, the great majority of the residents came to Brasilia because they searched for better employment opportunity. From the point of view of employment policies, the emergence of a large informal rental sector and the appearance of several small industrial activities in the satellite cities already challenge the character of Brasilia as a tertiary metropolis and centre of national decision making.

This character of Brasilia, sooner or later will have to be reviewed. A tertiary city will no longer be possible to exist with the actual speed of the population growth, high rates of migration, the increase of housing demand and a pressure for industrial activities by the private business sector.

The future urban development of Brasilia will depend on the results of a series of negotiations between the public, the private and the popular sectors, which will include from now onwards political participation of residents, and a radical shift in governmental housing and employment policies.

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