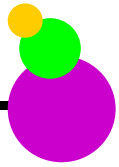

Colour and Participative Processes in Urban Requalification: Colour Studies for Social Housing in Portugal

FCT RESEARCH PROJECT PTDC/AUR: 66476/2006

José AGUIAR
Professor, FCT / CIAUD - Research Centre for Architecture, Urbanism and Design, FA-TUL: Faculty of Architecture, Technical University, Lisbon, Portugal
E-mail: jaguiar@fa.utl.pt

João PERNÃO
Assistant Professor, CIAUD - Research Centre for Architecture, Urbanism and Design, FA-TUL: Faculty of Architecture, Technical University, Lisbon, Portugal
E-mail: jnpernao@fa.utl.pt

ABSTRACT
This paper discusses the relevance of colour planning in participatory processes on urban requalification. The Faculty of Architecture (FA-TUL), was commissioned by the Institute for Housing and Urban Rehabilitation (IHRU) to develop applied research studies on colour in social housing in very critical neighbourhoods (national program: “Bairros Críticos”).
Communication processes and design tools have been developed within this research aiming to allow everyone involved to understand and be able to evaluate the different colour concepts and their impact on urban image requalification.
The use of digital photographic simulations based upon significant everyday observation points instead of technical drawings promotes a focused discussion and very effective interaction with residents, administration officials and technicians, aiming at a consensual design solution.
The actual results in six colour planning studies developed within this requalification effort prove that colour becomes a very powerful tool to participatory processes, working as a stimulus for social interaction and articulation with traditional technical decisions and that could be efficiently used to help to restore the self-esteem and sense of belonging of the inhabitants.
Keywords: Architecture, Colour Study, Participative Process, Rehabilitation, Social Housing.

1. INTRODUCTION

Participatory processes have always been a fertile field for the exchange of views between the architects and their clients through the possibility of direct contact. However, the difference between academic education and cultural environment of who does and who uses architecture turns social housing a difficult field to implement these processes. Paradoxically this is where they most need to be developed since in these cases its very important to integrate the will of the community in crucial decisions, namely the ones concerning the creation of an urban environment that everyone can assimilate and call their own. Unfortunately we are all aware of many examples where architects explore aesthetic solutions for these built environments, often more pictorial than architectural, that they would not dare to apply in higher status neighbourhoods. This has caused a stigma and prejudice that can only be overcome by a true integration of the inhabitants in the whole process. It is very important to promote focused discussion aimed at an efficient understanding of the issues at stake, of the proposals drawn up and finally in helping to make a final decision. For this, we need efficient communication tools. Through simple processes, away from architectural technical drawings, we've been able to discuss and implement colour plans with consensual agreement in social housing requalification, and more than that, these colour plans have helped to boost the relationship between all the participants in the projects.

2. OBJECTIVES AND SCOPE OF THE COLOUR STUDIES

We believe that a colour study could improve the quality of the inhabitant's daily life through a plan that understands and respects their specific identity, needs and expectations but also the aesthetical goals of architecture, resulting in a better sense of belonging and integration with their built environment.
Colour could introduce elements of identification in order to clarify hierarchy, morphology and typology of urban space and architecture, improving spatial orientation and the understanding of relevant architectural elements and rhythms.
The Colour Study must define the colours and technical characteristics of all exterior painted surfaces of buildings as well as those in interior public areas of circulation. The products should fall on the Specifications set for the contract, but should suggest the choice and/or change of the finishing and colour of materials that by their importance in the appearance of the building will condition the required final qualification goal and unity (e.g. roof tiles, stones, window frames, etc.).

3. METHODOLOGY: PROCESS PHASES AND SPECIFIC TOOLS

There are mainly nine working phases in the standard process created for these projects, with little variation from one case to another:
1) Team presentation to the community where the main objectives and expectations are discussed;
2) Site and environment analysis through a detailed survey of specific architectural and site plan characteristics, geo-morphology, geography of colour, etc., aiming to the overall site characterization;
3) Debate of the initial ideas through a process of brainstorming within the research team, in order to establish the main research hypothesis;
4) First public presentation revealing the site analyses and a vast array of possible solutions, aiming to chose a consensual solution;
5) Final colour plan development according to the results of the previous phase;
6) Final public presentation, discussion and approval;
7) Communication to the building site;
8) Final colour tuning on site;
9) Dissemination and discussion of the process and the results.
In these studies, the necessity to communicate the outcome of colour transformations in the environment in a way that is easily understood, seeing exactly "as it is" and "as it will be" promoted the development of a specific process of image simulation (Fig.1). This tool allows the visualization of the colour study impact on urban image requalification without changing the light and texture of the architectural surfaces.

Fig.1: The stages of the simulation process: (i) image of the existing situation at *Rua das Mães d´Água*; (ii)surface cleaning and minor architectural changes proposed; (iii) colour study virtual simulation.

4. DISCUSSION: CASE STUDIES

The case studies here presented are colour studies integrated in a overall participatory process of rehabilitation in critical neighbourhoods promoted by IHRU - Office of Housing and Urban Rehabilitation and commissioned to FA-TUL, Lisbon. The objective was to contribute to the upgrading of urban image through colour study projects, with the least possible impact on costs, in a participatory process that develop simple communication tools to allow an immediate understanding

of the problem and the consequent involvement of all participants. This was an opportunity for producing applied research within the Faculty involving Master's degree and PhD students aiming to use this knowledge in their final works.

4.1 Colour Study to Bairro das Alagoas

The first assignment was *Bairro das Alagoas* in Peso da Régua located in the north of Portugal on the slopes of River Douro. This was an exemplar process concerning a close relationship between a large and multidisciplinary technical staff, in which we take part, and the resident population through plenary sessions.

One of the interesting issues in this assignment was a question of identity: this neighbourhood had long been stigmatized (it has a large ethnic gipsy community) as an unsafe closed ghetto known as the "Bairro Verde" (green district). From the very first contacts with the inhabitants the general consensus pointed to the need to abandon the existent colour - dark green - and give it a nobler, happier appearance in order to mingle in the surrounding built environment - mainly painted with light ochre. However, after considering the different hypotheses, the solution that was welcomed and approved by the population was the one that kept the identity of the neighbourhood (green) but with a lighter hue, and using white colour accentuations to qualify relevant architectural and urban situations (Fig.2).

Fig.2: The identity at issue: an image as it was; the option of dilution in the built environment; and the chosen option of a new, lighter green, that ensures the continuity of a proud difference.

4.2 Colour Studies to Vale da Amoreira

On the south bank of River Tagus, we were commissioned to study a complex and morphologically heterogeneous situation of urban decay related to the low-income residence area of the industrial city of Barreiro, in the Vale da Amoreira, Moita.

To address the problem, we had to split the assignment into several phases starting with a small and uniform neighbourhood named *Bairro das Descobertas*. In this project we have to deal with a set of buildings where some were private and therefore would not be rehabilitated. Since we do not want to exclude them, this was an opportunity to test a colour gradation between lighter happier yellow/orange hues and their existing brownish and somehow dark hue (Fig.3). We also use one different hue for each block entrance to allow a unique sign to all of them. The two central bands were painted in a darker hue to give them a perceptive centrality and reference to the entire neighbourhood.

Printed cards were distributed during the public presentation session aiming to a better understanding of the aesthetical goal of colour gradation and the desired result (Fig.4).

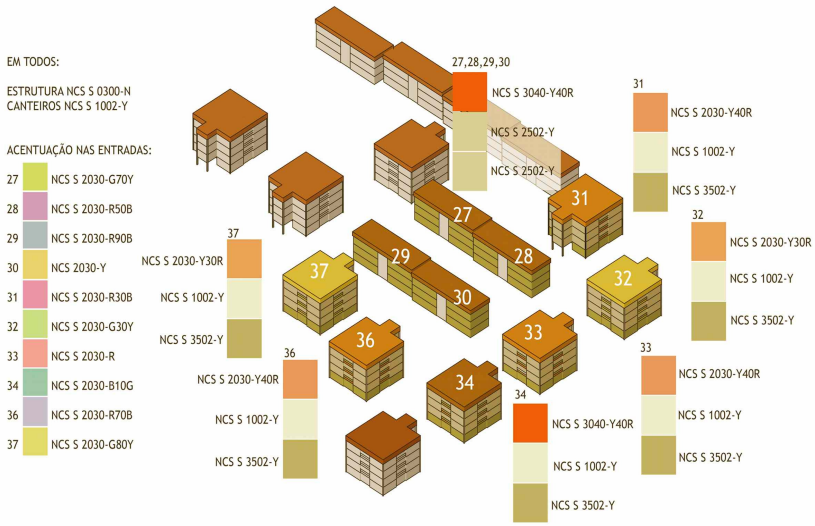

Fig.3: Colour gradation: a tool to neighbourhood integration

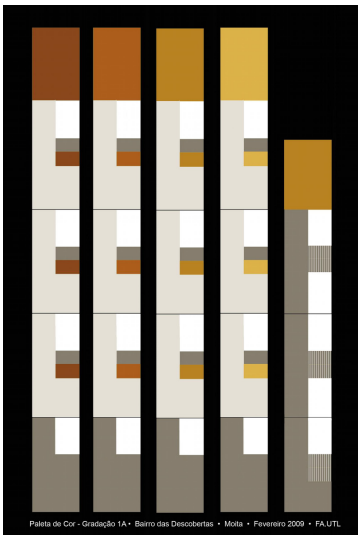

Fig.4: Colour card distributed

The second phase of this work was the study of the neighbourhood next to the previously presented Bairro das Descobertas: the *Bairro do Fundo de Fomento.* This was also an ensemble of great unity, designed by the same architect, where the main issue was to understand and reveal the main morphological and functional elements and deal with the dynamic relationship between vertical towers and horizontal bands (Fig.5). The relationship with the already applied colour study for the nearby Bairro das Descobertas shoud also be addressed.

Fig.5: Image of the previous situation and a simulation of the colour study: colour enhancing the dynamic relationship between tower and band and also accentuating the entrances.

4.3 Colour Studies to Alto do Zambujal

Our work in the first phase at Alto do Zambujal, Amadora, was a completely different challenge: the rehabilitation of a 400-meter pedestrian street framed by two almost continuous plan facades: the *Rua das Mães d´Água.* Our work orientation was to find a colour application that could be responsible for breaking the monotonous sequence and visual length of these facades. Warm mineral colours were chosen to counteract the coldness of the overall environment conveyed also through the concrete tiles of the pavement. The research team produced hypothesis that varied from a more conventional approach with the creation of a randomly colour façade succession to a radical aesthetical statement superimposing digital worked paintings of El Lissitsky- the *Proun Studies*- to the facades (Fig.6), whose formal motives and colour where carefully studied to achieve contextual integration. The idea was simple: to change 400 meters of anonym facades, a no-place, into a meaningful urban street with a richer in communication. After being selected in the first public presentation this last option was defeated in implementation stage for economic and maintenance reasons.

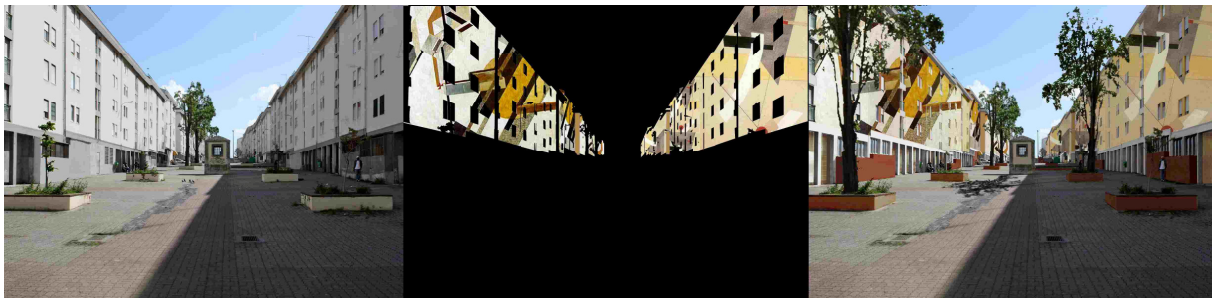

Fig.6: Superimposition and simulation of Constructivist paintings over the 400-meters façade of *Rua das Mães d´Água, Amadora.*

4.4 Colour Studies to Marvila

Chelas/Marvila is an very important district in the city of Lisbon for a generation of Portuguese architects that from the seventies and through the eighties had the opportunity to experience in a large scale a new relationship between the street and housing other than that stipulated in the CIAM's Athens Charter. Some of those buildings are now in bad condition but it is however the best example of a modernist pedestrian street in Lisbon.

Our team were commissioned to the entire study of this urban entity but due to its size it was divided into several phases. The first one concerned an ensemble with morphological architectonic unity and identity and that was already been painted years ago in a way that has erased and subvert the original relationship between apparent concrete and painted surfaces. Our colour study restored that original concept and deals with urban space as a succession of architectural events in which colour takes its place in the overall perception and organization. In this participative process were also very important the communication role of the coloured cards that were distributed to the local entities and inhabitants representatives during the public sessions (Fig.7).

Fig.7: Examples of the colour cards produced for each block and distributed in the plenary sessions: in each one it is described the actual situation and the colour study proposal, including the colour samples and notation in NCS (Natural Colour System).

This process is now in the second phase, which concerns the overall plan for the site that is already approved by the local authorities. Our goal for this plan is mainly the establishment of chromatic rules that help define the relationship of centrality and periphery of the neighborhood and thus to strengthen its identity as a whole. Trough our chromatic study we will build an order that allows an easier recognition of the urban hierarchy, and the improvement of spatial orientation (Fig.8).

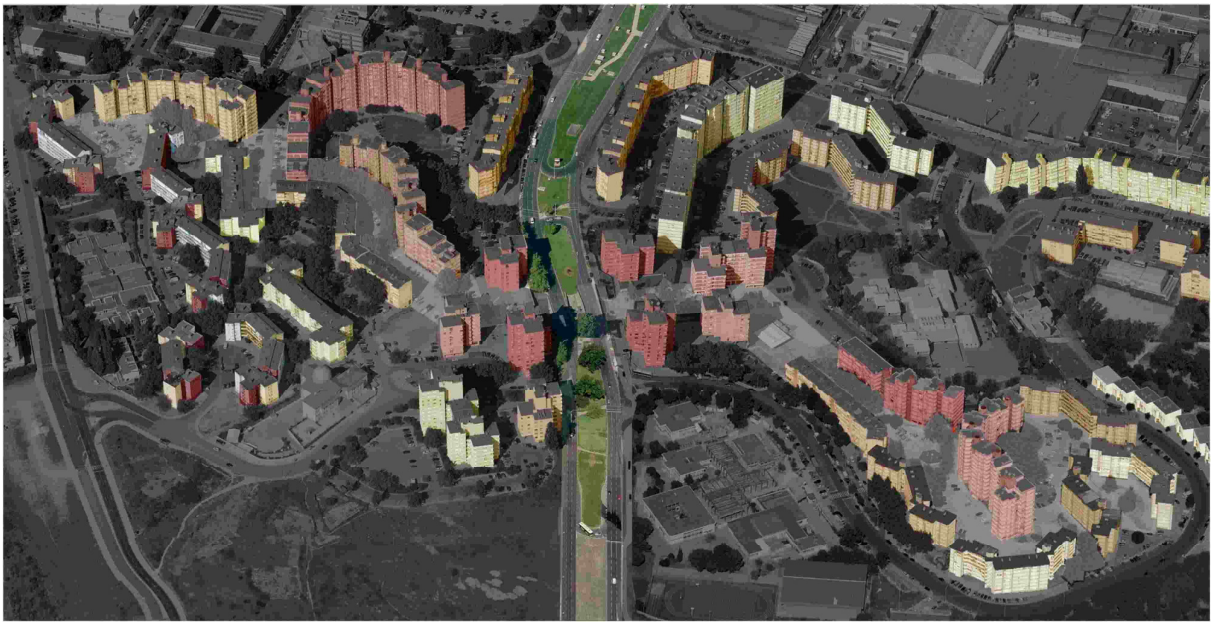

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Fig.8: General colour plan to Chelas/Marvila stating concepts of hierarchy, centrality and spatial orientation

5. CONCLUSIONS

Colour studies inside participative processes are extraordinary effective tools to urban rehabilitation and requalification planning. Our experience, in the case studies here discussed, allow us to conclude that colour, although not usually seen as a priority when we deal with critical housing conditions, can encourage inhabitants integration in the rehabilitation program effort through the capacity of seeing and anticipating the final result of all the process. Our tools – based in low-tech approaches and free-ware software – developed for direct and easy communication have been efficient aiming at that goal. Just by the action of being consulted - and of being able to understand the project proposed - and eventually having an effective and active voice in the process, these projects have been very welcomed by the community.

Virtual simulation of the colours needs a very sensitive and attentive eye but are quite accurate (is amazing the similarity between those simulations and real photographs after the end of the works); but the reproduction and communication of those studies to others is quite difficult – one needs to carefully prepare public presentations (projectors calibration), and to produce colour medias (like the printed cards we used).

Due to the complexity and interdisciplinary characteristic of the colour study we've concluded that it is important that it should be commissioned and designed at an early stage of the rehabilitation planning process so that it can be articulated with other project decisions in terms of materials and constructive solutions.

The relationship and communication with the contractor at the construction site is another issue to control carefully due to its importance in the final technical and aesthetical result of the work.

Above all we like to state the exceptional social role of these participatory processes. The opportunity of discussing the plan directly with the inhabitants was an important experience for our research team and a valuable input in the relationship between colour plan academic concepts and its disciplinary, practical and architectural applications: Colour maters to all (not only to “experts”)!