Modelling the evolution of housing and socio-spatial processes in low income settlements: case of Davao City, Philippines

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Abstract: Previously, low income households in Davao City, Philippines, were classified into five different types from informal to formal housing. Furthermore, self-help provision and incremental construction of different housing types were explored in the course of their development. To further understand housing as a material expression of the status of the urban poor, and to explore socio-spatial processes in progressive settlements, the aim of this paper is to model the evolution of housing in low income settlements. Housing evolution is illustrated from the time when homeless people first built their shacks in squatter settlements, to transitions of different housing types from informal to formal, through to formal ownership of permanent houses. With formal ownership, the houses had evolved to either one-storey or two-storey permanent structures. This observed evolution of housing in low income settlements demonstrates that housing is socially constructed. From the point of view of social constructionism, the discussion of this paper emphasises the importance of political, economic and cultural factors in low income housing provision. Thus, this paper renews timely lessons about how the engagement of people in sustainable housing provision must be valued, especially in developing countries which are rich in human resources.

Keywords: Housing evolution; informal settlements; Philippines; socio-spatial processes.

1. Background to the study

The ability of the urban poor to contribute to the provision of sustainable housing, from life in informal settlements to formal ownership of housing units in the course of urban development, is valued in the works of several influential authors. 50 years ago, John Turner (1968), highlighted the importance of people as agents in self-help housing as a result of his observations in Lima, Peru. In due course, when housing was viewed as markets and submarkets in the 1980s, Lim (1987) proposed a model that illustrated a multi-step transition that the urban poor undergo through a series of housing submarkets until they became owners of formal housing. More recently Payne (2001), with his focus on land tenure,
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claimed that homeless people undergo a series of tenure categories, from a pavement dweller to a freehold owner of land title. These socially rooted paradigms where emphasis is placed on the agency of the urban poor exemplify social ecological principles. However, traditional housing policy and programmes are implemented based on technical and creative methods. The aided self-help and sites and services programmes popular in the 1970s as a consequence of Turner’s revolutionary ideas relied on high government subsidies. Due to limited funds, these attempts were viewed as unsustainable in developing countries. Furthermore, with the adoption of neo liberal market oriented policy in the 1980s, the market sector widened its role in housing provision. However, both attempts made by the welfare state and the market oriented policies are practised based on a traditional paradigm whereby housing is viewed as an object. From the point of view of urban design, Madanipour (1996) asserts that failures in urban design are due to the lack of recognition of socio-spatial processes in the environment. Socio-spatial processes include socio-political, socio-economic, and socio-cultural considerations respectively acted by the ‘regulators’, ‘producers’, and ‘users’ (Madanipour, 2006) of the built environment.

From this perspective, housing is not only the result of both creative and technical processes. In an informal housing settlement, the built environment created and inhabited by the urban poor themselves is importantly a social process and not merely a physical environment. In the ongoing pursuit of sustainable development, articulated in the Philippine Agenda 21 document, the role of government, business and civil society as key actors for sustainability of the environment is acknowledged (Philippine Council for Sustainable Development, 2012). In the discipline of urban design, Madanipour (2006) identifies regulators, producers, and users of built environment. Following this same framework, the social processes and their influence on housing provision in the low income sector identified in this paper are discussed in terms of socio-political, socio-economic and socio-cultural processes. Hence, the engagement of people is prioritised in the search for sustainable housing policies and programmes appropriate in developing countries.

2. Aims and objectives

In a preliminary study conducted in Davao City, Philippines (Malaque III, 2013), a case study of one informal settlement indicated an apparent transition to improve the formality of the settlement in terms of housing structure and land tenure. However, this phenomenon has not received sufficient attention, and housing policies and programmes continue to fail due to misunderstanding of the complexities of this dynamic urban phenomenon. Given the preliminary findings, a subsequent study of 74 households in 11 settlements, in the same city, was conducted (Malaque III et al., 2014). The study revealed that urban households can be classified into different types in a range of contiguous categories from informal to formal housing. Furthermore, a multi-step transition process was observed, which means, either an inhabitant moved from one housing type to another in a different location, or an informal housing unit in a progressive urban settlement was upgraded to become a formal housing unit in the same location. Moreover, another subsequent case analysis was conducted to explore the incremental construction of different housing types in the course of their development (Malaque III et al., 2015). Research revealed that incremental construction was a direct result of the improvement of security of tenure. For example, a simple dwelling in an informal settlement was upgraded with permanent building materials and standard methods of construction when the inhabitants’ degree of security improved. Over time, the physical condition of the house deteriorated when the inhabitants focused on payment for land. Eventually, the completion of the house, defined as a formal structure, coincided with legal ownership of the land.
Despite being the subject of scholarship, this typical incremental housing pattern in informal environments, built by the urban poor, requires more detailed understanding in order to provide effective housing interventions, especially in terms of architectural design and practice, which are both appropriate and sustainable in developing countries. Thus, in order to further understand housing as a material expression of the status of the urban poor, and to explore socio-spatial processes in progressive settlements, the aim of this paper is to model the evolution of housing in low income settlements. From the point of view of socio-spatial processes, the discussion of this paper emphasises the importance of political, economic and cultural factors in housing provision.

3. The study area

This study was conducted in Davao City, Philippines, located a thousand kilometres south of Manila. This is the same study area presented in previous papers (Malaque III, 2013; Malaque III et al., 2014; 2015). Recently, the Philippine population based on the 2015 census is 100.98 million, reported by the Philippine Statistics Authority (PSA). In 2012, the population of Davao City was 1.45 million. It has increased to 1.63 million based on the 2015 census (Philippine Statistics Authority, 2016). Davao City is the only city outside the National Capital Region that has a population of more than one million. Reiterating an observation presented in previous papers, the city has experienced significant immigration of impoverished people who have settled in precarious informal settlements. Like any of the other highly urbanised cities in the country, housing provision in the low income sector is one of the major issues in the context of local urban development which highlights the need for this continued scholarship in housing research.

4. Methodology

For the current study, data collection was conducted in accordance with fieldwork protocols approved by The University of Adelaide Human Research Ethics Committee (January 2014). Extensive fieldwork was conducted from February to April 2014. The first author gained access to a total of 74 households in 11 settlements. The selection of settlements and representative household cases was discussed more thoroughly in a previous paper (Malaque III et al., 2014). In a subsequent case analysis, another previous paper (Malaque III et al., 2015) explored the incremental construction of a representative sub-set of 16 of the 74 household cases. The 16 housing cases were selected from progressive urban settlements to represent the range of respective housing types. The data informing the analysis in this paper was derived from the physical documentation of individual dwellings and interviews by the first author with householders. The incremental construction of urban poor housing was preliminarily analysed in terms of the initial construction and improvements to housing structures, preceding the present form of housing units. This analysis of the history of the individual dwellings considered the incremental developments, the agents of housing provision and the building materials and methods of construction. In order to forecast the future development of the dwellings, the interview respondents’ aspirations, preferences and future plans were further considered in the analysis. The aggregate incremental housing construction, the present housing status, and the preference and the future plans of the survey respondents, were further used to analyse and demonstrate the evolution of housing in low income settlements. Finally, results and discussions were synthesised in the context of socio-spatial processes in the built environment.
5. Results: evolution of housing in low income settlements

The evolution of housing in low income settlements is illustrated from the time when homeless people build their fundamental shelter, and transitions from informal to formal housing types, to ownership which shapes the permanent urban landscape (Figure 1). The urban poor begin to provide their own shelter by assembling shacks to mark their invasion of the squatter land. As the preliminary form of self-help shelter provision by the urban poor, these simple shacks, defined as ‘informal’ (Type V) housing in a previous paper (Malaque III et al., 2014) mark the first stage in the process of evolution. Makeshift shacks were usually made of recycled materials. Despite their short life, this ephemeral architecture manifests the urban poor’s need for housing of their own to enjoy the ‘first freedom’ as it is defined by Turner (1968), wherein the squatter community welcomes anyone to join the association as long as there is enough land available. Thus, the temporary nature of a shack is an architectural statement that demonstrates the urban poor’s participation in the creation of new community, despite the informality. Once inhabitants are identified as part of a squatter community, with assigned lots, their shacks eventually evolve to ‘informal’ (Type V) housing, which is the case of the Lamanilao house (Figure 2) in the Kobbler settlement. When the Lamanilao household joined the invasion in 2003, their shack was built of recycled materials measuring 2.40 metres square, a floor area defined by two standard pieces of plywood (typically 1200 x 2400 mm). Extensions to the house and installation of better building materials such as substandard fibre cement boards were completed in 2006. This was followed by the addition of another bedroom in 2010, as the house appeared during the fieldwork in 2014. In terms of their future plans, the Lamanilao family aim to live in a two-bedroom house complete with living spaces and amenities comparable to those constructed and sold in completed housing subdivision projects.

Figure 1: Evolution of simple shack dwelling to permanent residential building.
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Figure 2: Evolution of the Lamanilao house.

It is noted in the previous papers (Malaque III et al., 2014; 2015) that ‘informal’ (Type V) housing evolved to ‘in-transition informal’ (Type IV) housing when the squatter inhabitants organised themselves to apply for security of land tenure. Eventually, ‘in-transition informal’ (Type IV) housing may evolve to either a one-storey or two-storey structure. This is implied in the present construction of houses or based on the stated preferences by inhabitants during the interview process. For example, the Abarquez house (shown in Figure 1) in Arroyo Compound, began as an ‘informal’ (Type V) house with an open plan and toilet and bath in a 60 square metre lot. Based on its status when the fieldwork was conducted, the house was classified as ‘in-transition informal’ (Type IV) housing according to the classification defined by this study, and by the structure itself, it is anticipated that the structure will be upgraded to a two-storey house in the future. On the other hand, the Agan house (shown in Figure 1) of the same housing type and settlement as the Abarquez house, is currently a one-storey structure. However, with the inhabitant’s stated plan to add another level, it is also expected that it will be upgraded to a two-storey house in the future. On the contrary, there are ‘in-transition informal’ (Type IV) housing cases which are currently single-storey structures and will remain the same as they transcend towards ‘semi-formal’ (Type III) housing. For example, in the case of the Wagas house (shown in Figure 1) in Kobbler settlement, after a series of evolution and incremental improvements from 2004 to 2011, the inhabitants expressed no plans to convert their house to a two-storey structure in the future during the interview in 2014.

Figure 3: Evolution of the Domingo house.
Further improvements to the security of tenure influenced the transition of ‘in-transition informal’ (Type IV) to ‘semi-formal’ (Type III) housing, in the same way as their manner of evolution towards better housing structures. For two-storey ‘semi-formal’ (Type III) housing units such as the Albios, Linasa, and Talin houses (shown in Figure 1), it is assumed that they will also be upgraded to a two-storey structure but with more permanent building materials in the future. In some cases, one-storey ‘semi-formal’ (Type III) housing may eventually evolve as two-storey in the future. This is exemplified with the Domingo house (Figure 3) in Matina Aplaya Shanghai Village. In which case, after the series of steps from a simple shack to a ‘semi-formal’ (Type III) house as it is defined in this study, the inhabitants plan for major renovations to create a two-storey building in the future.

Security of tenure underpins the evolution of urban poor housing to achieve permanence. The attainment of secure tenure may be by ownership of legal land titles after paying for the land through government assisted programmes or through direct negotiation and payment to the original private landowner. In some cases, although legal land titles are not yet owned, the regular payments for the purchase of land grants constitute another form of secure tenure for the inhabitants. With fully secured land tenure, the ‘semi-formal’ (Type III) housing evolves to ‘almost-formal’ (Type II) housing constructed with near compliance to the standards of the building code. This phenomenon is exemplified with the cases of the S ereno house in Piapi I settlement and the Amad house in Toril II settlement, which were respectively beneficiaries of slum upgrading and sites and services programmes by the government in the 1980s. When the fieldwork was conducted in 2014 the Sereno house (shown in Figure 1) was classified as ‘almost formal’ (Type II) housing. Based on the interview with the head of household, the house began as an informal structure when their present settlement was a squatter site in the 1960s. It went through a series of steps from purely self-help housing until the householders benefited from land tenure assistance from the government. Currently, the house is a two-storey multi-family dwelling. The original household head, also the interview respondent, and his wife, are currently living in a housing unit which is part of the entire two-storey house which is occupied by the families of their children. On the other hand, the same ‘almost formal’ (Type II) housing, the Amad house (shown in Figure 1) began with a 20 square metre plan when the inhabitants moved to this settlement in 1989. The house was completed with all living spaces, including two bedrooms in a total floor area of 40 square metres, when the fieldwork was conducted. The Amad family, being a small household, only plans for a bigger living area and a separate dining with a refurbished kitchen. Contrary to the case of the Sereno house which is currently a two-storey structure, the Amad house is expected to remain a single-storey structure in the future when it becomes a permanent house.

‘Formal’ (Type I) housing is attained when both land tenure and building structure are legal. At this point in the course of development, the house that is built in accordance with the standards of the building code may already be a permanent architecture, or still in the process of evolving further to meet the preference of its inhabitants. The housing cases covered by this study in progressive settlements, despite being classified as ‘formal’ (Type I) housing, have the same classification and description as those built in completed housing subdivision projects, and are foreseen to evolve further from their current status. Based on the preference and future plans of the inhabitants, for the single-storey structure, this may become a two-storey structure in the future. For those which remain with the same building structure, further refurbishment means the addition of rooms with high quality building materials and finishes, formalising the house or establishing permanence. In the case of the Nacorda house in the Matina Aplaya Shanghai Village (shown in Figure 1), classified as ‘formal’ (Type I) housing in this study, it went through a series of steps from an informal house when the inhabitants moved in 1976, at a time when the present site was a squatter settlement. The house was initially built in a self-
help manner by the inhabitants with some assistance from the community. Until the inhabitants became beneficiaries of the government’s Community Mortgage Programme, the house was classified under its current status when the fieldwork was conducted in 2014. Despite attaining ‘formal’ (Type I) housing status, the Nacorda family preferred bigger living spaces with individual rooms for their growing children and planned for the addition of another floor. This means that the house is expected to be a two-storey building in the future. On the other hand, the Rafales house (shown in Figure 1), of the same housing type and settlement with the Nacorda house, will retain its current structural form as a single-storey house, except for further improvements to the finishes. This house went through a series of steps until it attained its current status, however, painting and other finishing were still underway when the fieldwork was conducted.

6. Discussions: socio-spatial processes in low income settlements

The evolution of housing in low income settlements is demonstrated in the way the architecture of houses from different housing types transforms from one physical form to another in the course of development. This dynamic spatial process found in progressive urban settlements reflects the various social factors apparent in developing countries, which is the focus of discussion in this section.

6.1 Socio-political

The socio-political process in housing provision reflects the act of the regulators. Viewing their role in urban design, Madanipour (2006, p. 174) mainly identifies the regulators as ‘the government and its role in regulating the economy, which in the urban development process is mainly reflected in planning’. In the area of shelter provision for the low income population, the act of the regulators is manifested in the implementation of housing programmes. The Philippines is influenced by various international trends and ideologies in policy making. In addition to the major political shift in the country following the 1986 People Power revolution, it is interesting to note the historical development of housing provision, most especially in the low income sector, from a socio-political point of view.

Notable government housing initiatives in the Philippines were initiated during the Martial Law regime of President Marcos in the 1970s. The creation of the NHA and the adoption of slum upgrading and sites and services schemes were indicators of how the country’s urban governance was influenced by the World Bank’s interest at that time and inspired by Turner’s school of thought. In this study, these programmes played an important role in providing land tenure assistance to the informal inhabitants. In the discussion of incremental construction of housing and progressive development of settlements, it was observed that improvement of land tenure was the forerunner of the formal construction of houses and the physical development of the settlement site. For example, the Piapi I and Toril II settlements examined in previous papers (Malaque III et al., 2014; 2015), which were recipients of earlier slum upgrading and sites and services programmes, were able to progress formally as indicated by the presence of ‘almost formal’ (Type II) housing units and developed site infrastructures. Contrary to the centralised programme implementation of the Marcos regime, the land tenure assistance initiative became more participatory in nature in the post-People Power revolution period. The community-based Community Mortgage Programme aimed to legalise land ownership by purchasing the squatter land from the legal land owner, or alternatively, relocating the informal inhabitants to another site, encouraged the participation of NGOs to act as originators on behalf of the urban poor community beneficiaries. Furthermore, decentralised urban governance is indicated by legislation of the 1991 Local
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Government Code, and pro-poor housing policies were mandated by the 1997 Urban Development and Housing Act. It goes without saying, that the current socio-spatial processes in low income housing settlements manifested by active participation of the NGOs and empowered self-help initiatives of the inhabitants themselves are reflective of the current socio-political development in the Philippines.

6.2. Socio-economic

The socio-economic process in housing provision reflects the act of the producers. Viewing their role in urban design, Madanipour (2006, p. 174) identifies the producers as ‘those who build the city, predominantly developers and their financiers and team professionals, including designers and construction companies’. However, in the context of informal urban development, the urban poor themselves are the main producers demonstrated in self-help housing schemes found in progressive urban settlements. The urban poor, who mostly relied on transient urban labour and other forms of informal income, were not qualified to access formal housing loans offered by banks and other formal finance and credit institutions. For this reason, they formed themselves into community savings organisations, which then, for example, provided the foundation for the organisation of the Homeless People’s Federation Philippines (HPFP). In the 1990s, the HPFP originated in the dumpsites of Payatas, Quezon City, to bring together low-income housing groups. Recently, the Federation is active in 17 cities throughout the country (Vincentian Missionaries Social Development Foundation Incorporated, 2001; Papeleras et al., 2012).

The community savings organisation offers micro credits or small loans to its members, which is the source to finance the incremental construction of housing units. In this study, some of the informal inhabitants in the Arroyo Compound were recipients of financial assistance from the HPFP and its associated NGO, the Philippine Action for Community-led Shelter Initiatives, Inc. This is the case for the Albos house where the beneficiary was able to purchase more permanent building materials because of the financial assistance offered by the NGO. Despite the location in an informal settlement, the house, is thus classified as ‘in-transition informal’ (Type IV) housing. Furthermore, the NGO’s institutional role in urban poor housing provision brought the design professionals and civic organisations to offer technical support, labour and sweat equity in the construction of houses in traditional Filipino bayanihan manner. It goes without saying that this case study of urban poor housing in informal environments in the Philippines provides new insights to redefine the producers of the built environment.

6.3. Socio-cultural

The socio-cultural process in housing provision reflects the act of the users. Viewing their role in urban design, Madanipour (2006, p. 174) refers to this broad category as the ‘urban society’. In this paper, they are referred to as the low income population, or the urban poor who lived in informal settlements and strived to improve their housing status until they achieved permanent architecture. The progressive form of low income housing provision observed manifests the cultural expression of self-help housing at a household level, which is extended at community level as organised self-help initiatives. In the Philippine setting, the traditional bayanihan spirit visually translated with ‘people-carrying-a-house’ promotes a unique culture of citizen participation in the provision of urban poor housing and the formation of low income settlements. Bayanihan was traditionally celebrated when a family who wanted to move their house offered a party to friends and neighbours who gathered to carry the house to its new site. Today, the festivities associated with the bayanihan tradition are reflected in the agency participation of all stakeholders in housing provision including the NGO, professional and civic groups,
and community-based organisations. Currently, this unique Filipino tradition is being treated in many ways. Firstly, it is being institutionalised in the organisation of Philippine-based NGOs such as the Gawad Kalinga (Odivilas and Odivilas, 2015; Santos-Delgado, 2009). Secondly, it is being integrated in the implementation of foreign funded projects such as the upgrading programme of the Asian Coalition for Community Action in Baseco site in Metro Manila (Galuszka, 2014). Thirdly, from the international perspective, it is seen as an important component in the enhancement of social capital (Labonne and Chase, 2009; 2011).

The Filipino bayanihan tradition further enhanced the organisational capability of community-based low income groups. For example, beyond savings as a main strategy in the organisation of the urban poor federation like the HPFP, the community-based savings initiative means not only a financial tool but also a social mechanism to build a network of communities. This cultural trait empowering the organisation of urban poor communities in the Philippine setting played an important role in the evolution of housing from a simple shack to become a formal permanent residential building. It has been discussed that the organisation of informal inhabitants to negotiate for the purchase of their squatter land, or to access government or NGO assistance, is the first indicator of an evolution. In the preceding discussions on socio-political and socio-economic processes, it is noted that the government’s role in housing provision moved away from being the provider, and the producers of the built environment are being redefined, with reference to the urban poor with institutional support from NGOs. With the increasing role of culture in urban poor housing provision, it is evident that the socio-cultural factor must be given more value in policy making and programme implementation.

7. Conclusion

The dynamic housing phenomenon in low income settlements in a case of a city in a developing country was presented in previous papers (Malaque III et al., 2014; 2015). Firstly, the phenomenon was discussed with the concept of ‘multi-step transition’ from the point of view of housing provision (Malaque III et al., 2014); and secondly, with the concept of ‘incremental construction’ from the disciplinary perspective of architecture (Malaque III et al., 2015). Furthermore, the ‘evolution of housing’, from a simple shack to a permanent residential building, is evident with the cases presented in this paper. This shows that housing in low income settlements is socially constructed, and should not be viewed as an object. With reference to the discourse on socio-spatial processes, this paper illustrates that housing, despite being provided by the urban poor themselves, is a material expression of the society where it is created, altered and permanently shaped. Although informal housing has long been viewed in a pejorative sense within traditional paradigms of architecture, urban design and planning, this study shows that it must be viewed, instead, as the most affordable and accessible type of shelter for the urban poor. Thus, it deserves attention in the discipline of architectural science, which is demonstrated in this paper. In addition to modelling the physical evolution of housing, this paper redefines the respective roles of different social actors of the built environment defined by Madanipour (1996). In the context of informal urbanisation in developing countries, the urban poor who are the users and main beneficiaries, are also defined as producers of housing and the built environment. Accordingly, with the focus on the role of the government as regulator, housing provision is now centred on the people who have the capacity to build and to provide their own shelter. The recent trend in policy making has widened the participation of all agents in housing provision, most importantly the institutional role of NGOs in empowering communities at grassroots level. These redefined roles of key actors in the formation of the built environment must be considered in architectural design and
practice. In the twenty-first century with half of the world’s population living in urban areas, the role of the people must be given more value in housing provision and the formation of sustainable urban environments, most especially in developing countries which are rich in human resources.

References