

MULTI-STOREY SOCIAL HOUSING ESTATES Design guidance

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Résumé

Le présent article explore un certain nombre d'études empiriques récentes sur le logement social en relation avec certains aspects comme : la qualité de la conception, les standards, la santé, les aspects écologiques, la gestion, la maintenance et les réparations, et la concurrence parmi les architectes et les entrepreneurs. Bien que le sujet est complexe et conflictuel, les actions prises à plusieurs niveaux particulièrement l'aspect architectural, donnerait des améliorations partielles. Un guide de conception pour les projets futurs est esquissé sous forme de recommandations pratiques.

Mots clés: Habitat collectif social ; qualité de la conception ; standards ; guide de Conception.

Abstract

This paper reviews a certain number of recent empirical studies on social housing design, in relation to some aspects, such as: design quality, standards, health, ecological aspects, energy saving, management, maintenance and repair and competition among designers and developers. Although the subject is complex and in conflict, some practical actions on different levels especially design seem to lead to partial improvements. Useful recommendations are made as a guidance for future design of social housing programmes.

Keywords: Multi-storey social housing; design quality; design standards; design guidance

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ملخص

يحاول هذا المقال مراجعة عدد من الدراسات الميدانية التي صدرت مؤخرا و التي تعني بالسكن الاجتماعي بالنظر الي بعض الجوانب التي لها علاقة بنوعية التصاميم الهندسية , المعايير , الجوانب الصحية , البيئة , اقتصاد الطاقة , التسيير , الصيانة و المنافسة بين مكاتب الدراسات و المقاوليين . رغم اشكالية الموضوع الا أنه يبدو أن القيام باجراءات عملية يؤدي الي تحسين جزئي .
و أخيرا يوصي المقال ببعض الاجراءات لتحسين التصاميم الهندسية للبرامج السكنية المستقبلية .
الكلمات المفتاحية: السكن الاجتماعي الجماعي , جودة التصميم , المقاييس , دليل التصميم

ARCHITECTURAL and PLANNING CHARACTERISTICS

Amongst the multiple and inter-dependant variables that affect housing; design seems to play a major role in achieving the goals of any social housing policy. The quality of social housing is related to a wide range of essential requirements both at local and national level. Architectural design; health considerations; maintenance and technical failures; infrastructure and technical characteristics as well as planning matters are closely linked. The links between crime rates and physical environments, buildings, spaces and layouts were first recognised by Jane Jacobs in 1961. She contended that the public rather than the police is the crucial element in crime control and that ordinary citizens through their visible presence act to prevent crime in public places.

DEFENSIBLE SPACE THEORY

In 1972, Oscar Newman claimed in this book 'Defensible Space' that there is a distinct correlation between urban crime and the type of urban dwelling (significantly high-rise blocks) and that physical environment directly influences human behaviour and encourages certain types of activities to take place. His work was largely influenced by Jane Jacobs and his arguments rest on two important concepts (territoriality and surveillance) which will be discussed in detail later. Since then many studies have been carried out; some rejected 'Defensible space' theory and cast their blame on other factors, some however gave full or moderate support to Newman's findings, among them the most recent supporter, Alice Coleman, whose book 'Utopia on Trial' published in 1985 received a warm welcome by many and irritated many others who strongly criticised it and rejected it as non-scientific.

Some relevant studies are explored supporting or rejecting the idea that the physical environment influences in one way or another human behaviour and a balanced judgement based on the qualitative and quantitative evidence about the results of surveys and the reasoned judgments of experienced researchers in this field will be made.

Oscar Newman in this theory of 'defensible space' postulated that open or common parts of housing estates will be neglected and vulnerable to vandalism and all sorts of damage because no one has the responsibility for their care and protection. Therefore, he concluded, physical environment has a direct and important influence on human behaviour. Oscar Newman used statistical research and 'territorial' theories of behaviour to suggest that architects can provide building layouts which would prevent vandalism, assault, rape, crime and so on and thus help the enforcement of law and order in cities and neighbourhoods. 'Territory' refers to a specific place or area and 'territoriality' refers to the satisfaction of important needs and drives within that area.

Damage occurs most frequently where there is little or no surveillance - garages; refuse chambers and lifts, for example. To this extent, certain building and estate layouts can be said to encourage vandalism. This idea has been developed most fully by Oscar Newman (1972), who calls such no-man's-lands "indefensible space".

Others postulate that ownership can be just as important as territory, and Sheena Wilson, in her 1986 survey, gave Newman's theory only limited support. She suggested that the design of buildings did not affect overall levels of vandalism. Tower blocks, in particular, she found, were not more susceptible to vandalism than other types of buildings.

Following this line of reasoning suggested the demarcation of space in such a way that both residents and outsiders can recognize it. Therefore, he argued, the residents will be able to protect it and by doing so will protect themselves from unwanted intrusion. They thus feel that the space in question belongs to them and they have some control over it. The territorial instinct, Newman insisted, can be extended beyond the private space of the dwelling to key areas (halls, entrances, roads, lifts etc...), in response to design changes of these areas, fall. This sort of space, known as semi-private (a neutral zone between private space of the dwelling and completely public space) can be protected if the extension of territorial instinct is achieved through the overlooking of streets, halls, entrances, play areas etc... by windows of occupied rooms. This provides the inhabitants with natural surveillance, because the space belongs to a particular dwelling and will be defended against unwanted intrusion by the individual who is responsible for it.

This is in brief what Newman's 'defensible space' consists of. Since the publication of his book, there has been an increasing interest in his work, against and in favour of his theory. Generally people who disagree with Newman accuse him of being an architectural determinist and ignoring the social, economic and managerial factors which they argue are more important in the causation of vandalism and all sorts of crime.

SPACE SYNTAX THEORY

Others like Hillier argued that 'territoriality' is an ignorant view of human behaviour which has been largely discredited by anthropological research and that Newman's book is 'symptomatic of modern architecture's rejection of history in favour of glib second-hand theories'. "Space syntax" is a theory and method for the description of built space. Space syntax has been used to treat spatial configuration as a variable in a variety of studies of the social functions, cultural significance and behavioural implications of layouts.

Space syntax has also been used to explore, predict and evaluate the likely effects of design alternatives. Finally, space syntax is increasingly being used to study design styles and the intelligibility of built form. Thus, space syntax has come to interact with a variety of fields of inquiry and to support a plurality of theoretical developments. "Space syntax" is closely linked to a set of theoretical ideas about space as a dimension of society and

culture. These ideas were first expressed in by Hillier and Hanson in their 1984 book *The Social Logic of Space* published by Cambridge University Press and have subsequently been developed and expanded in a variety of publications.

The choice of the words "space syntax" to describe a socially and culturally motivated approach to the description of space arises from the early history of this evolving body of work. Hillier and Leaman use the term "syntax" to refer to rules that account for the generation of elementary, but fundamentally different, spatial arrangements. They define syntaxes as combinatorial structures which order the world and also allow us to retrieve descriptions of it. They propose that there is a relationship between the generators of form and social forces.

The relationship between architectural design, programme and building performance remains a subject of some controversy. Against this background it is natural that there should be some interest in the contributions of "space syntax" to better understand the nature, the functions, the behavioural implications and the cultural significance of built space.

In addition, some aspects of the research program associated with "space syntax" merit special attention. The ideas developed inside the University have found increasingly wide application in practice as major architects; including Sir Norman Foster, Lord Richard Rogers and others have sought the input of the "space syntax laboratory" at University College London, to assist them with the design of the spatial layout of major schemes.

VANDALISM AND DESIGN

Sheena Wilson concluded that 'the shape of buildings can dictate patterns of use and the circulation of people around them and hence help to structure the networks of social relationships that develop. In addition buildings by the amount of surveillance they afford may prevent or offer opportunities for certain activities to take place unobserved'. But the outcome of her study claims that child density is the major factor of causation of vandalism. Wilson and Hunter are moderate supporters of Newman's theory 'defensible space', the former emphasising the importance of child density and the latter housing management as being major factors.

In Coleman's view the traditional house is the ultimate answer to this problem. In her cross-examination, she ruled out the possibility that social factors are as important as design by giving rather unconvincing and inconsistent arguments. She argues that if poverty causes anti-social behaviour, then the more pensioners there are in a block of flats the more vandalism and crime are likely to be found, since pensioners are poor. This proved to be false, so she concluded that poverty should be ruled out as a cause of such problems. This obviously shows the inconsistency of her argument.

It thus becomes clear from this brief review of crime and vandalism in housing areas, that the influence and the role of design on behaviour is difficult to assess theoretically, since there is no definite evidence that the two are linked together. The presence of a multitude of other factors acting at the same time and which are almost impossible to isolate in order to concentrate on the design variables and correlate them with the problems, allows a great deal of subjectivity in drawing conclusions and makes the matter very controversial. On the particular point of vandalism, many relate it to child density.

Vandalism appears to be more associated with child density than with design itself. Negative behaviour, reflected by litter dropping, some kinds of crime, damage to the buildings and so on cannot be seen as caused solely or even partially by design as the presence of other variables (social, economic etc ...) makes it almost impossible to be certain of the role of design. Even in the apparently easy-to-test factors such as health problems, the literature is divided about the conclusions.

Some of the most apparent features and characteristics of vandalism and graffiti are: High density. It is public, buildings and flats are not designed in preventing vandalism and graffiti in mind; maintenance is slow and inefficient; high percentage of problem families; too big to manage properly; lack of special arrangements for play grounds, etc.....

Grffiti, vandalism and neglect problems on many housing estates seem to be stemming from poor planning and design coupled with poor management. The following suggestions have arisen from numerous case studies both in Europe and America.

In multi storey public housing estates where architectural styles, tenant's programmes and management policies give tenants a sense of "owning" their residences seem to be less vulnerable to vandalism than huge impersonal estates where the tenants are alienated from the buildings and the management.

Architects and designers can minimize vandalism and graffiti by designing spaces which can be easily seen to belong to particular groups of people, which can be watched and thus guarded by residents or passers-by, and to which access is limited to those who have a legitimate right to be there. In public housing estates, effective management involves developing a good working relationship with tenants, good maintenance and quick repairs, sensible tenant allocation and fair eviction policies, and an insistence on responsible behaviour by adults and children.

HEALTH ASPECTS

The association between multi storey housing and both physical and mental health, has long been recognised and is now generally accepted. Whilst there are a range of specific housing factors which affect health outcomes, the relationship between housing quality and health is complex, not least because the links between different dimensions of housing and health operate at a number of inter-related levels.

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Housing does not simply operate in isolation to influence health, rather the interplay between structural forces, the broader policy environment, employment opportunities, educational achievement, neighbourhood conditions, social relationships, and housing conditions (as well as individual factors like lifestyle) essentially determine health and health inequalities in society. Research evidence examining the relationship between housing quality and health has largely been developed by two separate traditions of investigation – that of social science, and epidemiological and medical research. Between and within both traditions there is a lively debate about causal links. Overcrowding is a potential threat to health. It has been shown to be linked to increased rates of various viral and bacterial affections.

There is now growing interest in how investment in housing can lead to benefits in health and potentially lead to cost savings in other service areas. A number of recent reviews have also gathered and assessed the evidence of the effectiveness of housing interventions to improve health. It is also believed that multi-storey developments make residents vulnerable to certain types of illness.

According to Dunleavy, respiratory infections are the main problems and the groups affected included children, young mothers and women over 50, but the evidence is by no means conclusive. Hird, a medical practitioner, did a random sample of patients on the new estate where he practised and found that the upper respiratory tract infections were much commoner in children who lived in flats. Dr. Fanning studied the medical records of two comparable sets of patients, one group living in houses and the other in blocks of flats of three or four storeys. He found that the number of first referrals to the specialist of those families in flats was 57 % greater than of those in houses. He also found that infections of the upper respiratory tract, bronchitis and pneumonia, were markedly more common in flat dwellers.

So, it appears that there is some evidence that flat living can precipitate certain types of illness, although doctors are sceptical about this evidence partly because the classical reasons of these illnesses (ventilation and overcrowding) tend to be present in some flats.

SUSTAINABILITY, ECOLOGY and ENERGY SAVING

There is an obvious connection between the built environment and the level of energy consumption; compact buildings with important volumes, with at least three floors, need less energy for heating than any other type of building. But energy consumption is also influenced by the thermal qualities of outer walls and roofs of different spaces, by solar architecture, by building techniques. Building regulations have greatly contributed to energy reduction in several countries. New solutions seek passive energy. Such solutions are even more interesting in the case of low-income target groups in social housing where energy costs are often higher than the actual rental costs.

Where additional energy for heating is still needed, it is increasingly provided from renewable sources: solar energy, wind energy, natural soil heat, use of warm air from industry, hot water or timber. Multi storey social housing can be a model for ecological, energy-saving construction as it is clearly connected to public regulations. Such pilot projects have been carried in several European countries like Germany, or France. New housing estates are more and more characterized by ecological optimization based on a set of indicators.

COMPETITION AMONG DESIGNERS and DEVELOPERS

Social housing has always played an important role resulting in real advances in terms of standards and innovation. As it was indeed the case with the development of the English garden city movement, the buildings of the Amsterdam school in the Netherlands, the housing estates from the 1920s in cities like Berlin, Frankfurt or Vienna, the HLM estates in France. This meant simply that buildings were programmed along with public infrastructure and communal facilities, and within an overall urban concept. On the other hand, quality has been insufficient. Some developers exerted a pressure and a monopoly. Today, the aim is to promote the competition between developers and architects. The introduction of new tendering procedures in many countries aim at the promotion of strong competition.

CONCLUSION

Faulty design and inappropriate material selection and specification result in building defects, which are widely regarded as one of the major triggers of vandalism. Architects and builders must be aware of the use to which buildings and fixtures will be put, making sure they are strong enough to withstand everyday wear and tear, careless use and misuse. On the other hand, there are some technical problems such as poor thermal and sound insulation that are undoubtedly linked to design. It certainly makes sense to say that these technical problems can be a source of malaise. Multi-storey social housing which is often associated with a whole range of social and environmental problems is at the centre of this debate. The supposed existence or non existence of a link between these forms of housing and the problems is widely discussed, and because of the difficulty to show scientifically the exact nature of the relationship between design and the problems, the debate has been and remains characterised by conflict and controversy. Many individuals belonging to several disciplines, whether scientific or non-scientific have participated in the study of this problem. But the presence of so many interdependent and co-existing factors makes it almost impossible to provide irrefutable evidence that design does or does not cause the said problems.

Blame is cast in all directions, and the determinism of some researchers irritated many others and provoked a strong reaction. The issue has been discussed for more than three decades, and it seems likely that it will remain open to discussion mainly because the objects of the discussion are ideas and hypotheses which have not been proved and constitute a source of conflict and controversy. Although there are in many countries with similar forms of housing which suffer from a variety of problems, it seems that in Algeria the problem is on a wider scale. In Europe unlike other countries such as France, where the basic form of housing remains the flat, in Britain the house has always been the basic form unit of family accommodation. The introduction of this new form of housing in the 50s and 60s for a society not used to it, and its use to house mostly the disadvantaged had dramatic consequences.

Most people believe, and quite rightly, that there is 'bad' design and 'good' design and that design can be a source of malaise. But what is bad design? Blocks of flats do not necessarily mean bad design nor do houses always mean good design. Although it proved to be difficult to show what is bad and what is good, it is always possible to subjectively differentiate between the two.

Certainly, buildings with plenty of technical problems such as dampness, inadequate ventilation and poor thermal insulation and noisy buildings are source of irritation. But if we assume that people are living in buildings badly designed, to what extent is their behaviour going to be influenced, would the buildings make them criminals or would they just make them unhappy? The former is less likely since there are other factors which are perhaps more important in influencing behaviour. The presence of law-abiding citizens living in the worst form of the accommodation and of law breaking citizens living in better forms of housing suggests that the issue is far more complicated than a one cause explanation suggests.

Recently, other topics have also been raised and discussed - the diversity of different lifestyles in social housing areas, cultural aspects in planning, ecology, energy consumption, and questions relating to management and maintenance. A number of countries have therefore developed more flexible planning tools, introducing, for example, competition procedures. Land ownership is important to the implementation of urban planning, especially for master plans for new housing areas. Some Western European countries have developed sophisticated instruments either for the purchase of designated building land by public bodies (Italy, France and others.) or exercise strong control rights over building land in housing areas. In Algeria the "le PDAU ; POS" remain the main instruments of planning.

Spatial planning and social planning are more and more connected. In Algeria efforts are continuously made to integrate the most vulnerable social groups (slum clearance) within middle class or promotional housing. The new city "Ali Mendjeli" for instance is a case in point. At the same time, the model of a "compact city" is strengthened to provide a better basis for social sustainability, to create more self-contained socially mixed urban communities, and to improve the mix of uses and the quality of community activities and services. This emphasis on social and spatial integration becomes more important when building for the most vulnerable groups. Architecture plays an important role in achieving social cohesion, as a good design helps to prevent stigmatisation of certain housing areas in many large housing estates within the mass housing production of the 1960s and the 1970s in Europe or even the 1980s and 1990s in countries like Algeria. Functional and architectural monotony can be avoided, and the overall image of a housing area can be improved, by a mix of different developers and or different architects within one area, and by more competition. The architectural layout also greatly influences the feeling of security within large housing estates. Monotony can be avoided by architectural design, in effect a mix of different styles and forms and fair competition between designers and developers can help the emergence of pleasant architecture. The architectural layout very much influences the feeling of security within housing estates; it can therefore help to increase residents' identification with their housing environment and to decrease vandalism and related costs. Health considerations including ventilation of spaces and noise protection have been behind the development of social housing. Health is also connected to sufficient green areas and open spaces. Stronger partnerships between all partners, such as efficient cooperation with tenants, can help to reduce nuisance from anti social behaviour

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