# Creating Sustainable Housing: The challenge of moving beyond environmentalism to new models of social development.

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# Introduction.

The analysis of global urban development in the last couple of decades has been greatly influenced by the "sustainability debate" and with the increasing recognition that we are all part of one eco-system (Thernborn 2000). This debate focuses upon the interplay between the environment and the natural resources it contains - water, energy, soil, air, and the pollution and the consequent corruption of the eco-system that has taken place through industrial and urban development. In much of this debate "sustainability" is still a largely contested arena. For many it is seen largely as a matter of bio-physical processes and the social and the cultural facets of the city and the social actions and political institutions which have emerged over time are seen as secondary to the natural or derivatives from the bio-physical environment. Others taking a more critical stance have pointed to the ambiguous nature of 'sustainability' in terms of time frames and use of resources. For example how many future generations are to be taken into account, and at what level are we required to sustain our ecological and social environment.

At the most recent global forum (Johannesburg in 2002) many participants indicated that over the last decade the language of debate may have changed but there was less certainty that change had occurred in actual social, economic, political and environmental practices and thus how far we have moved from rhetoric to action (Memon 2003). As Becker, Jahn and Sties have noted the arena of sustainability is one of not just of bio-physical concern but also a "contested, discursive field that allows for the articulation of political and economc differences between North and South and introduces to environmental issues concerns with social justice and political participation" (1999:1) and thus is likely to be characterised by ongoing political debate.

### Moving beyond environmentalism

In the 1990s the way that "sustainability' was taken into national debates was often through improved environmental management. This was in many cases an advance on

previous practices but it failed to fully engage the longer term and integrated understandings of change required to shift to a sustainability agenda. For this to occur there is the need to incorporate actively both environmental and ecological concerns with issues of social justice, income generation and poverty eradication (Perkins and Thorns 1999, Satterthwaite 1999, PCE 2002). This has led to the identification of different "degrees" of sustainability from strong which fully embraces the multi-dimensional and extensive understanding through to 'weak" forms which are still largely only about taking on some of the rhetoric and focus more on the management of the bio-physical/environmental resources.

Figure 1 Models of Sustainability



Weak Sustainability

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Strong Sustainability
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A recent report on Sustainable Development in New Zealand (PCE 2002) argues strongly for a clear separation of environmentalism which is seen as a movement against pollution, degradation and the serious loss of nature which has sought to protect nature from the ravages of the economy and sustainable development that is about redesigning the economy and society more generally. To move in this direction requires a far greater understanding and integration across the social and natural sciences and a rethink of how we plan and develop the urban environment as a whole rather than as a series of disparate pieces. This raises with respect to 'sustainable housing'' the need to look not only at the physical and emotional aspects of the house itself but also the relationship of the house to the neighbourhood ad city.

### **Sustainable Housing**

Sustainable housing derives its impetus from two separate traditions. The first of these is concerned with the notion of the green or natural house. The house that is healthy because it minimises the use of manufactured products associated with problems of pollutants and leakages. This position also argues for a return to more indigenous designs and the use of more traditional materials that would be less invasive of the local ecology. Allied to these concerns are those of energy efficiency and the increased interest and attention to designs that reduce the need for additional heating or cooling and make greater use of solar energy. Developing homes that have minimal impact on the environment because they are constructed out of recyclable or renewable materials that are designed for a longer use-life has also been an objective (Mobbs (1998). One aspect of this move towards more environmentally friendly building products in New Zealand that has had unfortunate consequences has been the shift to the use of untreated kiln dried timber in house framing (removing boron salts) – to avoid the problem of leaching of the chemicals into the groundwater and to speed up the building process (Hunn et al 2002). However, this has increased the problems associated with rot in the frames an unintended effect but one that has had significant negative impact upon the health and well-being of the occupants.

It can be argued that environmentally friendly houses allow for more affordable living – in the long run – as they minimise energy costs. However, neither the private market nor public housing providers have shown much interest in environmentally sustainable housing, in part because both are driven by the marginal cost of construction and the question of affordability. Further, in countries where there are high rates of home ownership, housing has both use value (shelter) and exchange value (capital gain). Housing in such situations is often seen as a way of creating wealth by frequent upward movement through the housing stock. This creates an incentives to undertake short-term cosmetic maintenance that is more about styles and marketing than long term durability. For many public authorities concerned to provide adequate shelter for poorer families the extra costs of environmentally sustainable housing could reduce access to housing by lengthening waiting lists for public rental thus conflicting with broader social objectives.

The second tradition is related to social well being and housing. Access to affordable housing in good condition has been recognised as a crucial factor in health maintenance and disease prevention. Housing in poor condition, insecure tenure and homelessness have all

been associated with high degrees of geographical mobility and psychological stress and illness. The mass housing programmes of the 1950s and 1960s were directed at dealing with such issues by increasing the ability of individuals to consume housing either through public renting or subsidies to facilitate owner occupation. However, the expansion of mass rental housing and speculatively built suburban owner occupied housing largely divorced people from participating in the production, maintenance and /or management of the housing and communities in which they lived. International debate is thus shifting attention back to emphasising the benefits of involving householders in these aspects of their housing. As Daly (1996) has noted "self-help housing represents far more than shelter; it is an attempt to reclaim the commons and develop a sense of community, a sense of place, a place called home".

### Integrating the environmental and the social in housing.

In thinking about how a more sustainable housing environment could be fashioned it is useful to see the house and home nested within a set of relationships spanning outwards to the neighbourhood, city and wider national and increasingly global context. The global and national concerns about urban growth and development around issues of pollution, congestion, fuel use and building forms and materials that conserve energy and are durable become incorporated into local designs and debates in different ways indicating that the global and the local are not separate and discrete spheres but ones that are increasingly interconnected. Similarly planning system and legislative frameworks become reworked around environmental and sustainability concerns. For example in New Zealand in 1991 planning legislation was restructured through the Resource Management Act. However this act arose out of a compromise between environmental and development lobbies and for its first decade of operation largely ignored the social aspects of development (Perkins and Thorns 2002). In the discussion within this paper the focus will be upon understanding "sustainable housing" starting with the relationship between the house-home and links to neighbourhood and the city (see Figure 2).





# **House-Home**

Over the past five years the House and Home research programme has been exploring New Zealander's relationship to their place of living. It has looked at the long-standing tradition of home ownership where still 68% (2001) of the population either own or are currently buying their houses. This has fallen somewhat from the early 1990s when this reached 73%. However, it still represents a very considerable level of investment and New Zealand still ranks as one of the world's home owning societies. Housing that is secure and allows the individual and household to express their identity through the reshaping of the domestic environment is a crucial component of wellbeing. Houses are not just physical shells but also emotional and symbolic places filled with meaning for their occupants. As the wider world that we live in becomes filled with new risks over which we have seemingly little control there has been an argument that the 'home' increasingly becomes central to our "ontological security" that is our attempt to create some certainty about ourselves (Dupuis and Thorns 1998). Homes as special kinds of places are thus material and social constructions involving the use of space but their nature and form are not determined entirely by spatial considerations. We can and do reconstruct our homes as spaces and places over time with changes to our life course and circumstances. The making of home is thus an active social process in which people consciously engage. It is not something that happens once but is something that is continually being constructed and negotiated and re-negotiated.

# House - physical

Building in New Zealand is still predominantly based on a timber frame construction with various forms of claddings applied to the external finish. Over the past 40-50 years there has been a remarkable change in the types of material used. Prior to 1960 approximately 60% used wooden weatherboards with the remainder brick veneer or stucco. In the most recent survey (2002) brick comprised 39%, and timber weatherboard had fallen to 3%. Other newer materials were fibre-cement sheets (19%) and exterior insulation and finish system (EIFS) 17%. It is interesting to speculate on how much of this change has been driven by concerns with respect to environmental sustainability rather than those of ease and speed of construction and changing consumer taste.

A major construction problem emerged in New Zealand in 2002 over what has become known as the leaky buildings crisis. This is not confined to New Zealand but use of similar methods of construction has also led to concerns in British Columbia. In New Zealand the cost of repairing the buildings has been estimated at between \$120 million and \$1.8 billion and in British Columbia C\$500 million – C\$3 billion. The problem arises from a complex of factors including "consumer preferences for more complex building forms and newer construction methods that have resulted in buildings which have reduced tolerance for the vagaries of wind and rain, and fewer second lines of defence should water enter the exterior cladding of the building" (2002:1). The leaky homes controversy has raised questions about the inspection process and the quality of the physical structures that have been erected over the past decade. The report however, also identifies the problems of declining skills levels amongst the building workforce. The penetration of water into the buildings creates rot in the untreated timbers which in turn leads to the growth of moulds and the production of toxic gases. Many of the affected properties were three storey town houses built as part of a return to inner city living and intensification strategies. Such strategies were seen as a solution to the continued outward spread of the major cities with the associated infrastructure costs with respect to service supply (water and sewerage and transport - roads etc) and thus were creating more sustainable urban environments. The majority of the analysis provided attributed the 'blame'' to inadequate inspections, poor construction methods, material failure and inappropriateness of aspects of the designs. A factor which received rather less attention was that of the incentive to build rapidly arising out of the speculative nature of the 'town house" boom in the 1990s. This encouraged rapid

construction and profit taking by players who were only there for the short term. This shows clearly the challenges posed to the creation of a more sustainable – durable housing within a predominantly speculative housing market dominated by private owners and a culture, which sees housing very much in terms of its capital gain potential. However, in this case, many people were left with a substantial loss rather than an asset of value due to the problems that have emerged with the construction.

Research into maintenance suggests that this is a growing problem with a long-term decline in the 'culture of maintenance' within New Zealand and the intergenerational loss of skills. Much maintenance that is carried out is within the realm of 'cosmetic maintenance' carried out with the intention of enhancing the exchange/sale value of the property. Issues of structural integrity of our houses have arisen around questions of the healthiness of our houses where heating, ventilation, dampness, fire risks and the growth of moulds and toxins have increasingly been investigated. To tackle such health risks will require a much greater commitment to the maintenance and improvement of the existing housing stock as well as new forms of regulatory control to more effectively deal with the problems that have arisen with respect to new construction. One idea that is being canvassed is that of the housing warrant of fitness that would enable a prospective purchaser to see more clearly what work has been done and when and so gauge the underlying quality and durability of the house before purchase. However, despite such changes houses are not bought only because they are structurally sound, buying a house is also about emotional connection with the house.

The house is also an economic good and in home owning societies the main store of wealth for moderate income households (Hamnett 1999, Badcock and Beer 2000). The analysis of capital appreciation and transfers through housing has shown that this is a means of reinforcing patterns of inequality and under certain market conditions can generate as much money for the occupants as they are able to generate through the labour market. However, the generation of wealth is not assured and is subject to boom and bust cycles so that it is possible to experience negative equity as well as capital gains. Further data on wealth transfers through inheritance has not provided the substantial capital transfers that were at one stage expected with the expansion of home ownership in the 1960s and 1970s under active housing market conditions (Forrest and Murie 1995). In part this is due to the dispersal of the resources at death and the longer life expectancy and greater cost of ageing that are associated with cost of care in older age.

### The meaning of Home – subjective dimension of housing

The research in the House and Home project adopted a qualitative approach and encouraged people to tell their housing story, where they were born and raised, when they left home, what was the first house or flat that they occupied and when did they move on. Collecting these accounts allowed the building of detailed housing histories which led to the view that the notion, prevalent in the literature, of the housing career, was quite inappropriate for many of our sample. Rather than the notion of a career that implies a conscious goal oriented activity that is planned and achieved over time what we saw were people engaging in 'housing journeys' where disruptions and changes took place arising out of work-life changes, schooling for children, partnership breakups, and periods of illness (Winstanley, Thorns and Perkins 2002). In the telling of these narratives of movement it became clear that home making is an ongoing and contingent activity. The meaning of home is thus a 'negotiated' reality it is not something that is made and never changed but is about process and how meaning evolved through the complex interactions of those present and part of the household and often including the wider family. The making of home for people is probably best described as 'work in progress' something that is never finished (Lofgren 1994:66). Negotiation implies the sharing of power. However, this was not always the case and the ways that the spaces within the houses were determined and used varied from cases where there was genuine negotiation, to ones where there was clearly dominance by one partner and forms of resistance by others to those that could be characterised as resignation. Homes thus have to be seen as places of security, trust and shared meanings and understandings and places where conflict and the exertion of forms of domination and control can also exist.

The home is the place of memories, a place where the objects that are displayed in the rooms and on the walls, are part of the story of the individual and family journeys that have taken place. Possessions are linked to events they are part of the family's history and persons who have been part of the family in previous generations (Marcoux, 2000). This is an ongoing process in which items for display are selected and discarded. In creating their sense of place people use a number of important sources of information to gather their ideas about design, materials, and available products including life style magazines, trade journals, professional designers, open days, show houses, television programmes and the internet. This opens out the possibility that our conceptions of home and the design of our living arrangements is increasingly been influenced by global trends as much as local ones (Leonard

et al 2002). The emphasis on style over building appropriateness seems to have been encouraged here by the emphasis in the media upon lifestyle advertising that has celebrated the outdoor-indoor living and flow concepts and encouraged us to see the outside space as not just a 'garden' but as a living space to be enjoyed as part of a relaxed and contemporary life style.

Life course change is an important aspect of home making and as people get older the importance of security and their health become more significant. People talk about how managing the household chores and maintenance of the property got harder as they got older. This factor became much more severe with the death of one partner. The Retirement villages offer one solution to this need (Leonard 2002). However, such developments are a form of gated community and can lead to an increased level of age segregation within the urban environment.

#### Subdivision design – influence of New Urbanism and Smart growth agendas.

To create sustainable housing there needs to be an understanding of connection between the design of the neighbourhood/subdivision and the social and relational aspects as the house. In the 1990s two new streams of understanding have been those to flow out of the new urbanism and smart growth movements within architecture, planning and property development in the USA. Such movements arise both from critiques of previous styles of development – particularly the suburban peripheral expansion of urban areas and a desire to produce more "holistic" designs which emphasise both communal and environmental values.

New urbanism is a recent response to what its proponents see as the negative aspects of "modern" urban design such as urban sprawl and featureless suburban development devoid of any real sense of community. This is the landscape of the relatively isolated suburban family, facing long and congested commuting journeys to work, dependent on the car for their mobility and focused on acquiring the attributes of a consumer culture. The translation of this image to Asian cities is not straightforward but picks up on the increasing concerns for the quality of the urban environment and the extent to which urban change destroys older neighbourhoods as part of the quest for economic growth and world city status.

New urbanism is predominantly an architectural discourse centred around creating aesthetically pleasing buildings – commercial, public and private – situated in a village like

relationship to each other. The design principles that they advocate include tree-lined streets, harmonious scale and form of buildings, and pedestrian-friendly streets and walkways providing access to public buildings, services and amenities. A further attribute is the creation of mixed use areas where residential and other business and/or retail activity co-exist, providing employment opportunities within walking distance so reducing the use of cars. They see such areas as attracting a diversity of residents with respect to age, income and ethnicity. To be successful residential designs are seen to need partnerships between architects, planners, business people, landscapers, developers, and local government officials. These ideas have been taken up in new developments in both New Zealand and Australia in the last decade and claim to provide more environmentally friendly and sustainable living areas.

New urbanism however has been subjected to critique drawing attention to the limitations of top down planning that insufficiently engages with the people living in the residential neighbourhoods. The views of the past portrayed usually focus on positive experiences and a vision of small town America that ignores the tensions and problems encountered in such towns. It is further claimed that this rather nostalgic focus ignores the current social, economic, political and technical contexts of contemporary life. The debate becomes a discussion of whether these changes are desirable or undesirable, rather than the impact these changes have on contemporary urban experience. It is also possible that far from reducing sprawl new urbanism could actually increase it as if existing and new neighbourhoods were to be 'complete' in terms of mixed use and access to services and amenities the city would grow considerably (Robbins 1998). Further there appear to be irreconcilable contradictions between the concept of 'collective good' as espoused by New Urbanism and the economic practices associated with the production of, and residence in, privately developed neighbourhoods and private property ownership, the value of which rests on similar investment and housing maintenance by neighbours.

Design features such as walled entrances, names and other features of demarcation encourage the growth of gated communities. These forms of development are becoming increasing popular and are marketed as a response to increased fears for safety and security. However such designs serve two contradictory purposes. The first is that these features of separateness may create a sense of place; an identifiable location in which one group people feel they belong and this may promote community building. But the corollary to this is

differentiation from other areas and exclusion of others. Community, then, becomes associated with homogeneity, often giving rise to residents' groups maintaining and protecting property values, rather than addressing social needs of local residents of being concerned with social connectedness and community integration. Again this points to contradictions at the heart of these new planning movements and certainly no great connection to the wider sustainable development debates which draws attention to the need for integration of social and environmental policies (Winstanley, Thorns and Perkins 2003).

#### **Policy Issues moving forward.**

Linking together the threads of this discussion around sustainable development, environmentally friendly housing construction and the creation of homes and housing that enable increased social well-being leads to a strategy that gives greater attention to the dynamics of a renewed planning and urban development paradigm. But one which seeks to create a greater sense of inclusion for those being "planned for' than we have often achieved in the past. The signals are, as we have shown, often contradictory, many times we see the unintended outcomes of policy change – such as in the decision to move to kiln dried timber framing in New Zealand. However, greater attention needs to be paid to holistic solutions that address the values underpinning the housing environment – both physical and social – if we are to shift both design, debates and understandings to a greater recognition of the need for a more sustainable set of housing resources to take us into the twenty-first century

Tenure in many cases continues to be a central issue. The key aspect here is the provision of security for the occupant. Traditionally this has been provided by owner occupation. However, in many previously predominant owner occupier societies the rates of home ownership have begun to fall reflecting a range of social changes. This raises the question as to whether this will be the main way of obtaining security of occupancy in the future. The need for alternative tenure arrangements may need to be explored in a changing social world where greater mobility is present (Urry 2000).

There is a need for a greater appreciation of the connections between housing and other social policies as part of a more general shift to greater 'joined-up policy development. The way we build and maintain our houses is a crucial component of well-being and good health as recent leaky building scares and research into the connection between dust mites and such diseases asthma have shown. The recent building failures, in some new properties,

points to the need to review building regulations to ensure that they stay up to date and relevant and so enable effective control of building design and maintenance. Community based health and other social provisions that link with neighbourhood local support networks and thus allow people to 'age in place' rather than have to move to specialised retirement areas are also an increasingly pressing concern as the number of older people within the population increases and life expectancy extends. This is a central issue across most European and now also an increasing number of Asian societies as they experience the impact of changing demographic structures. Maintaining neighbourhoods where there are both older and younger people prevents an overdue segregation by age within our cities. Neighbourhoods that are capable of meeting the need for the security both physical and social emerged from our research as a key requirement for social well-being.

People need to be part of the design. In some of the recent urban development influenced by new urban thinking there has been too great an emphasis on top down design limiting the involvement in the design of the likely end users. Here there is a need for a more bottom up approach incorporating the people who are likely to be the consumers into the house/subdivision design process. Here insights can be gained from self-help housing initiatives which have enabled people to get out of the dependency cycle and rebuild some of the social capital that has been eroded as a result of structural changes to the economy that have increased emphasis upon individualism, atomistic consumption and interpersonal competition (Putman 1995, Stone 2000, Saville-Smith and Thorns 2002).

#### Conclusion

The paper has drawn attention to the often contradictory aspects of the contemporary incorporation of aspects of the 'sustainability agenda' into urban development. In part this reflects the failure to move beyond a 'weak' conception of sustainability and to fully engage with the implications of building a more holistic approach that recognises that sustainable development is about both environmental and social objectives. It about the wise use of resources and about creating a economic and social environment that engages with a long term commitment to the future rather than a piecemeal and short term approach that has often characterised planning and urban development under forms of market liberalism.

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