

## APPROACHES TO AFFORDABLE AND SUSTAINABLE HOUSING

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### ABSTRACT

Squatter settlements provide housing to 30-70% of the urban population in many developing countries. They have grown enormous due to widespread poverty and inadequate housing finance and land development systems. Governments mostly assisted by the international aid agencies have improved environment, tenure security, income and resources in many settlements. Yet the problems persist as benefits did not multiply due to lack in institutional development, policy implementation, governance, participation etc. Moreover, that the squatters themselves often can bring affordable and sustainable solutions was ignored. This paper discusses the changing approaches to the issues of low-income groups housing worldwide in the above context. The role of the World Bank in setting the core themes and its support for the spontaneous growth is particularly examined.

**Keywords:** Affordability, Housing Policy, Self-Help, Squatter Settlement, Sustainability, World Bank.

### I. INTRODUCTION

Rapid urbanisation is a critical phenomenon transforming the developing countries, and hence needs to be managed properly. Since 2007, there are more people living in the urban areas than in rural. Over the last few decades, there has been greater appreciation of the growing importance of the cities in the national economies as development became dependent on the ability of the urban centres to meet the essentials. Housing is one of them where the government should be a major player- a view endorsed by the Habitat Conferences. Moreover, a rising standard of living and political ideologies have increased the awareness of human needs and social values asking the governments to have a proper housing policy.

Value of housing encompassing more than living areas is determined by the quality of design, density, size, materials, services e.g. neighbourhood amenities, access to education and health facilities, human development, security, etc. It has to depend on many limited and indispensable resources like land, materials, labour, services, infrastructures, finance etc. This composite social good cannot be produced or consumed piecemeal. One must share the land, which defines the community, and the capital jointly created by it. Substantial improvement in the standard requires extensive restructuring of the economy, as the

structure of the community's social, moral, legal and business systems refers to that. Long life and high cost of housing combine with its visibility and diversity to make it a unique way to become important in the socio-economic development of which it is a pre-requisite as well as an objective [Klaassen, *et al.*, 1987].

This paper attempts to establish the changing approaches to the issues of low-income groups housing worldwide and in a chronological order starting from the 1960s. In doing so, it particularly examines the role of the World Bank in setting the core themes, and highlights the advantages of self-build incremental *in situ* upgrading. The paper builds the case supporting such developments as an affordable means of providing sustainable housing to the low-income groups in the developing countries.

### II POLICY AND PRACTICE

Despite involvement of many international agencies in the conception and formulation of housing policies and projects in various developing countries in last half century, the World Bank's influence has been more pervasive due to its large loans to urban and housing programs<sup>1</sup> dictating

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<sup>1</sup> For example, in the 1980s, the Bank allocated US\$8.8 billion to 87 programs.

policies and strategies [Pugh, 2000]. Yet the Bank has periodically redirected its low-income housing thrusts throughout the 1980s and 1990s [World Bank, 1983, 1993, 1999a, 1999b], in three main phases (1972–82, 1983–93, and post-1993; Pugh, 2000). Self help housing advocated in the 1960s by Abrams [1964] and Turner [1967, 1972, 1976] influenced the low-income housing theories and policies for decades. As leader of the UN missions to developing countries in the 1950s, Abrams first brought the gross housing shortages and huge squatter settlements lacking in basic utilities in the fast growing cities in these countries into the world's notice. He suggested using of *in situ* slum upgrading (without displacement) and incremental building (according to affordability).

Later, Turner focussed on human side and advocated sites and services and slum improvement schemes. With Latin American experience, he identified the aspects of self-fulfilment of the slum-dwellers and their commitment to housing, expressing things that they value [Pugh, 2000]. Turner contributed such phrases as 'freedom to build' or 'housing is a verb' in housing vocabulary to emulate a process, not the product, and endorsed people's capability to participate. He argued that households, if given a scope, would gradually improve their housing with whatever resource they can master. This was more affordable to both government and low-income households, and hence sustainable compared to typical public housing schemes which would mostly end up being unaffordable be hence subsidised and often not reaching the target group [Rahman, 1999, 2004].

A loan from the Inter-American Development Bank in 1958 for a post-earthquake (rehousing scheme gave Turner a chance to implement his ideas. Such ideas were eventually adapted by the World Bank, spearheading urban project assistance in the developing countries in the 1970s. But in next two decades, low-income housing theory and practice moved on from a focus on self help of Abrams and Turner to a holistic development of the housing and urban development sectors [World Bank, 1993; Kessides, 1997]. Gradually, the World Bank in the next decade used strategies to encourage more private sector involvement. Yet Turner's ideas remained valid in the broader context, extended into the 'brown agenda' brought into limelight by the 1992 Rio Conference that laid down guidelines for sustainable urban development. This was followed by a call from the

UN to the local governments to mobilise their communities for broad-based, participatory environmental improvement.

The 1976 Vancouver Habitat Conference advocated a large-scale intervention by the government (agencies) in the supply of such housing resources that are beyond low-income group's reach. A new approach to environmental planning and management two decades later (Istanbul) supported the involvement of stakeholders, e.g. government agencies, business, professionals, and representatives of communities, identifying feasible priorities and transforming them into action plans, through public-private partnership. Hence the developing countries were advised to prioritise creation of new institutions for urban environmental improvement, and increasing capacities of participation and cooperation, slowly adopting Agenda 21.<sup>2</sup> However, sustainability is achievable by making the economy, environment and society parts of an overall development [Barbier, 1988]. In practice project-oriented theory, practice and policy of self help schemes remained strong due to available funding, and short-term benefits satisfying all. Meanwhile, squatters transferred themselves through organised self-help homeownership in many places like Brazil, Mexico, Philippines or Zambia.

The World Bank's support for sites and services and *in situ* slum upgrading projects in the 1970s was based on the principles of affordability, cost recovery, and replicability [Choguill, 1987]. Accordingly capital costs were to be based on the target group's ability and willingness to pay, not by planning ideals and design standards, though the poor leave only the residue for housing to which they attach lower priority and spend 65–85% of their income on food [Rahman, 2004]. But cost recovery formula followed conventional economics

<sup>2</sup> Agenda 21 (Rio Declaration on Environment and Development, and the Statement of Principles for the Sustainable Management of Forests) is a comprehensive plan of action to be taken globally, nationally and locally by UN, Governments, and major groups in every area in which human impacts on the environment. This was adopted by more than 178 Governments at the 1992 Rio Conference. Implementation of Agenda 21, the Program for Further Implementation of Agenda 21 and the Commitments to the Rio Principles, were strongly reaffirmed at the World Summit on Sustainable Development in Johannesburg in 2002.

where all components had to be accounted and paid for. This matched the Bank's imperatives of securing loan repayment so that it could repay the borrowings from international markets while making economically and socially responsible uses of grants from the rich countries [Rahman, 2004; Pugh, 2000]. These projects reducing the growth in squatters could be replicated in similar situations elsewhere [Choguill, 1987; Pugh, 2000].

However, in reality, cost recovery was achieved only occasionally, especially in the slum upgrading projects; sites for self-help building or relocation were sometimes remote from urban cores and employment opportunities; institutional capability to implement and monitor was often weak, and often corruption was common; and the projects irrespective of their size scarcely led to citywide housing reform [Pugh, 1990a; Nientied & van der Linden, 1985; Skinner *et al.*, 1987; Turner, 1980]. Because more often these were unaffordable to the target groups, gentrification took place compounding the problems further. Moreover compared to enormous requirements, outcome of projects was so negligible as not to make any impact, exposing the futility of conventional approaches.

In a decade, the World Bank realised that institutional reform and support had to be placed through urban policies and full programs so that those are more sustainable in the long run rather than being founded on isolated projects whose benefits did not multiply [World Bank, 1983]; thus it was ready to redirect its policies [World Bank, 1993]. It also recognised that the self-limiting site-based projects could not bring the socio-economic development of the entire urban areas, and hence could not be replicated. Lastly, the Bank found alternative means of involvement in housing, for example by building and channelling funds through structured finance and purpose-built institutions. This would allow disbursing funds faster, more chance to reach target groups, and increase recovery by involving small groups, mainly in countries where housing finance systems were already developed.<sup>3</sup>

<sup>3</sup> For example, in Bangladesh as international project grants were pouring in after two huge floods in 1988 and 1989, the government established a new rural employment generation foundation to disburse fund and monitor utilisation. Before that such fund was forwarded through the central bank. Similarly, an

Thus by the end of 1980s the World Bank had gradually reduced its involvement in sites and services projects, except indirectly where central banks on-lent funds through specialised institutions, or as later the case through the NGOs and CBOs, into social housing programs that would have some self-help components, concentrated more on policy and structural reform. Thus the upgrading of squatter settlements continued, but in a different path, instead of just building houses.<sup>4</sup> Some of the *in situ* slum upgrading programs were implemented by retaining more than 85% of the self-help housing units in mutually reorganising the lay-outs through participation, for example in Indore, India.

The pro-poor projects ensured financial sustainability by recovery (setting target according to affordability), and hence met the Bank's priorities. Moreover, the local government-owned programs decentralised responsibility for maintenance, cost recovery and social effectiveness through the participation of beneficiaries' groups, CBOs, etc. Thus compared with the mere shelter-oriented approach of the past, the 1980s approach was more prone to broader and deeper institutional reforms and development, reaching and sustaining, and thus creating a strong base for future reorientation. Also funding through the local government like the municipalities proved appropriate in the backdrop of weak financial security markets in many developing countries.

In the early-1990s the World Bank once more redirected its strategic housing policy from the experience of the previous era [World Bank, 1993] where comprehensive housing was conceptualised

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allocation of US\$ 250 million by the Bank in 1988 in India helped the Housing Development Finance Corporation to extend its credit coverage down the income ladder and stimulate more local housing finance institutions. With Bank loans Chile introduced housing vouchers to be used in its low-income social housing (sites and services) schemes.

<sup>4</sup> For example in 1983-88 Brazil's Parana Market Towns Improvement Project [World Bank, 1994] several towns agreed to participate in the creation of a revolving municipal fund based on seed fund provided by the Bank. The Bank's credit terms required sustainable finance through cost recovery achieved by skilled management of transactions. However, the local governments and households could have their own sub-projects, select the price according to their need, priority and affordability, and select priorities through participation.

only partially, largely ignoring its contribution to socio-economic development. It did not address the issues of (futility of providing) subsidies, the eradicating overwhelming poverty, and strengthening the land policy components that could develop healthy housing by increasing the Poor's access to these essential housing resources. Moreover planning and building regulations based on western ideals were inhibiting a proper expansion of the housing sector, especially affordable mass housing with scope for extension and remodelling, employment generation, etc.

Thereon, the Bank took a more holistic approach to further develop the housing finance systems, improve the backlogs and inadequate infrastructure, reform negative land management and land policy, introduce financial transparency to accelerate supplies in low-income housing, increase competitiveness of the construction industry, provide targeted subsidies only to the poor, and establish or reform institutions [Pugh, 2000]. However, the underlying economy took housing as productive item, multiplying employment and generating income. Accordingly, growth in the sector during economic stagnation can increase employment [Klaassen et al., 1987], especially among the low-income people, and with lower marginal import, tax or saving propensity than the higher-income groups, greater multipliers of low-income housing would play a more important developmental role.<sup>5</sup>

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<sup>5</sup> Hitherto housing was regarded as a consumptive good. With 7:1 capital-output ratio, housing investment did not contribute directly to the growth of output or foreign exchange earning [Jorgensen, 1977]. Priorities were placed on sectors like agriculture or industry that created employment and added value in an overt way. But apart from the social benefits of housing, its effects multiply by generating production, income, employment, savings and consumption [Burns & Grebler, 1977]. The true importance of housing is greater as self-help construction and independent contractors' activities are usually under-reported. Subsidised housing and implicit rents of the owner-occupiers will further enhance the claim. While housing investment leads to increased output of labour and added investments in non-housing, the opposite in low-cost housing is not significant. Housing can make under-utilised labour productive at low cost [Raj & Mitra, 1990]. Moreover, investment in low-cost housing is attractive for a low import requirement; incremental investments generate a higher domestic multiplier than import-sensitive investments [UNCHS, 1995]. The price elasticity is

More significantly, the Bank promoted the idea of 'enablement', as against being the 'provider'— the government creating congenial legal, institutional, economic, financial, and social frameworks to enhance economic efficiency and social effectiveness so that capability could grow. In half a decade enablement encompassed not only institutional-lead reform, but also put governance into central positions in virtually all development agendas in economic, education, health, environment, housing, urban and other sectors with a focus upon state–market–society relations, as it was evident that benefits were not sustainable without good governance [Rahman, 1999]. In housing this encouraged community-based, participatory elements in upgrading the squatter settlements and owning community assets so that processes are more transparent and accountable and people are enticed to improve themselves instead of waiting for external assistance.

Such enablement would bring together technical know-how, use of available resources, a broad inclusive participatory approach among residents from all strata, capacity of development agencies, and recognition and defined responsibilities of all stakeholders. An underlying socio-economic rationale could guide the roles of each such partner in the multi-institutional and multi-organisational environment. Firms would contribute efficiency and entrepreneurship; community-based organisations would mediate between households and government authorities; government agencies would provide urban management expertise; and participants would provide various finance, self-help resources, and localised relevance in the upgrading efforts. These represented a complex process with some risks of failure, due to institutional incapacity, politicisation of the process to serve narrow coterie interests, corruption and market manipulation by firms.

Enablement frameworks were also relevant to new housing where a multi-organisational and multi-institutional framework could facilitate housing supplies, and builders could access development finance in a competitive market. Implementation of proper land policies co-ordinated with the

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thus higher for housing services than for the dwelling as a capital good alone. The poor families in the developing countries spend a high portion of income on housing as it is a primary need for them and they seldom live in subsidised housing [Jorgensen, 1977].

infrastructure agencies (to service land) could ensure adequate supplies of well-placed ready land at affordable price. The legal system could secure property rights of the low-income group; finance institutions could manage flows of funds and various risks, including liquidity, credit, interest rate and recovery. The overall policy and enablement framework could have pro-poor and egalitarian elements for social-relevance and sustainability.

Such sustainability (through enablement) was achieved in sites and services schemes in India, and in the small loans program in Sri Lanka, Hong Kong, Singapore, and Chile [Pugh, 1997], which alleviated their housing crises.<sup>6</sup> However, most developing countries could not achieve the effectiveness or the comprehensiveness of Chile or Singapore in the housing sector due to a relatively underdeveloped finance sector. Most of the countries experienced gaps, inadequacies, and institutional incapacities; as a result squatter settlements continued to grow, *occupying often 30–70% of total housing in many developing world's cities* [Pugh, 2000].

The World Bank's recent thoughts on development policy were based on presentations to the Bank's Board [World Bank, 1999a]. Stiglitz [1998] and Wolfensohn [1999] broke away from a concept followed by many developing countries in the 1980s and 1990s that favoured economic stabilisation through relentless export-led growth, and market liberalisation. Despite including the rising significance of poverty alleviation and environmental issues, development agenda was rooted in macro-economic stabilisation and market-led growth of the early-1980s. Lacking a broad basis in the politics of socio-economic development and limited due to the market-dominating approaches, the limitations were exposed in the Asian financial crisis (late-1990s) as countries with apparently good indicators became vulnerable to international speculation and bad market governance [Pugh, 2000].

Stiglitz [1998] favoured medium-term strategic development policies to alleviate poverty and make socio-economic transformation. Rather than development of individual sectors in isolation, this

emphasised on holistic societal changes that can be understood specifically as development transitions, for example, in the urban, the environmental, the health dimension, the changing volumes and characteristics of poverty, etc. In overall context, the holistic development policies could use transitions in a combination of varying emphasise on different sectors based on the pragmatic context-based realities of socio-economic opportunities.

The World Bank [1999a] emphasised on urban issues in the late 1990s to enhance and sustain economic growth and modernisation. Thus improvement of living qualities, poverty reduction, environmental sustainability, and enhancement of agglomeration economies were included as strategies to strengthen a proper urban development [World Bank, 1999b], which gave priority in program finance and management to squatter settlement improvement. Yet the realities differed as the Bank's housing specialists got dispersed in a management restructuring, and such strategies were not fully implemented.

### III. SQUATTER ECONOMICS

Jimenez [1982a, 1982b] showed the economics dynamics of self-help housing that produces individual and social assets of collectively large value in the housing stock. Change in unpaid self-help labour is directly related to changes in wage rates in the formal sector, reflecting competitive forces and better uses of time. Jimenez showed that self-help can be regarded as implicit saving and investment which creates an asset of economic value for social functioning. Even after a house is constructed, its value continues to accumulate through use and rent. In fact, rooms added to a house can be a source of income – rented out or used as a workshop for informal sector production [Rahman, 2004]. Low-income settlements provide a pool of especially unskilled and semiskilled labour for urban economic development, and to keep alive especially the informal sector activities [Rahman, 1990].

Upgraded squatter settlements with improved environment instigate many multiplier economic, health, and social benefits.<sup>7</sup> The individual and

<sup>6</sup> Chile expanded its housing supply rate above that of population growth, and ensured that subsidised social housing went to the right (low-income) people.

<sup>7</sup> Grimes [1976] estimated that the economic multiplier for the low-cost housing construction is about 2. Improved housing lowers work absenteeism and

social returns were evident in increased land values, raised incomes, better health, and skills upgrading in training and gender programs in an Indian upgrading scheme [Abelson, 1996], where benefits of the increased land values were distributed to households through tenure regularisation. While average incomes rose 50% during 1988–91, the value of housing and land rose 82%, reflecting their increased economic efficiency and social effectiveness.

Investment appraisals add the value of a demolished property in urban renewal projects' costs [Mao, 1966]. Further sophistication was made by incorporating it in the costs-benefit analysis criteria. Yet, each appraisal would have to address the particular situational circumstance of the squatter settlement and compare redevelopment and rehabilitation options.<sup>8</sup> The literature on the housing improvement and redevelopment economics support the merits of rehabilitation providing for an extended life where the existing structure has a real value, the rental differences between old and new buildings are narrow, the rate of interest is relatively high, and costly redevelopment. Therefore, Pugh [2000] endorsed it as a better alternative that offers a substantial improvement. Its occurrence incrementally in the developing countries over a long period only makes it sustainable.

The net effect of the housing process on families is a reduction in initial cash requirements for building, often up to 50% of total normal construction costs [Benjamin & McCallum, 1985], in exchange for social obligations to be met over a long time. A majority of such houses is built in small increments over long periods as needs are felt and resources are available, and communities take shape slowly over time [Angel & Benjamin, 1976]. Instead of complete houses, low-income people can live in rudimentary shelters until resources are available to improve on that, which come in small amounts from time to time. The sweat equity of the

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incidence of social deviation, raises level of health, increases labour and educational productivity, absorbs surplus labour, and reduces traffic congestion and commuting expenses [Grimes, 1976; Burns & Grebler, 1977].

<sup>8</sup> For example, Needleman [1965] adapted the appraisal formula to take account of the variable needs of public policy, including area rather than single property analysis, variable densities, and different forms of redevelopment.

self-managing 'process' replaces up to a third of the labour cost [Payne, 1983],<sup>9</sup> and participatory environmental improvement is also a saving [Pugh, 1994]. Compared to formal long-term finance, incremental building and improvement distributes the affordable consumption and saving over time. Formal wisdom is not based on the needs of survival and flexibility of the low and intermittent income patterns of the poor [Smets, 1999], and hence becomes costly.

The private sector financiers often make tight and infeasible demands for collateral, and their costs and profit structures favour (economies of) scale and low credit risks, screening out the poor. Cost recovery in low-income housing is often difficult as repayment is spread regressively [Pugh, 1990a; Smets, 1999], seldom providing any grace period [Ward, 1984b]. In this regard, the informal money lenders are more flexible with small loans, but tough repayment control and high interest rate.<sup>10</sup> These fit the needs for flexibility and economising in the shorter planning horizons of the poor, featured by small budgets and survival strategies [Pugh, 2000]. Organised community self help in micro finance has often been successful in stimulating savings and investment, with social co-operation and peer control securing financial sustainability, e.g. for the Grameen Bank.

#### IV. AFFORDABILITY

A large number of urban low-income families resort to substandard housing [Malpass, 1993], within their affordability, which is affected by income, costs, standard, etc. Despite knowing the ingredients of successful housing projects, the problems could not be eradicated as standards, based on wrong-perception of affordability, were unaffordable [Lee, 1985]. Many of the features applied worldwide failed to address the root

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<sup>9</sup> Materials cost is reduced by buying often recycled used items in the informal sector. Family labour is usually free and skilled labour can be bartered for. Gerrul [1979] calculated that in lower-income housing, 35% labour is self-help; another 60% is semi-skilled.

<sup>10</sup> One area in which public effort could be expended is in the unorganised money market that exists in Asian countries. It is only by connecting to the organised market that this fund can be utilised in a productive manner. Even though the greatest part of it is needed in the agriculture sector, there is always a potential surplus that can be channelled for use in housing.

problem as the projects embodied affordability determined by the authorities [ADB, 1983]. Thus poor households were often required to commit themselves to unaffordable housing. Writing off the deficit tantamount to huge subsidies and gentrification, which in the developing world more often benefit those who could influence the resource allocation. It also suppresses the people's ingenuity in making cost-effective solutions, makes them depend on external assistance, and increases the government burden [CIVIS, 2003], and hence was not sustainable.

Efforts mainly went to reducing the capital costs of housing and infrastructure to match the households' ability to pay, but by ignoring the willingness factor. Such solutions assuming a rigid relationship reduced the effectiveness of the housing programs. A generalised affordability ignores each household's preference and desire, as within seemingly uniform groups there would be variations in terms of affordability [Lee, 1985]. Even within an income range, amounts available for housing vary according to demographic and economic characteristics [Hulchanski, 1995]; simple averages conceal the extent of affordability as homeownership prospect increases willingness to pay [Rahman, 1999]. By linking payments to income, some households with access to additional finance were inhibited from paying as much for housing as they would be willing to do, or channelling scarce public fund into areas where other sources were available.

In many cases, projects based charges on documented income rather than on proven expenditure. The narrow definition requiring that households have a minimum proven income to participate in a housing scheme unjustifiably excluded some of them from the projects. Finance or saving have helped to extend affordability, but were mostly availed by the better-offs [Moss, 2003], as the worse-offs were unable to provide any collateral. No evidence supports the authority's ability to determine housing costs, resources available to project household, or amount they will be spending on housing. In developed countries, credit terms are estimated by setting housing cost at 30-36 months' income. But prices cannot be determined in relation to the target incomes, nor can income criteria be set by prices, as households' propensities to pay and access to resources vary, and cost is too high.

Many families appear to be living in housing well above their apparent means. Wrongly judged affordability would have excluded those who prioritise housing and so would spend beyond what seemed affordable, and include others who could afford better housing [Bourassa, 1996].<sup>11</sup> Thus many built to a level that exceeded the affordability estimated by the scheme as they saved to extend homes beyond the project limits; others could borrow informally from unconventional sources. Such households often have more than one earner. Yet only documented income of the head used to be considered instead of earnings of all members that may increase with time. Occasional remittance also affects housing affordability; irregular cash flow from either rural areas or overseas is an important supplementary source [Keare & Jimenez, 1983], much of which is invested in housing [Awaal, 1982].

The low-income families have little cash savings; a few of them could amass wealth in kinds for housing [Keare & Jimenez, 1983], often by selling essential items [Rahman, 1999]. They improve affordability by using allocated space [CIVIS, 2003], for example as workshops, often involving more family members.<sup>12</sup> As construction sector absorbs many of the squatters, they could be engaged in the projects to reduce the cost and enhance affordability. With ownership in sight, household would be ready to devote more of their meagre resources, both monetary and commitment of non-monetary like spare time [Ward, 1984a].

Housing in many developing countries is characterised by paternalism, bureaucracy and inflexibility, due to the low level of institutional development and conditions imposed by the financiers excluding the lower-income households. The problems are integral of a complex urban system; hence to exclude a large number of households would create as many problems as it solves. By pushing the income limits up, cross-subsidising scope increases, reducing the political resistance to projects. Some of the obstacles of

<sup>11</sup> Financial contribution to housing tied to ownership would be at the cost of other needs, which reflects the willingness, priority and high esteem to owning home [Peattie, 1987; Rahman, 1999, 2004].

<sup>12</sup> Hence projects were designed to integrate commercial/productive scope enhanced by incentives like space and credit in Cairo, Mexico, Nairobi and Senegal [Ward, 1984b], or by using future income sources to assess affordability [Lee, 1985].

shelter programs could be overcome if charges were based on full recovery; a major part could be recovered through a voluntary take up of affordable loans and housing type by relating their present and future resources rather than a fixed repayment. Allocation could also be dependent on the proven ability to pay, determined through pre-facto saving used as down-payment.

## V. HOUSING PROCESS

Lower income dwellers can house themselves in a respectable manner for much less than either the government or the formal construction sector cost, in some cases for as little as 25% of normal formal sector cost [Benjamin & McCallum, 1985]. Moreover, the type of housing that results from people housing themselves is often more acceptable and suitable to the socio-economic needs of lower-income people [Turner, 1976], and hence turn out to be more affordable and sustainable. For the lower-income family the building of a house is normally an apocalyptic event. Humble though the results may be, it is an occasion for marshalling all the physical and monetary resources for collecting all debts, for calling upon the community and the family for assuming new debt and obligations. The occasion often extends over many months and is only the beginning of a longer commitment to which constant improvements and additions are made.

Between 30–70% of urban housing in many developing countries is self-help and self-built (low-income and low-cost housing). These mainly in the informal sector provide more often below-standard but affordable housing to a teeming mass, usually with as many family members as can be co-opted for the occasion. Better-off a society is more of other forms of housing like contractor-built emerge [Peattie, 1987]. Thus self-management is a popular system among the middle and upper-income groups where most works are done by the skilled crew and hired labourers. The contracting procedure works well with incremental building process too. The least common way is by the small informal contractor, and seldom large builders/developers used by the wealthier people or organisations.

Residents' motivations regarding tenure dynamically change the form and expression of built form in squatter settlements. While extending their shelter according to need and affordability,

they also mark own identity and aesthetic on it. Improvements in aesthetics and amenities can be placed in a context of feelings for the home and its location, perceiving the improvements as a part of wider resident activities in localised sustainability. Although the resourcing and organisation of improving infrastructure and making personal investments to squatter houses has been discussed, little literature is found on enhancement of aesthetics and cultural amenities. For example, Marcus [1995] focused on the personal meaning residents attach to their home that leads them to improve design and mark the meanings against such functional dominance of housing studies.

Turner suggests that the aesthetic features self-created by the low-income people represent a commitment to place and home; the deeply human personal expression is brought where occupancy rights are secure or there are expectations that regularisation of tenure will occur in the near future [Rahman, 1999]. More of these can be seen if the self-help property improvement takes place over a period of few decades [Pugh, 2000].<sup>13</sup> Expression of local culture, environmental change, and design and construction knowledge in such settlements show colour, adaptability, and space for rituals and festivals; these create specific and varied living environments [Rapoport, 1988]. Designers and planners could learn from these spontaneous open-ended, multi-sensory, semi-fixed settlements adding on elements, as it is about human drive, vision, interest and the identification of place.

A make-shift shack – the outcome of rational thinking utilising limited available resources, is 'architectural' same way as a 'designed' building. It also reveals beliefs, aspirations, and the world-view, simultaneously impacting the political, the visual, and the cultural. Squatter settlements are seen as aesthetic output by some or as eyesores to be demolished by others, like the city authorities who loath such view [Peattie, 1987]. Thus authority's perception and images have influenced housing policies and actions, including the destruction of communities. However, international policies now favour *in situ* improvement and regeneration. So the self help and the modern technology can stand next to each other with

<sup>13</sup> For example, *San Miguel*, Mexico, or *Klong Toey* squatter settlement with 70,000 families in Bangkok's Port Authority land.



reasoned acceptance of both in cultural–aesthetic form.

Spontaneous settlements are necessary; with importance of the product, process and use in built form and socio-economic evaluation [Kellett & Napier, 1995]. The people living in these settlements are set in specific institutional conditions and processes, which influence their housing and social status, providing contrasting examples.<sup>14</sup> Thus intricacy, variety, accomplishment, and resource efficiency in squatter settlement and built form are simultaneously social, cultural, economic, political, and architectural [Pugh, 2000]. Cultural heritages and sustainability have been expressed in the living conditions of the world's poor amidst squalor and disease. Their housing, the locales for the life's drama and human contributions of millions in enormous urban and socio-economic transformations, will remain a dominant form of dwelling on a world scale for many decades.

## VI. DISCUSSIONS

The self-help housing has been an important part of the developing countries' housing policies in last four decades; yet it remains spontaneous and outside formal realm. Varying in terms of theoretical, economic and technical characteristics, and their role in overall housing, urban and environmental policy had to traverse a long arduous path before implications of self-help housing in the developing countries were recognised [Lawrence, 1997; Ling, 1997; Dyer, 1994; Harvey & Ward, 1984; Herlihy, 1980].<sup>15</sup> Though there were assisted self-help (re)housing programs in India (1950s) and Kenya (1960s),

advocacies by Turner and Abrams brought the World Bank's support, and of other funding agencies later. Through experience the Bank changed its methods from site-specific projects, to programmatic approach mediated through formal institutions, and subsequently to new directions in developing policies, cooperation and participation.

Squatter upgrading schemes have some 'good practice' examples.<sup>16</sup> They also add economic and often aesthetic value to urban assets. Though the roles of individuals and households can be described by self help, household economics, affordability, and home sense; the economists restricted related studies to market exchange value, the design and impact of subsidies, or social questions of poverty and inequality [Pugh, 1990b, 1997b; Stretton, 1976]. They ignored capital like resources, time and energy used for home building, domestic chores, income generation, housing and environmental improvement, human capital formation, and use of time in personal and community activities as a socio-economic asset. Most of these, e.g. the value of the product and human capital formation, including the value of time and equivalent market products, and attribution of childrearing in human capital formation are measurable, and thus could add to the economic significance.

Self help, central in socio-economic, political, environmental and developmental sustainability, goes beyond the construction and management of housing and the local environment. The domestic sector is generally sustainable for its use of own resources to produce home-based goods and services, and less dependence on imported materials and technology. Further human development depends on access to state services

<sup>14</sup> The gradually transformed and consolidated *Santa Marta* settlement, Colombia, is recognised and accepted into the formal sector. In Durban, spontaneous settlements are juxtaposed near formal settlements, being impermanent and temporarily linking kith and kin.

<sup>15</sup> Self-help construction existed in old civilisations, e.g. in Roman towns, medieval Europe, and in early periods in the developed countries. Murals in Pompeii on self-help housing have become part of housing folklore. The Swedish 'magic houses' were built by households in their free times; the local government provided land, materials and technical advice. In ancient Sri Lanka, self-help housing was the norm in urban settlements, e.g. *Anuradhapura* founded in 483 BC.

<sup>16</sup> Cross-subsidisation in land pricing and plot allocation enabled sites and services and squatter improvement programs to reach down the income ladder in the 1970s and 1980s in Chennai. Housing investment and wealth increased for all income groups, and the relational contracting between the World Bank, state government, and the implementing authorities blended state, market, and household self-help roles [Pugh, 1990a, 1997]. In the Kampung Improvement Program, the World Bank provided US\$439 million in four phased project loans. It contributed towards improved living conditions, spontaneous housing investment, increased incomes, and improved health. Some of the KIP lessons led to wider community participation and deeper institutional reforms [World Bank, 1995].

and the security of a safe and healthy environment. Thus the domestic, commercial, and the public sectors are interdependent in bringing overall socio-economic development. This raises the importance of domestic economics in sustainable development through affordable housing and environmental improvement that also supplements other areas by contributing to the human and labour development. Thus sustainability cannot be fully accounted and understood without the domestic sector being considered. Furthermore, retention and regeneration of squatter settlement would not succeed if isolated of the other areas of urban development.

The upgrading of squatter settlements is not an easy and established option. Though all communities have rights to improve their settlement, the professionals and participatory processes do not always concur.<sup>17</sup> Social homogeneity, good community leadership, prior social co-operation experience, visible tangible outcome, prospective ownership and the affordability can often help to achieve consensus [Rahman, 1999]. Stable growth of income, recognition of squatters housing rights, affordable *in situ* improvement, and the development of social capital and empowerment (e.g. leadership, organisation, networking, and civic association) bring housing and environmental improvements for low-income groups. Thereon, social, ethical, and aesthetic expressions cover the full range of living, and encompass environmental, social, economic and political facets, and those that encourage people to value lives. Given a chance for one to participate and express attachment results in more commitments to bring affordable and sustainable improvements in a varied socio-political context.

Proper land policy and housing finance systems based on innovative schemes can facilitate the target groups' access to the two most essential housing resources of land and finance [Rahman, 1999].<sup>18</sup> Environmental improvement often creates conflicts among various interest groups that can be minimised by provisions for conflict resolution,

experience and visible results of social co-operation, e.g. community resource, and involvement of all stakeholders. Despite variations in contexts, settlements require development of socio-economic, leadership and institutional capabilities [Rahman, 1999]. The obstacle of converting environmental improvements into action plans and partnership can be overcome by distributing responsibilities, attribution of costs and self help, and agreed participatory and transparent management. In essence, both the process and the project need good governance, organisation, management, and policy [Pugh, 2000]. Existence of some technical and financial knowledge offers more informed choice of options, and adjustments required according to income, age, etc. [ADB, 1983].

In most developing countries activities of the low-income groups including housing form a large informal sector. Thus informal economy if legitimised contributes more in socio-economic developments [de Soto, 1989; Fernandez & Varley, 1998], in conserving economy, construction, environment, and health, and hence beckon for sustainable improvement. Regeneration schemes related to living conditions and social opportunities for millions adds more socio-economic and environmental values than high-profiled projects do, and hence is more sustainable. As income increases and needs arise, households upgrade houses in terms of materials, space and utilities, often personalising various parts. Thus low quality makeshift shacks are transformed through incremental building into more substantial and homely structures. Tenure security or improved services and amenities through *in situ* upgrading programs encourage such improvements.

Potentials for conservation and regeneration of squatter settlements vary with their characteristics.<sup>19</sup> Improvement can take place either spontaneously in well established settlements where a form of tenure security is envisioned, or in formal sector planned settlements. Political skills and pressures often influence the selection of

<sup>17</sup> For example, social groups in Jordan strongly contended priorities and access to political and economic power [Raed, 1998].

<sup>18</sup> The Grameen Bank in Bangladesh has developed credit and technical advice for women's enterprise, for housing, and for transforming social development among the poor; the World Bank and others are supporting such initiatives [Rahman, 1999].

<sup>19</sup> These range between >100 to near million. In cases, the populations have expectations of imminent redevelopment, whereas in others de facto occupancy rights seem secure. Sometimes a settlement generates its own leadership and organisational structures which can be used for negotiating with politicians and bureaucracies for installing infrastructure. Other settlements either have apathy or powerlessness.

improvements and the distribution of costs and benefits among households. State-assisted regeneration often dwells with redesigning lay-outs and re-alignments [Potter & Lloyd-Evans, 1998], and thus displacement or uprooting of socio-economic ties and identity. But slum improvement should be part of overall housing development and urban macro-spatial planning.

The conventional approach to affordability cannot meet the objectives of making projects mobilise private fund for housing as the public sector's capacity was limited, minimise public intervention in the market to ensure efficient and equitable development, and be flexible to accommodate variety of needs [ADB, 1983]. If a low-cost housing program is to be replicated non-productive offsite infrastructure costs must be reduced to a minimum. Otherwise it will escalate public subsidies and a shortage in the fund to cover the subsequent administration and maintenance costs.

Housing projects could be sustained by setting the standard at affordable level that ensures cost recovery and optimises the use of own resources otherwise expensive and excruciatingly scarce. Households could be allowed to determine themselves what they can afford in a less dogmatic approach to income targeting.<sup>20</sup> A drawback of this approach would be the lack of financial sophistication of the participants and the concern of the soundness of the projects. Monetary guarantee and readiness to intervene by the authority in case of default should reduce the risk when the beneficiaries take financial decisions [ADB, 1983]. Instead of binding public housing programs tightly, the rules can be redefined so that a proportion of those households previously excluded as being too poor may now be eligible to participate and benefit from the program. This questions the basic nature of public housing programs that allow households with above an income to benefit that also raises the average costs per beneficiary and reduces the number of beneficiaries, but not housing shortage.

## VII. CONCLUSION

<sup>20</sup> The layout may contain a variety of housing options (size, orientation, payment methods, level and standard of services) to suit all. Commercial uses too could be introduced to cross-subsidise housing. While the repayment for infrastructure could be set at an affordable level, residual cost could be recovered through cross subsidy from elements with an optional take up.

Nobel laureates, some of them involved with the World Bank, have been re-writing the relative roles of the state, the market, and households, necessary in socio-economic terms, and the state's welfare roles extend beyond tax-transfer systems to institutional reform, to social and private property rights, and to qualities of governance. These became main priorities in modern developmental and urban policy agendas, as recognised in the World Bank's new reforms [Pugh, 2000]. North [1990] focused on the way quality of institutions, defined as norms, property rights, compliance procedures, and the ethical elements in economic activity, influenced comparative performance in long-term growth. Moreover, institutional reform in the developing countries lies at the heart of modern policy interest in governance.

Poverty is about the deprivation of capability to expand social opportunity in markets, in state policy, and in households, and that all of these development requisites focus on the freedom of individuals to choose values and lives of worth to them [Drèze & Sen, 1995; Sen, 1999; Sen & Wolfensohn, 1999]. Poverty reduction can follow from personal commitments and appropriate human bondage. Fogel [1994] argued that improved nutrition, the advancement of medical knowledge, and the qualities of housing increase health and economic productivity over long-term development transitions. The principles are evident in low-income housing requiring social co-operation to improve environmental conditions in a sustainable way.

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