

Housing Affordability in the Developing Countries: Definition, Concept and Measurement

Dr. Mahbubur Rahman

Professor of Architecture, North South University, Banani, Dhaka 1213.

e-mail: mmrahman@northsouth.edu

Abstract:

In many developing countries, housing is plagued by huge shortage and substandard accommodation. Lack of affordability widens the gap between ability to pay and the cost of standard housing, pushing a large part of the population into severe housing problems. This paper argues that it is often misunderstanding and miscalculation of affordability and underestimation of the components based on wrong assumptions that affect affordability to be considered in detailing a project. This makes such projects inaccessible to the target group and hence unsustainable in the long run. The paper discusses the importance of affordability in housing, the different methods of assessing housing affordability, consequences of incorrect assessment, and suggests an alternative concept of measuring affordability more realistically.

Keywords: Affordability, Income, Cost, Housing projects, Expenditure.



Figure01: Different kinds of slums and squatter settlement (source: www.flickr.com) photo by (a) M Niloy (b) Michael Foley

1. Introduction

Not all households can spend on housing equally. Typically, these expenses that include both capital cost of the shelter and recurring expenses like rent and/or service charges etc. are almost a constant function of income up to certain income level. Thereafter the proportion decreases inversely, more often the upper-income groups spend less part of their income on housing. However, housing expenditure for many may stay low only perforce to accept sub-standard housing. Otherwise in many developing countries the propensity to spend on housing rises with rise in income, more due to the lower-income groups' priorities for subsistence and food and clothing, rather than for the availability of a wide-range of solutions.

2. Housing Affordability

Affordability is simply one's ability and willingness to pay. According to Aboutorabi and Abdelhalim (2000), household (HH)-income, housing costs, housing standard, living standard, etc. affect affordability. They defined housing affordability as the ability of HHs to pay for the costs of housing without putting constraint on living. In other way it means the ability to pay a rent and occupy adequate housing that enables them to lead life above the poverty line (Bramley, 1990). Thus affordability requires a balance between the ratio of income devoted to housing and that devoted to costs of living. An imbalance may result due to excessive rent compared to their income in some HHs which put those under financial burden, and creates a fading prospect of affording standard housing (Howenstine, 1993).

According to the above arguments, substandard housing is seen as a symptom of unaffordable cost (Malpass, 1993), which in the first place could be due to lack of access to housing. Such causes i.e. lack of affordability and problems i.e. inadequate housing more frequently exist among the low-income HHs. Thus to make a housing program accessible to the target HHs, the apportioned cost must be affordable to them.

¹ In economics the term rent is commonly used to define the cost of any commodity or service whose supply is limited, for example housing. Hence for housing it also means cost of owning, service charges, financing, etc.

Despite the knowledge of the above and of the components of successful housing projects, a gap had remained between targets and achievements due to weak implementation, low cost recovery, and standards of provision not matching the available financial resources (Lee, 1985). The reasons have been ascribed to wrong-estimation of affordability - mainly for not understanding the extent of the HHs' ability, and particularly the willingness to pay for housing may be affected by other priorities. If affordability was estimated correctly, housing projects could be set at a standard that are affordable and optimizes the use of resources that are expensive in one way and in excruciatingly short in supply on the other way. Such measures could possibly ensure full cost recovery from the beneficiaries, and sustain the project.

A target group can reach an unaffordable project only with subsidy; a continued reliance on subsidy is not realistic for a provider with weak economic base. Subsidy suppresses the ingenious cost-effective solutions brought by the low-income HHs, make them depend on external aids, and thus increase the burden on the public sector (CIVIS, 2003). Moreover, often the rich who could influence the resource allocation gets the subsidized provisions in the developing world, not those who deserve these more.

Historically, much effort went into reducing the capital costs of housing and infrastructure so that the low-income HHs could meet the financial demand with their ability to pay. Whereas instruments like finance or saving have helped to extend the affordability limits only in recent decades. However, most of the lending schemes benefited the upper-income families (Moss, 2003), who could occupy good housing projects because of the class advantages and the common practice of not including those who are not bankable for low income and no collateral.

Even when housing finance has been available for enhancing affordability, authorities have search for physical solutions within a pre-determined cost based on a rigid relationship between capital cost and HH-income. Though estimated cost and payment calculated as being affordable to a target group are linked, corresponding access to any specific scheme to HHs with incomes falling within a pre-set range is restrictive. Such ideas misinterpret affordability, suppress people's capabilities, and reduce the coverage of the housing programs.

3. Concepts of Affordability

The policy of recovering the cost and revolving the fund adopted by the international funding agencies in the 1970s characterizes the current low cost housing programs in the developing countries. The concept of affordability-accessibility-replicability was a major deviation from the concepts of earlier projects, the success of which pinned on affordability more than any other aspects. Earlier it was commonly taken that the HH could afford to pay a fixed part of their income, usually 20-25%, for housing. This was considered in the context of both developing and developed countries (Jorgensen, 1977), and the relationship between income and cost was defined rather rigidly.

However, it was not easy to estimate the ratio between income and cost, as Hulchanski (1995) pointed out that people in various situations spend on housing according to changing HH size, age-composition and income, and therefore, affordability could be measured only on individual basis. Even after recognising the varying contexts, estimated affordability was rather generalised with an average ratio. Such average and the real preference and desire of each HH mostly did not match, which led to what Hulchanski (1995) described as 'policy distortion'.

Use of a fixed rent-to-income ratio for defining housing demand, predicting affordability or forming housing policy was not foolproof, when these are based on affordability and demand derived as such. One conclusion using rent-to-income ratio (percentage) was that those paying above a preset 'ideal' ratio was considered facing affordability problem, and vice versa. This idea misled to the exclusion of HHs who were spending less than the 'ideal' amount only because they had to meet other basic priorities, not because 'ideal' housing was available within 'ideal' cost; and inclusion of high-income HHs who nevertheless were willing to pay more for better housing (Bourassa, 1996).

A better understanding of the relation between the cost and affordability begun in the 1980s. Keare and Jimenez (1983) included income, housing expenditure, and propensity to consume housing in calculating affordability. However, interpretation and measurement of these variables face questions. For example, income was taken to comprise no more than the simple wage or documented income of the HH-head only. However, low-income HHs often comprises extended families, and the HH-head may have more than one job, complemented by informal incomes by other family members. BBS (2001) shows that among the lower and middle-income groups, primary earners contribute 70% of the HH-income, and each HH has 1.45 numbers of earners in Bangladesh. Later, the affordability issue started to consider regular earnings of all HH-members, which may increase with time.

Banks only consider regular and documented income in granting loans. But it is now recognised that occasional remittance from outside the immediate HH also plays a part in determining housing affordability. Though the irregular flows of income to urban HHs from either rural areas or overseas are less documented, yet the importance of remittance as a supplementary source of income is not reduced (Keare & Jimenez, 1983). There is also evidence that most of the foreign remittance is invested in real estate due to the lack of other attractive and reliable avenues, and low-level of literacy among many earners (Awaal, 1982). Thus the full extent of housing affordability is often not charted.

3.1. Affordability Assessment

It is often difficult to solicit correct income figure, which can often be figured out from the household expenditure surveys. But such findings are often not directly relevant. There are projects where future income sources were considered in calculating affordability (Lee, 1985). It recognizes that many participants will take advantage of the allocated space to make extra income that will increase their affordability (CIVIS, 2003; Daramola 2006). They will use part of the space either for commercial or productive purpose or to sublet to others. Therefore, plot layouts were designed to integrate this possibility in few projects in Cairo, Mexico, Nairobi and Senegal (Ward, 1984).

Recognition of the above phenomenon is important to understand affordability as many of the low-income groups would use the house as workshops. Their occupation or services they offer often rely on socio-economic contacts and goodwill, and revolve around home-based activities often participated by more than one HH-member. Provision of this in the project, which are supported with incentives like space and credit, can enhance the affordability. Construction sector can absorb the mostly unskilled rural migrants who compose the major part of the urban low-income groups. Since a new housing project creates extra jobs, though temporarily, the future settlers could be engaged in the project to reduce the cost in one way, and enhance their affordability on the other.

Experience shows that it is difficult to predict total income, more so when a HH is applying to participate in a project much ahead of when it will actually be occupying it (Ullah, 1987). Even a correct current income figure may vary in future as a HH applying in a housing project is often different in composition from the HH that will actually live there. A changed HH size or number of earners and income may mean changing need and affordability too. Within each income range, a wide spread of income is available for loan payments; simple averages conceal the full extent of affordability as often homeownership prospect may enhance propensity to spend.

The final element of the affordability relationship is the proportion of income a HH is willing to spend on housing, often after meeting other basic needs. Attempts were made to assess part of income deemed affordable by noting essential expenditure on other basic items. The idea of equating disposable income to housing expense remain acceptable until the need for massive subsidies arose when low-income HHs were to be housed at these levels of affordability which often was unrealistic (ADB, 1983). Hence it was reasoned that poorer HHs would be able to pay little for housing after meeting other pressing needs.

These ideas were based on a common sense or expectation, not on what actually was happening (Lee, 1985). England and Alnwick (1982) measured housing affordability by recognizing that food is a priority and major area of spending to most of the lower-income HHs, who often spend up to 60% of income on housing (Jorgensen, 1977). So they derived a 'least cost diet' based on the adequate level of intake for nutrition and health. But the diet cannot be universally applied as the food habit and prices are not uniform. Almost all concepts failed to recognize that any financial contribution to housing expenses by the low-income HHs would be at the cost of other essential needs, which reflects the willingness and priority of the poor HHs who have high esteem to owning home that provides them many advantages including a legitimate foothold in the contested urban areas (Peattie, 1987).

Howenstine (1993) forwarded a similar idea, where in a 'market-basket' concept income was measured against the costs of living necessities, such as food, clothing, etc. The balance would then be taken as amount available for housing. Another method adopted an opposite approach, shifting the affordability from housing to non-housing costs. In both ways, the balance between housing and living costs was the indicator of housing affordability.

3.2. Incorrect Assessment

A good number of plots in self-help schemes had been built up to a level exceeding the theoretically calculated affordability of the particular beneficiary group (Islam, 1987). Some of these came about because the occupant HHs was able and willing to invest savings to extend their homes beyond the limits set by the project criteria. Others could borrow informally, usually on disadvantageous conditions, to supplement the formal assistance.

Most of the surveys on propensity to pay for housing were conducted in near-homogeneous groups. These did not present good data on the rent propensity of the population at large which vary widely (Lee, 1985); hence generalization based on such surveys would lead to gross inaccuracies. The assumption that financial resources of a HH can be equated as a multiple of income, and most of it would be available for housing is also debatable. In the developed countries, housing cost is more often considered equal to 30-36 months' income, but only to set credit limit or calculate recovery and return (Jorgensen, 1977). Housing prices cannot rationally be determined in relation to incomes of the target groups, nor can income be predicted by prices, since there are wide variations between individual HH's propensities to pay and their access to resources.

Down payments required by individuals are calculated as if they can be readily saved out of present income. It ignores the probable existence of any already accumulated wealth. Low-income HHs have little cash savings; yet a few of them could accumulate wealth in other forms that might be put in housing (Keare & Jimenez, 1983). There are evidences that many of them would sell less important household items or less advantageously located rural property in order to generate additional cash for financing housing (Rahman, 1991), often up to 100 times of their monthly income (Helaluzzaman, 1984).

Project authorities often determine the expenditure patterns of each beneficiary themselves. This often leads to distorted relationship between the HH resources and anticipated expenditure on housing. Thus benefits accrue either to the upper-income HHs who did not need those and the privileges do not trickle down, or the lower-income groups are prevented from availing what were meant for them, resulting into gentrification. There is little evidence for the authorities to be able to determine and predict housing costs, the resources available to households in project areas or the proportion of those resources which households would be prepared to spend on housing, with sufficient accuracy to make policy prescriptions.

Objectives of project design generally are i. to mobilize private funds for housing as the public sector cannot hope, ii. to finance a fraction of the total housing needs, minimize public intervention in housing market to the extent necessary to ensure efficient and equitable development, and iii. to be flexible to accommodate variety of needs (ADB, 1983). The conventional approach to affordability cannot meet any of these objectives. Thus poor households are required to commit themselves financially to housing that they cannot afford, and hence get no benefit from those. If the government decides to write off the cost it tantamount to huge subsidies, and often the higher income groups move in i.e. gentrification.

By linking payments to income, some HHs may have been inhibited from paying as much for housing as they would be willing to do. This either deprived them of access to additional finance or challenged scarce public fund into areas where private finance could be better mobilized. The regulation generally requires that HHs must have more than a minimum demonstrated income in order to be permitted to participate in a housing scheme. Through a narrow income definition, some categories of low-income households will unjustifiably be excluded from the projects. The process needs time to be devoted to targeting to gain agreement on the target incomes and to verify that of the participants.

4. Alternative Approaches

Housing programs in many developing countries tend to be characterized by paternalism, bureaucracy and inflexibility, often as a result of the low level of institutional development and conditions imposed by the donor agencies. Greater flexibility in income targeting or other criteria would encourage the already privileged to reap additional advantages. Housing programs are increasingly being structured so that the lower-income HHs are excluded because of the overriding need to ensure full cost recovery, which is not possible with low level of affordability of the neediest groups.

As factors determining housing affordability differ among HHs, different situations of unaffordability emerge in real life. Hancock (1991) identified 4 main categories as i. those paying for less than the minimum standard of both living and housing costs, ii. those paying housing costs above minimum standard, but living below the poverty line in a state of over-consumption of housing, iii. those whose budget for living is larger than the poverty standard, while consuming housing at costs less than what secures the minimum standard (families that have greater desire for living necessities but are living in substandard housing), and iv. those whose income allows them to have housing and living conditions above minimum standards without any problem of affordability.

However, these failed to reflect the HHs' preferences. For example, the second category included all HHs over-consuming housing without distinction between those who are compelled to do so and those who choose to do so when climbing up the social ladder. So Aboutorabi and Abdelhalim (2000) proposed a more precise analysis of affordability cases using the minimum income that covers the cost of standard housing and living as a constraint.

There are several ways to adopt a more enquiring attitude to the question of how HHs views their own affordability problems. The contemporary themes encourage potential beneficiaries to determine themselves what they can afford, taking a less dogmatic approach to income targeting. These follow from the argument that the project designers are not in a position to judge. The main drawback of this approach would be the lack of financial sophistication of the participants and the concern by the financiers of the soundness of the projects and prospect of recovery. Some form of monetary guarantee and a readiness of the authority to intervene in case of default should pacify the elements of risk when financial decisions rest entirely on the beneficiaries.

The above requires the bounds of a public housing program not circumscribed tightly: the rules would be redefined so that a proportion of those HHs previously excluded as being too poor may now be eligible to participate and benefit from the program. The relaxation may question the basic nature of public housing programs structured merely by permitting HHs with above average incomes to benefit from public programs. Thus the less privileged are sacrificed to pragmatism, and the average costs per beneficiary rise. This forced the number of beneficiaries to fall, and housing shortage not to lessen as much as expected.

Safeguards against both eventualities can be built into any program. Authorities can be persuaded to acknowledge that the problems to be solved by any housing project are an integral part of a complex urban system, and to make the majority of urban HHs ineligible to benefit from housing schemes would create as many problems as it solves. By pushing the income thresholds up, wider opportunities for cross-subsidization will be offered within a program. This may reduce the political resistance to projects greatly by inviting some portion of upper-income groups. In schemes, the layout may contain a variety of housing options (size, orientation, payment methods, level and standard of services) to accommodate the above possibilities. Also commercial uses could be introduced to provide a scope for cross-subsidization.

Charges could be based on full recovery so that a greater proportion may be recovered through a voluntary take up of affordable building loans rather than from fixed costs per plot. Looking from the other side, allocation could also be dependent on the proven ability to pay. This could be determined through pre-facto saving, which could be used as down-payment. Applicants could relate their own resources, both immediate and future, to affordable plot sizes and the appropriate type of loan (package). Except for the above, standard conditions, for example, the minimum time of occupation and evicting permanent defaulters, could be applied.

Individual components in settlement scheme need not to be self-financing. Thus the required payment for infrastructure could be set at a level calculated to be affordable to a majority. Residual cost could be recovered through cross subsidy from elements with an optional take up. Fine tuning could be achieved through interest rate adjustments, consistent with those applied outside the project boundary. Many of these features have already been applied in projects worldwide (ADB, 1983). However, they failed to attack the root problem when the projects embodied the judgment by the authorities on the HHs' ability to pay. In many circumstances, it might need to base charges on documented income rather than on proven expenditure patterns. But it is clear that a proper approach to affordability could clear away some of the obstacles of shelter programs.

5. Conclusion

Housing encompasses large direct and indirect costs of numerous components, which are variables in the eventual financial composition of a shelter program. It is axiomatic that the land cost is the first debit from the sum total of what can be afforded. An individual cannot organize Land servicing successfully. The poorer section of the society is politically weak to be able to ensure that they are provided with infrastructure out of regular budgets and thus it is realistic that they themselves finance these.

The poor households in an incremental and informal fashion can build much of the superstructure. However, the cost of materials and some labour will still have to be considered. Unless the households' income rises commensurately, commitment at a later date may add to the present borrowing load. All the resultant management costs also need to be afforded. No cost or service is dispensable, but the standards of provisions can be based according to the affordability of the target groups. Reducing the initial costs would require a greater financial effort to provide for building materials and labour from the participants' resources at a later date.

Thus the gap between the cost of housing and household's affordability remains at the centre of the housing problems, especially for the lower income groups. Housing shortages, lack of services, sub-standard houses, etc. are the results of this mismatch among the poorer part of the population, whose number often exceeds millions in many developing world cities. Most housing-related problems could be solved by reducing the costs of different components of housing in one hand and increasing the affordability on the other hand.

6. References

- Aboutorabi, Mohsen, and Abdelhalim, Khaled M. (2000) "A Study of Housing Affordability for Low-Income Households in Khayelitsha Township, South Africa", *Proceedings: Strategies for a Sustainable Built Environment*, Pretoria, pp-23-25, August 2000.
- ADB (1983) "Regional Seminar on Financing Low-Income Housing- a summary report", Asian Development Bank, Manila.
- Awaal, Salma (1982) "A Study of the Influence of the Overseas Workers Remittance on the Land Market of Dhaka", unpublished Masters Thesis, Human Settlement Division, Asian Institute of Technology, Bangkok.
- BBS (2001) "Statistical Yearbook of Bangladesh 2001", Bangladesh Bureau of Statistics, Dhaka.
- Bourassa, Steven C. (1996) "Measuring the Affordability of Home-ownership", *Urban Studies*. Vol. 33, No. 10, pp 1867-77.
- Bramley, G. (1990) "Access, Affordability and Housing Need", paper at the ESRC Housing Studies Conference, University of Surrey. Mimeo, SAUS, University of Bristol, Bristol.
- CIVIS (2003) "The Enabling Environment for Housing Finance in Kenya: Shelter Finance for the Poor Series", Cities Alliance, issue IV, April, 2003.
- Daramola, Adedeji (2007): 'Culture, Architecture, Growth- Fulbe nomadic experience in Nigeria'; in M. Rahman (ed.) *Society, Architects and Emerging Issues*, IAB-CAA, Dhaka.
- England, Roger and Alnwick, David (1982) "What can Low-Income Families Afford for Housing", *Habitat International*. Vol. 6. No. 4, pp 451-457, Oxford.
- Hancock, Karen. (1991) "Can Pay? Won't Pay? Or Economic Principles of 'Affordability'", Discussion Paper 35, Centre for Housing Research, University of Glasgow, Glasgow.
- Helaluzzaman, Kazi M. (1990) "A Cooperative Housing Development and Ownership Project for Lower-Middle-Income Government Employees in Dhaka, Bangladesh", unpublished MSc. Thesis, Human Settlement Division, AIT, Bangkok.
- Howenstine, E. Jay (1993) 'The New Housing Shortage: the Problem of Housing Affordability in the United States', in Hallett, Graham, ed., *The New Housing Shortage: Housing Affordability in Europe and USA*, Routledge, London.
- Hulchanski, J. David (1995) 'The Concept of Housing Affordability: Six Contemporary Uses of the Housing Expenditure-to-Income Ratio', *Housing Studies*, Vol.10, No.4, pp 471-91.
- Islam, Emdadul (1987) "Problems in New Settlements in Dhaka with special reference to Uttara Satellite Town", unpublished M.Phil dissertation, Dept. of Town and Country Planning, University of New-Castle-upon-Tyne, New-Castle-upon-Tyne.
- Jorgensen, N.O. (1977) "Housing Finance for the Low-Income Groups- with special reference to developing countries", *Housing Research & Development Unit*, University of Nairobi, Kenya.
- Keare, Douglas H. and Jimenez, Emmanuel (1983) "Progressive Development and Affordability in the Design of Urban Shelter Projects", World bank working paper no. 560, The World Bank, Washington DC.
- Lee, Michael (1985) "Myths of Affordability", *Third World Planning Review*, vol. 7, no. 2 pp 131-142, Liverpool.
- Malpass, Peter (1993) "Housing Tenure and Affordability: The British Disease", in Hallett, Graham, ed., *The New Housing Shortage: Housing Affordability in Europe and USA*, Routledge, London.
- Moss, Vuyisani (2003) "Preview of Housing Finance Systems in Different African Countries", *NHFC Housing Market Bulletin*, Vol. 1, Issue IV.
- Peattie, Lisa R. (1987) "Affordability", *Habitat Int.* Vol. 11. No. 4, pp 69-76, Oxford.
- Rahman, Mohammed M. (1991) "Urban Lower-Middle and Middle-Income Housing- an investigation into affordability and options, Dhaka, Bangladesh", unpublished PhD thesis, University of Nottingham, UK.
- Ullah, M. Salim (1987) "A Study of the problems and Prospects of Uttara Model Town, Dhaka", unpublished MURP thesis, Dept. of Urban & Regional Planning, BUET, Dhaka.
- Ward, Peter M. (1984) "Mexico- beyond Sites and Services", in Geoffrey Payne ed. *Low-Income Housing in the Developing World*, pp 149-159, John Wiley and Sons, New York.