

HOUSING DEMAND ANALYSIS IN DEVELOPING COUNTRIES

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It is my belief that a successful housing program cannot be developed without intimate insight into the social, economic and political structure of a country. This is even more critical in the case of developing countries where there are few empirical data and the stresses of emergence cause conflict in the attainment of social, economic and political objectives.

The stolid application of dogma is futile. A pat uniform "do it our way" approach is the essence of sterility and can only produce a thorny straight jacket from which Houdini-like escape is both inevitable and painful.

For the purpose of this paper, housing is defined as shelter, with adequate protection against the greatest severity of the elements expected to be normally encountered, with space for its occupants sufficient to permit the performance of household functions and to meet the privacy requirements of the culture and with such amenities as are needed for the preparation of food and for the occupants' personal health and the public health of the community.

It will be noted at once that this is a very restrictive definition and is so intended. There is no reference to aesthetics nor to environmental or planning features, nor to the infrastructure required to support housing development. These, certainly, are matters of great concern in the preparation of housing programs but my intention is to trim fine and concentrate on basic housing demand.

We all know that demand for a house of a particular type, size and price can vary widely, depending upon its location within a community and its relationship to transportation and major sources of employment. This type of demand analysis is highly specialized in reference to a particular housing project and requires refined techniques and consideration of factors not covered here. I shall not, therefore, attempt to treat housing demand below the level of the community.

Even though I do not attempt to cover demand in sub-areas of communities I am convinced that national housing demand estimates must be built up by local areas within countries.

Generally, a housing demand estimate, based entirely upon national aggregates is virtually meaningless and can lead to grave program miscalculations. I only say "generally" because of two possible but not probable exceptions: that of a country whose population remains relatively fixed in its geographic location with little, if any, internal migration; or a country in which there is internal migration but with little or no effect upon the population of any local area. The latter is even more improbable than the former because the very reasons that cause population to move from an area are generally the same reasons that

prevent others from moving in.

Use of national figures on population, or household, growth does not account for the effect of internal migration upon housing demand. Since housing is relatively fixed in its location, it is possible to have a substantial unfilled demand as a result of migration to one part of a country while numerous vacancies exist in another. This situation could occur in a country whose total population is static or even declining.

Ideally a national demand estimate should be the summation of estimates for all local market housing areas. This, however, is rarely, if ever, practicable. An absolute minimum would be a division between urban and rural. A second level, in ascending order of significance, would be to break total urban at some population size to obtain a distinction between smaller and larger urban places. Next, is to take all individual cities, towns or villages above some population and to group the balance of urban. Actually, in many cases it will be found that not much more can be done than to select one, or maybe two or three principal cities, for intensive analysis. Availability of data and ingenuity in producing them from diverse sources will largely dictate what can be done.

It is necessary in the first instance to draw a sharp distinction between housing "need" and housing "demand". I have defined these terms, with special reference to housing analysis, several times in the past ¹ and will not cover them in detail here.

In summary, housing need is expressed in terms of the number of physical units required to meet an acceptable minimum standard, for example, a number of standard housing units of a given size distribution or a number of roofs of an acceptable utility and quality.

Elements of need consist of: changes in the number of households or occupant groups through net new household formation and net migration; un-doubling of families in two or more family households; replacement of dwellings lost through demolition, fire and other disasters; replacement or rehabilitation of dwellings which fall below a minimum standard; amount of additional space required to relieve overcrowding; provision of components required for health or safety.

The basic concept of need is that price, or ability to pay, does not enter into its computation. To illustrate: if in order to maintain health, all children between the ages of five and twelve need a quart of milk a day, it makes no difference in an estimate of the total volume of milk needed for this purpose whether milk costs twenty-five cents or one dollar per quart or indeed, whether some children can pay nothing and others as much as five dollars.

Unlike housing need, the most important elements of an estimate of housing demand are the prices at which housing is, or may become available, the ability of families to pay and the proportion of income they are willing to devote to shelter.

Computation of demand is a particularly elusive exercise because of the many subjective elements involved. As difficult as it is in many cases to estimate family, or household, income distributions, a much more troublesome problem is to determine willingness to pay.

A principal virtue of the need-demand approach to housing analysis, particularly in developing countries, is that it shows clearly the gap between minimum housing requirements and the ability and willingness of the people to pay.

This gap can be closed by one, or more probably, by a combination of the following: reducing the cost of housing through operations in the private sector; increasing the incomes of families by economic expansion; or, intervention of the government through subsidies or loans.

Except for the basic analytical structure for housing demand estimates, which it is not my purport to deal with here, the analyst must be prepared, in the case of developing countries, to modify substantially his concepts based on experience with advanced economies and take a fresh and uncluttered view. He must resist the enticement, however alluring and comfortable, of attempting to rationalize unfamiliar facts according to preconceived notions.

Too often, the analyst tries doggedly to fit what little statistical data he is able to accumulate into a tested empirical framework. He makes what I like to call Procrustean adjustments to his data. In his efforts to rationalize unfamiliar behavior of a population according to his preconceptions he is apt to be of greater disservice than benefit to a country in assisting in the formulation of a housing program. It is to some of these unique differences that I will primarily address myself.

Boulding, in his 1965 address to the American Economic Association ²⁷ made the point that economists must be humble about the field of economic development of the poor countries. He said:

"In the rich countries we have done fairly well; in the poor countries our record is distinctly spotty. This is almost certainly because we are dealing in this case with a total social process, and the economic abstractions are simply not sufficient to deal with the problem. Here, what we need is clearly economic anthropology, and this science, unfortunately, hardly exists."

While I agree entirely with Boulding as far as he goes, I think it is necessary to go even further. The social, or behavioral, scientist today must, in large degree, be an interdisciplinary entity.

Actually, it is primarily his emphasis that places him in one discipline rather than another. In dealing with developing countries, the economist must not only be part anthropologist, but also sociologist, political scientist and even psychologist.

Malinowski, in a Scientific Theory of Culture, ³⁷, says eloquently:

"Again, economics as an inquiry into wealth and welfare, as means of exchange and production, may find it useful in the future not to consider economic man completely detached from other pursuits and considerations, but to base its principles and arguments on the study of man as he really is, moving in the complex, many-dimensional medium of cultural interests. Indeed, most of the modern tendencies in economics, whether labelled 'institutional,' 'psychological,' or 'historical,' are supplementing the old, purely economic theories by placing economic man within the context of his multiple drives, interests and habits, that is, man as he is molded by his complex, partly rational, partly emotional cultural setting."

Neither can the statistical equipment of the social scientist remain untouched. While the laws of mathematics and statistical analysis remain almost immutable, the data that the social scientist deals with in developing countries may have different meaning and he will secure unaccustomed results. For example, in our western culture ⁴⁷ we are used to a high negative correlation between income of the male parent and the number of children he produces. In a polygamous society, the statistician may find exactly the reverse. He will discover, on analysis, that there is nothing wrong with his data but the higher the income, or wealth, the greater the ability to secure wives and these, under ideal conditions, inevitably lead to more offspring.

Before discussing some specific differences that might be encountered in developing countries, I want to mention a few considerations that affect housing need and demand estimates generally.

The analyst from temperate or cold climates, for example, may look askance at the flimsy small houses he encounters in tropical areas but the mud and wattle houses he finds in Africa may be entirely acceptable there. The materials are mostly free in nature; little interior space is required because most living is done outside; thatch is superior insulation against heat and moreover, it is not noisy in the rainy season. While the house may require almost constant repairs these are both easy and inexpensive to make.

To the contrary, if the analyst were accustomed to bamboo, palm and straw construction he might find it very difficult to consider that substantial masonry structures in a large northern U. S. city could constitute a slum.

But even climate and physical environment is not a completely predictable variable in its effect upon estimates of housing demand. As Forde points out in *Habitat, Economy and Society* [5]: man's activities, type of society and even religious beliefs have often been explained on the basis of climate and vegetation but, despite the intimate relationship, there are clear limits to this explanation, for in closely similar regions there are sharply contrasted societies.

Writing about shelter in primitive societies Herskovits [6] says:

"Though a food supply is indispensable, it is quite possible to get along without shelter. Not many people, it is true, omit this item from their cultural equipment, but it always surprises the novice in the study of culture to what a minimum it can be successfully reduced.... In actuality, we find that the minimum of shelter necessary to preserve life is lower than casual consideration would indicate. Conversely, the maximum degree of shelter attained by most societies is so much greater than necessary for survival that we must seek other reasons to account for it."

It is obvious, I think, that housing is not generally a matter of survival. Although adequate protection against the elements is a first order, as I have indicated, in the provision of satisfactory housing, there are others of almost parallel importance. One of these is space. Part of the definition of housing I have given is that it must have space for its occupants sufficient to permit the performance of household functions and to meet the privacy requirements of the culture. Space is an important consideration in housing demand estimates because of its direct effect upon quantities of labor and materials and thus, the cost of dwellings.

Inter-cultural differences in attitudes toward privacy are important determinants affecting the amount and distribution of housing space in the present day urban environment. Of course, in many societies, customs with respect to entertainment of friends has a marked effect upon the sizes of dwellings. In others, home industry often requires space over and above that strictly needed for living. But it is to privacy differences that I want to direct particular attention.

Hall, in his excellent new book, *The Hidden Dimension* [7] discusses the need for privacy in various cultures. The American way is for each child to have "a room of his own." It is difficult for the English to understand this because the middle and upper-class Englishman is brought up in a nursery shared with brothers and sisters. "The difference between a room of one's own and early conditioning to shared space, while seemingly inconsequential, has an important effect on the Englishman's attitude toward his own space. [8]"

An interesting footnote is the bearing that this space conditioning has upon inter-personal relations. When the American wants to be alone he goes off and shuts the door. He would never refuse to talk to someone else present in a room except as a sign of displeasure or rejection. The Englishman, on the other hand, not accustomed to architectural privacy, remains physically, but shuts himself off from conversation by withdrawing and bitterly resents attempts to talk to him while he is in this state [9].

According to Hall, there is no such word as "privacy" in Arabic [10]. The form of the Arab home is such as to hold the family together. "They avoid partitions because Arabs do not like to be alone." Like the English, their way of invoking privacy is to stop talking, indicating that they want to be alone with their own thoughts and do not wish to be intruded upon.

Attitude towards the home as a possession, or as a mark of prestige, is another general consideration affecting the determination of housing demand. This factor largely governs the extent of sacrifice people are willing to make in order to have a satisfactory dwelling.

It has been found in some developing countries, particularly those in which economic stress is greatest, that many people look upon the ownership of good housing as an investment for profit rather than the purchase of a home for themselves.

The Foundation for Cooperative Housing, in its 1962 study of housing cooperatives for the Agency for International Development, noted, in Kenya for example, that a number of private individually owned dwellings constructed with direct government financing and a land subsidy were being operated as investment properties [11].

Two years later we investigated this matter in detail in Kenya, and the above observation was fully substantiated [12] by an examination of all tenant-purchase plans being operated by local authorities. An experience in Nakuru is illustrative. We obtained the addresses (actually a description of the location) of a sample of "owners" who were not living in the housing they were purchasing and inspected their dwellings (from the outside only). Almost without exception these were found to be living in the lowest quality housing in the town, actually as close to a slum as one finds in Kenya. Further investigation showed that rents received by the owners were from 30% to 90% more than the payments to the authorities. Since down payment on the houses were only 10% of cost, the return on the original investment is fantastic since, aside from taxes which are not high, there are few other expenditures.

We observed the same practices in Uganda and Tanganyika (now Tanzania). From discussions with others I have learned that this kind of operation is by no means limited to East Africa.

To avoid being misunderstood, I want to say clearly that what I have described is by no means universal, even in the countries I have cited. It is, however, of enough significance to warrant attention of the housing analyst. Furthermore, in the formulation of housing programs there must be adequate safeguards, because the government of developing countries cannot afford to waste its scarce resources [12].

Determination of housing demand, as I have indicated earlier, begins with an estimate of housing need. Need has basically three elements: growth in occupant groups, replacement of losses, and bringing the housing supply to an acceptable standard. So far as I know, replacement of losses in developing countries present no unique considerations. The other two factors do present some unusual problems and I should like to start with the matter of substandardness.

Although I want to deal with housing standards, I would be less than honest if I didn't say that, as a matter of fact, the analyst will probably give up in many cases before he is through. Either he will be unable to determine the criteria for substandardness in developing countries or if he does succeed, even with the most minimal measures, their application will result in such magnitude that any reasonable amelioration is almost beyond possibility. However, there is merit in attempting an estimate, even though crude, if it is possible to do so. If properly qualified, such a figure does give the government a rough measure of total housing need and more clearly indicates the gap between need and demand.

Measures of substandardness have been applied as, for example, by Badgely, Logtens and Schechter in their housing analysis of Surinam [14]. A housing survey was conducted on a sample basis in Paramaribo by sanitary inspectors. The housing stock was divided into adequate, repairable and beyond repair. On the basis of this survey the mission concluded that about 4,000 of 21,000 units had to be replaced - 3,000 already beyond repair and 1,000 of 5,000 repairable units which the mission estimated would not in fact be repaired.

Dodge, Young and Wilson say in their report on housing in Ethiopia [15] "Setting minimum standards of acceptable livability in an economy such as that of Addis Ababa is an extremely difficult thing to do. No such minimum standards have been pronounced, or suggested, either officially or unofficially, unless the census classification by type of construction may be taken as a suggestion." The mission used the census figure of "non-weatherproof construction" which amounted to 57% of the housing supply in Addis, or 71,000 out of 124,000 units. Thoughtfully, the mission said that this is only to be considered a benchmark for present purposes of analysis; "This properly leaves to the future, and to local determination, the more specific definitions of what should be considered to be minimum standards of construction and occupancy in the interest of safety, health and livability [16]."

The Statistical Commission of the Economic and Social Council of the United Nations has been trying for many years to formulate "statistical indicators of housing levels of living." A report was prepared for the eleventh session of the Commission in 1960. Some of the many problems involved in formulating criteria for substandardness, so that countries can be compared, are illustrated by this report.

The report [17] says "... the general aims of housing policy may be to increase the housing stock so that crowding beyond certain standards may be eliminated, the average density of occupation may be brought down to certain levels. All married couples may occupy separate dwellings or so that families may be able to move from improvised or other types of inadequate housing to conventional and suitable dwellings."

One of the statistical indicators proposed is the percent of the population living in housing units classified as "rustic," "improvised" and "not intended for habitation." Rustic housing units are defined [18] as those "rudely constructed or erected (e.g. having mud walls, thatched roof, etc.) with locally available rustic materials such as stones, sun-dried bricks, bamboo, palm, straw or any similar vegetable materials for the purpose of habitation by a private household...."

In East Africa, for example, some 90-95 percent of the housing would be considered "rustic" under the above definition. Yet, if there were no other deficiencies, a substantial proportion of the housing, particularly in the rural areas and small towns, should not be regarded as substandard, under the conditions that exist in that area.

Two other criteria, applicable only to urban areas, are proposed, piped water and flush toilets [19]. The case for these, especially in urban areas, is a good one and probably can be applied universally.

They both illustrate, however, the analyst's problem, for the need may not necessarily be for new complete units but only to remedy deficiencies in existing housing. It is possible, for example, to bring piped water to, and even into, dwellings that are substandard solely because of this deficiency. Installation of flush toilets, or water-borne sanitation is more difficult, but nonetheless possible.

A related case arises in connection with overcrowding. A proposed indicator is the percent of occupied dwellings with three or more persons per room [20]. This standard generally represents over intensive use of living space but a culturally based analysis of identical data for different countries may yield significantly different conclusions as to housing need from this source.

It will be recalled that one of the stated aims of housing policy according to the United Nations is to provide all married couples with separate dwellings. Undoubtedly this aim derives from a

concept of privacy and the desirability of developing a family life without outside influences.

Under this assumption it is necessary to analyze overcrowding data to determine whether it is due to families that are too large for the space they occupy, or a combination of families that crowd together in order to save rent, or the attachment of individuals to what is commonly regarded as a family in our western culture, that is, the extended family.

To the extent that overcrowding is due to large families, the need in aggregate terms may be for more rooms, not necessarily more dwelling units. It is certainly possible, theoretically, that overcrowding can be eliminated under certain circumstances by a better distribution of space. It could also be eliminated by the addition of rooms. Another possibility is the consolidation of some small dwellings for use of larger families and building new units of small size. Finally, the new dwellings could be of larger size and the newly formed smaller families moved into the units vacated by the overcrowded.

However, to the extent that overcrowding is the result of two or more families living together through economic necessity, not all of the above options are possible. In this instance the need is for more dwelling units of appropriate sizes.

Finally, interpretation of aggregate overcrowding data depends upon accurate knowledge of the country involved. As already indicated there are wide inter-cultural differences in the concept of space requirements.

I should like now to turn to that part of the need estimate resulting from growth. Since the house, or dwelling, is the primary unit for need and demand estimates from this source, any projection of requirements for additional housing is a function of growth in the number of occupant groups. In a standard housing analysis, population figures must be adjusted for any expected change in the number of persons per family or household. There are a number of ways in which this may occur: changes in the birth, death, marriage and divorce rates, to mention a few. These kinds of changes, however, are generally not cataclysmic and will not make a great deal of difference in a relatively short term projection.

I do wish to mention two cases in point that have substantial impact. While these situations could occur anywhere, they are more apt to be encountered in developing countries and in developing and declining parts of developed countries.

The first of these cases involves a population increase that is significantly greater than the increase in occupant groups.

In Kenya, according to its 1962 census, the urban African population consisted of 163 males per 100 females although for the country as a whole, the ratio was 98 per 100. For Nairobi, the capital

city, there were 187 males per 100 females among the African population which represented about two-thirds of the total. For the adult population only, the ratio was 250 per 100.

Only in Kuwait, among the fifty-one countries for which the U. N. publishes this information ²¹⁷ is there a city of over 100,000 population (Nairobi has about 300,000) with a sex ratio that even approaches that for Nairobi; only 11 of the 51 countries have cities of this size in which the number of males is greater than the number of females and but 4 exceed 130 per 100, with Kuwait (Kuwait City) having a ratio of 178 per 100.

An examination of the situation in Nairobi revealed, on a large scale, a case not unlike that of our own familiar mining camps of the early west. In Kenya, men were leaving their shambas and coming to the cities, particularly Nairobi, in search of employment. They leave their wives and children in the tribes and send for them only when settled employment is found.

In the 1948 census of Kenya, the sex ratio for urban Africans was 295 males per 100 females; this was reduced to 163 per 100 in 1962. Thus, a large part of the in-migration to urban areas between 1948 and 1962 consisted of women and children.

With the high ratio still existing in 1962, and with somewhat improved economic conditions in prospect, it is reasonable to expect a modest acceleration of the movement of women and children to the cities.

All of this has an important bearing on housing analysis. A large number of the adult males are lodgers, but a substantial proportion live by themselves in separate dwellings. Evidence of this is found in the fact that 22 percent of the dwellings in urban areas in Kenya are occupied by one person. In the U. S., one person households constitute about 15 percent of urban housing; a large part of these, however, are occupied by the elderly.

Based on an extrapolation of past trends, it was estimated that the population increase for Nairobi would be at a compound rate of 4.9 percent per annum for the period 1962-1970. However, a study of the recent trends in the sex-age distribution led us to the conclusion that a substantial part of the increase would consist of women and children joining men already in the city. Thus, the growth in households would be at a rate of 3.9 percent per annum, or about one-fifth less than the population increase.

The effect of this conclusion upon housing need is at once obvious. To the extent that the males were already occupying housing units, there would be no increase in the number of units needed. There would, however, be a need for units of larger size. It was therefore necessary to fit the expected population increase to the existing situation. The assumption was that newcomer adult males would occupy the units relinquished by the

males who brought in their families and that new housing units produced had to be substantially larger. Moreover, adjustment was made for males who were living as lodgers rather than occupying separate dwellings.

In terms of net effect, the situation in urban Kenya could be expressed as follows. To take care of the increase in household, or family, size alone, the mean number of rooms per unit had to increase from 1.376 in 1962 to 1.761 in 1970. This computation assumed the same degree of overcrowding (half of the urban units had three or more persons per room) in 1970 as in 1962. Thus, the increase in number of rooms per unit would only keep the occupancy situation from deteriorating but would do nothing to improve it.

The other case I want to treat is the converse of the one already discussed. It was encountered a number of years ago in Puerto Rico which at the time I suppose it is fair to say, was a developing country.

In many areas, there was substantial outmigration but few, if any, vacant dwellings could be found. Study of the situation revealed that the migration consisted largely of younger persons, either unmarried and previously attached to family groups or young married couples who had been living with their families.

There was accordingly, a reduction in household size but a very small change in the number of households. A situation such as this can materially affect estimates of housing need. As in the case of an increase in household size, already discussed, it is important to analyze the causes of a decrease in size in order to assess its effect.

This is a complex type of analysis and the resulting effects upon housing need and demand depend upon the relationship of changes in household size to a number of other factors. It is probably best to illustrate the problem through several examples.

The first of these is the case in which there is no in-migration to the area and the loss in population is directly proportional to the decrease in household size. Under this circumstance the same number of dwellings would be required at the end as at the beginning of the period of estimate. The size distribution of the units would, of course, be different.

Need, and ultimate demand, in this instance would depend on the volume of housing to be replaced during the period and the ability of families to pay for replacements.

Another case is one in which there is a population loss as a result of net change over the period and the decrease in household size is relatively greater than that in the number of persons.

Suppose, for example, there are 1,000 persons in an area with five persons per household, or 200 occupied dwellings. Over a period, all of these households remain in the area, but on the average, one person leaves. This would reduce the population of these households to 800 but they would still occupy 200 dwellings.

Over the same period, suppose 25 families move in with an average of four persons per household. This would be a population increase of 100. The net change in population would be a reduction of 100, with 100 persons moving out and 100 moving in. The number of occupied dwellings required, however, would be an increase from 200 to 225.

These are very simple examples, I know, but the essential point is that a projected loss in population does not necessarily mean a corresponding diminution in housing need and demand, provided that there are reasons to believe that a change in household size is likely to occur.

Probably the most critical, but more frequently glossed over element in housing demand analysis, is the willingness and ability of people to pay for housing. While this can be said of housing analysis generally, it is even more cogent in the case of developing countries.

It is in this critical phase that the analyst, if his experience has been restricted to more advanced economies, is most likely to go awry. He must learn many new things. He will discover that the priority he may place on adequate housing is vastly different from that of persons in poorer countries, particularly those with tropical or mild climates. He has to see the problem through the eyes of the native population. He must not be judgmental as to what people should spend or save for housing.

Demand is the result of both price and the ability and willingness of people to pay for housing. I shall not, in this paper treat the supply side beyond saying, that in developing countries a substantial proportion of dwellings is constructed by the occupants; whatever home construction industry there is, often operates either for the government, or the limited number of higher income persons; there are a number of individual craftsmen who may be hired to assist a family to build its house or to build the entire house; in some cases, an individual will construct extremely shoddy houses as an investment, which generally means exploitation of the low-income population. There are many exceptions to this general statement but I believe that it is a fair picture.

Ability and willingness to pay for housing represent one of the most complex problems an analyst can face. The diversity among families of motivations, satisfactions and selection from among multiple choices creates a complicated pattern of housing expenditures.

At one extreme is the family that can barely exercise any choice in the allocation of its income.

Below this marginal family are those who cannot purchase sufficient food and clothing, much less housing. At the margin it is necessary to determine the amounts required for other primary necessities such as food and clothing (assuming that these have priority over shelter) and the balance of income represents the amount that could be spent on housing and other minimum requirements. Basically, at this level, demand would, therefore, depend almost entirely upon the minimum price at which housing could be supplied.

As income increases from the margin and families can begin to make choices in its apportionment, the principal factor is the degree of priority families place upon housing. Some families will give education of their children a precedence over housing. Others would rather have consumer goods such as transistor radios, better clothing, bicycles or even automobiles. In some families, the man, who often controls the purse strings, may place a higher priority on drink and other pleasures.

But none of these problems is limited to developing countries. Yet in these countries they are exacerbated by a number of additional factors, a few of which I want to cover.

In many developing countries a substantial part of the population is not used to paying for housing at all. Even in urban areas there is a vast amount of "squattling." Typically the use of a piece of land is acquired either under a law which makes it easy, or because authorities will not, or cannot interfere. The squatter generally builds a flimsy shelter of odds and ends. Authorities do not often take action, whether the squattling is legal or illegal, unless they can provide alternative housing. To do so, would in some instances, be politically indefensible.

Another factor that complicates analysis of expenditures for housing in developing countries is the often encountered custom, particularly in former colonies, of providing housing as part of the wage structure. Housing may be provided without cost or at a modest amount.

In Kenya, one-third of all urban housing for Africans is supplied by the employer. In Nairobi, nearly 45 percent of the housing is of this character. A senior officer in the Kenya Government occupies a government-owned house at a rental of £42 per annum although a fair market rental would appear to be about £375. If an officer should own his home he receives an annual allowance of 10 percent of its capital cost.

It appears easy to say that the entire wage structure should be revised to cut out payments in kind by both government and private employers. This, however, presents many difficulties.

Not all employees have been treated alike, either in the amount of payment or in the quality and amenities of the housing provided. To work out a uniform and equitable revision of the wage scale

is a gigantic task (the Kenya Government, however, has announced its intention to do so.) Moreover, in talking with government officers in East Africa I discovered that, in some cases, they were balancing the savings on income taxes through payments in kind, which were not taxable, against increased salaries which form the bases for their pensions.

Both of these factors, squatting and employer furnished housing, makes it very difficult to place expenditures for housing in perspective. Even if data are available for the non-affected part of the population, the inter-effects of these two segments on the housing market as a whole makes analysis a nightmare, but this is a factor that cannot be ignored when it is encountered.

I have already said that determination of ability and willingness to pay for housing is the most critical phase of demand analysis and have given several examples of complicating factors. Despite complexities the analyst must try, because very small miscalculation on this point has enormous consequences. Given the estimated income distribution of Africans in Nairobi, Kenya we find that if families can or will pay no more than one-tenth of their incomes for housing, 22% can afford 30 shillings or more per month. However, if the proportion of income is increased to one-seventh, the percentage of families affording this amount doubles. At one-fourth of income, the percentage triples. ^[22]

Complicating the expenditure pattern still further, at least in East Africa, are charges against income not generally encountered, particularly among lower income families. One of these is school cost, because free public education is virtually non-existent at present.

Another is the custom of sharing income with the family that remains on the land. It was explained to me by a government housing manager in Jinja, Uganda - an African who had been well educated at Makerere University. He said the payment did not spring entirely from altruism but that it should be regarded more in the nature of insurance. So long as contributions are made by the urban family to the part of the family remaining in tribal areas, the urban portion may return and be cared for in the event of illness or unemployment. Although this custom is declining, it is still strong.

Of course, adequate budget studies would reveal this situation. But these are scarce and at best, there will generally be only data on total income. In this case, the analyst might well overestimate the proportion of income that might be devoted to housing if he is unaware of the fact that part of the income is not available to the immediate family for consumption purposes.

I do not say this in criticism - because I have been guilty myself, although I have tried - but most of the studies I have seen pay little attention to this significant factor. It is true that

adequate data are almost entirely lacking, not only for developing countries but for advanced economies as well.

An often used device, when the data are available, is either to relate housing expenditures to total income or total expenditures. Many times this is done without regard to the level of income and yet we know that generally, expenditures for housing as a percent of income, decline as income increases, but not so rapidly. That is to say: expenditures for housing increase as income rises but not in proportion.

Even here, I can give an exception. A rather carefully done study of Mombasa, Kenya showed conclusively that until a relatively high income was reached, absolute expenditures for housing remained almost constant. This is a fair indication, I believe, of a low priority placed on housing, relative to other goods and services.

Even within given income groups there is wide dispersion of amounts families spend on housing, reflecting the tastes, preferences, ability to obtain housing and a multitude of other factors that go into individual decision making. I have not even mentioned the effect of family size upon housing expenditures. This, of course, introduces even more complications.

The simple fact is, and I say this advisedly, that we have devoted little research and effort at data collection that would throw light upon the significant subject of what people can afford and are willing to pay for housing.

Finally, in this respect, as in others I have mentioned, the housing analyst should not, especially in developing countries, approach his subject with a fixed set of ethical or moral principles. He must recognize that the high value we place on hearth and home may not be so high elsewhere in the world and that the sacrifice of today's consumption in order to save for the future may not be regarded elsewhere as the virtue we think it to be.

I have not attempted in this paper to describe the serious housing conditions in many developing countries, particularly those with extremely rapid urbanization. Nothing I have said should be interpreted as downgrading the significance of the housing problem. My intent has been solely to point out that housing problems are relative to the characteristics of countries and that no single standard for measuring them can apply.

Despite the fact that differences among nations cause conflict, it is true that cross fertilization often yields new and vigorous species while pure strains frequently run a course of sterility. We have much to give from our own background and experience but it cannot be applied blindly. We can assist but must not impose. We need to understand and interpret - not in our terms but in those of the countries with which we are dealing.

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