

Assessing housing needs¹

A primary consideration in evaluating the impact of regulatory frameworks on land and housing is to assess existing and future housing needs. This will enable projections to be made of the area of land required according to the existing regulatory framework. It will also indicate where changes to planning standards or regulations may be needed to help upgrade existing settlements and improve access to new legal housing.

The extent of housing needs

As the population of towns and cities grows, so does the need for housing. How can the extent of this need be assessed? The following methodology has evolved from that developed by Struyk et al (1990) and variations applied by many professionals throughout the world. This latest version has the important merits of being more comprehensive and concise. It recommends the following operations:

1. A twenty year planning period (though this can be revised if required). Results are produced for every fifth year of the period.
2. Estimating the need for new and upgraded housing units based on the number required to meet a minimum acceptable standard to be defined. This stage has five aspects:
 - **The rate and scale of new household formation.** This can be estimated crudely by dividing the total anticipated population increase by the average household size. In practice, new households are usually formed with two people, so this estimate will be conservative.
 - **The replacement of existing units which will have fully depreciated during the plan period.** This will depend to a large extent on building condition, which is in turn influenced by the type and quality of construction, the level of maintenance applied and the climate, etc. Excluding external considerations, such as flooding, earthquakes, etc, the average lifespan of a structure will enable an estimate to be made. For example, if the average lifespan is considered to be fifty years, the replacement needed will be 2 percent a year; for 33 years 3 percent and 66 years 1.5 percent a year. Remember that in practice, buildings invariably last much longer than official estimates or the period for repaying their capital costs.
 - **The replacement of deficient units whose upgrading is not economically feasible.** A large proportion of substandard housing can usually be improved, providing the owners feel secure and have access to credit. However, there will also be a proportion for which this is not feasible. It may not be practical to replace this stock immediately, so estimates will need to be made over a reasonable period. This will determine the annual number of units to be replaced.
 - **The number of units required to relieve over-crowding levels present at the start of the plan period.** Definitions of over-crowding vary considerably and are influenced heavily by cultural considerations. What is considered acceptable in one context may be intolerable in another. Any definition is therefore arbitrary and official definitions tend to err on the high side, such as one household per dwelling unit, even though multi-occupancy is often widespread. Consideration will also need to be given to the definition of a dwelling unit, since it is common for very poor households to live in a single room.

¹ The first part of this note draws extensively on Struyk R, Hoffman M, and Katsura, H, 'The Market for Housing in Indonesian Cities' Urban Institute Press, Washington, 1990.

- **The upgrading of deficient units existing at the start of the plan period where this is economically feasible.**

The estimate of needs assumes that a new unit is produced for every newly formed household.

To undertake this analysis, it is necessary to assess the following:

- The projected future demographic growth of the city or country during the plan period.
- The nature of the existing housing stock, classified as acceptable; unacceptable but upgradeable; and unacceptable but not worth upgrading.
- The rate at which deficits are to be reduced over the plan period must be determined.

It should be remembered that estimates of 'housing deficit' based on these or any other considerations need to be treated with great caution, since the criteria by which they are defined are partly subjective.

The nature of housing needs

Having estimated the *extent* of housing needs, it is then important to estimate the *nature* of such needs. This is because not all households want or can afford the same type of housing. What households want will be determined by social and cultural considerations, What they can afford will be determined by economic considerations, or affordability. Affordability will be largely determined by incomes, though savings may also be relevant.

It can therefore be seen that the nature of housing needs is difficult to estimate. However, a start can be made by concentrating on the economic aspects, as this can help to calculate the total amount of investment required to meet the projected extent of housing needs. This is sometimes known as effective housing demand and can be estimated by:

- **Calculating affordability** by estimating the amount households can afford at different levels of income (or expenditure) - probably for each quintile - for housing and related expenditure (eg fuel, utilities, maintenance, etc). An allowance may be made for existing savings or other assets and their availability for use as deposits.
- **Determining (or estimating) what types and standards of housing can be obtained for given levels of affordability.** To do this, it is recommended that costs be estimated for each of several standards and types of development in a range of typical areas. Such costs should include all land, construction and utility connection costs, together with administrative costs associated with obtaining official permissions and the financing costs. This latter item, which includes the interest payments or finance charges needed to fund the unit may represent the largest single project cost, especially if interest rates are high. From this, it is possible to relate the levels of affordability and costs to assess the degree of 'fit' achieved. Gaps that remain will provide a basis for modifying either the rate at which existing deficits are reduced or the standards and types of initial provision. Remember that encouraging incremental house development can reduce initial costs substantially and therefore improve effective affordability.
- **Estimating the average costs of upgrading existing deficient housing to bring it up to a defined standard.** This, of course, tends to an arbitrary estimate.

Outputs from the methodology

This methodology is able to generate several outputs:

1. The number of new and upgraded units needed every fifth year during the plan period
2. The classification of households by the type of housing they can afford.
3. The level of investment required to meet the specified level of housing needs. The difference between what households can afford for a specified unit is the 'affordability gap' and will need to be bridged by providing external or internal subsidies, further reducing standards (of *initial* provision), or a combination of these options. When making a decision on which option to adopt, it should be remembered that external subsidies are rarely available at the scale required and that even when they are they are often captured by higher income groups than those intended and therefore distort land and housing markets. Modifying planning regulations and standards therefore presents a more effective and sustainable approach to reducing costs and improving access to legal and affordable shelter.

This approach is only able to provide a starting point for assessing the likely extent and nature of housing needs. Its usefulness will depend partly on the accuracy of data inputs and partly on the appropriateness of standards applied. The study should be repeated regularly so that these can be tested against changing circumstances and adapted as required.

Finally, remember that estimates of housing needs should not be assumed to mean that all new housing should take the form of individual family houses. In larger urban areas or where land prices are a significant proportion of total housing costs, apartments will form a large part of total new housing.

For these reasons, it is vital to apply such estimates with caution rather than as a sound basis for policy without the benefit of additional information.

Geoffrey Payne, Geoffrey Payne and Associates, UK

Further reading:

Struyk. R, Hoffman. M, and Katsura. H. (1990) 'The Market for Housing in Indonesian Cities', Urban Institute Press, Washington.