

HOW LONG SHOULD HOUSES LAST?

A recent study has concluded that there are real advantages to be gained from deciding how long houses should last in each case, rather than accepting an arbitrary 60-year life expectancy for all. Éanna Nolan reports.



A study funded by the NHBC Foundation and carried out by BRE, has looked at the way in which the construction industry designs houses for longevity. The study proposed that rather than accepting default 60-year life values, there should be a more rational approach through which the design life of a house is explicitly decided in each case.

A matter of expectation...

'The expected life of a house is 50 years (the builder), 100 years (the lender), and 400 years (the owner).'¹

The quotation illustrates that consumers are probably not getting what they expect when they buy new houses. It also neatly illustrates that the lack of a clear stated design life has an effect on all parties involved in the purchase, financing and construction of a new home. It is reasonable to assume that someone will be disappointed.

...and of substance

The design life of most buildings and structures is taken by the industry to be 60 years. This is thought to be a convenience that is based on UK Treasury rules for repayment of internal loans. Whatever reason for its widespread adoption and use by the industry, the nominal 60 year design life appears to have unintended and sometimes inappropriate consequences.

We are currently experiencing many changes in house building design and construction methods, which are being driven by various agenda such as reduced carbon, reduced environmental impact, offsite construction etc. All taken together, they mean that buildings and houses are now markedly different from those constructed in previous decades. It is argued that an approach based on long-term practice is less adaptable to innovation and more likely to lead to failures than a more rational approach.

The impact on design would not be that radical. Design codes do allow for different design lives, and indeed have done since the 1950s. The radical change proposed is that designers, clients and perhaps even planning authorities, should genuinely discuss what the functional requirements for each project are. The idea is that we should decide explicitly based on circumstances as to whether a long life or shorter life is appropriate.

Long life solutions

It should be pointed out that what is not being proposed in a rational approach to housing design is ultra-long life housing, but rather the recognition that roughly 40% of our current housing is over 60 years old². If housing stock became unusable after 60 years the UK would have a major problem.

A recent government initiative in Japan aimed to promote a 200 year life span. Of course not all the parts of the building need to last that long. If we think about why Victorian terraced housing can still provide accommodation today, 100 years after being built, the following guidelines for long life design become apparent.

The basic structure of the house:

- can last the design life
- can accommodate replacement components
- has the appropriate level of flexibility and adaptability
- has an appropriate, or at least well appreciated, level of maintenance
- has an emphasis on good basic detailing.

These are not new ideas, but they are important if we want to build homes that will last.

Shorter life solutions

Perhaps more interestingly, a rational approach to design life would also offer the opportunity to design for shorter periods than the standard 60 years. The reasons for favouring short term buildings might include a high risk of obsolescence, knowledge that the structure wouldn't be needed to operate past a particular date, rising flood risk, etc.

For shorter life components and systems the issue of achieving efficient deconstruction might be meaningfully addressed. Deconstruction currently seems to have little to do with re-use and more to do with demolition for waste.

A market for re-usable components and systems that can be demounted and re-erected may well be promoted through adopting design for rational life spans. If it did, it might bring about a welcome reduction in waste arising from maintaining the housing stock. Indeed, it might also facilitate a business model for providing accommodation that consists of 'renting' major components, structures, etc, to clients for stated periods.

Conclusion

As outlined above there are real advantages to spending a little more time explicitly deciding how long our houses should last, and growing risks from not doing so. The type of change proposed may not be the type of issue that will grab headlines, but it just may help us all continue to provide suitable housing expected by the UK.

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For more information

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¹ NHBC seminar series 'Building for tomorrow' March 2000 Introductory talk by Peter Watton, NHBC.

² English House Condition Survey.