

## Making Green Sustainable

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Today we are being told that green buildings will build a sustainable world. How one goes from green to sustainable is something that needs to be discussed.

While there is agreement on what green buildings are there is no worldwide consensus on what sustainable development means. One definition may be better than the rest: "Sustainable development is one that does not require resources beyond its environmental capacity, is equitable, promotes social justice and is created through inclusive, decision-making processes."

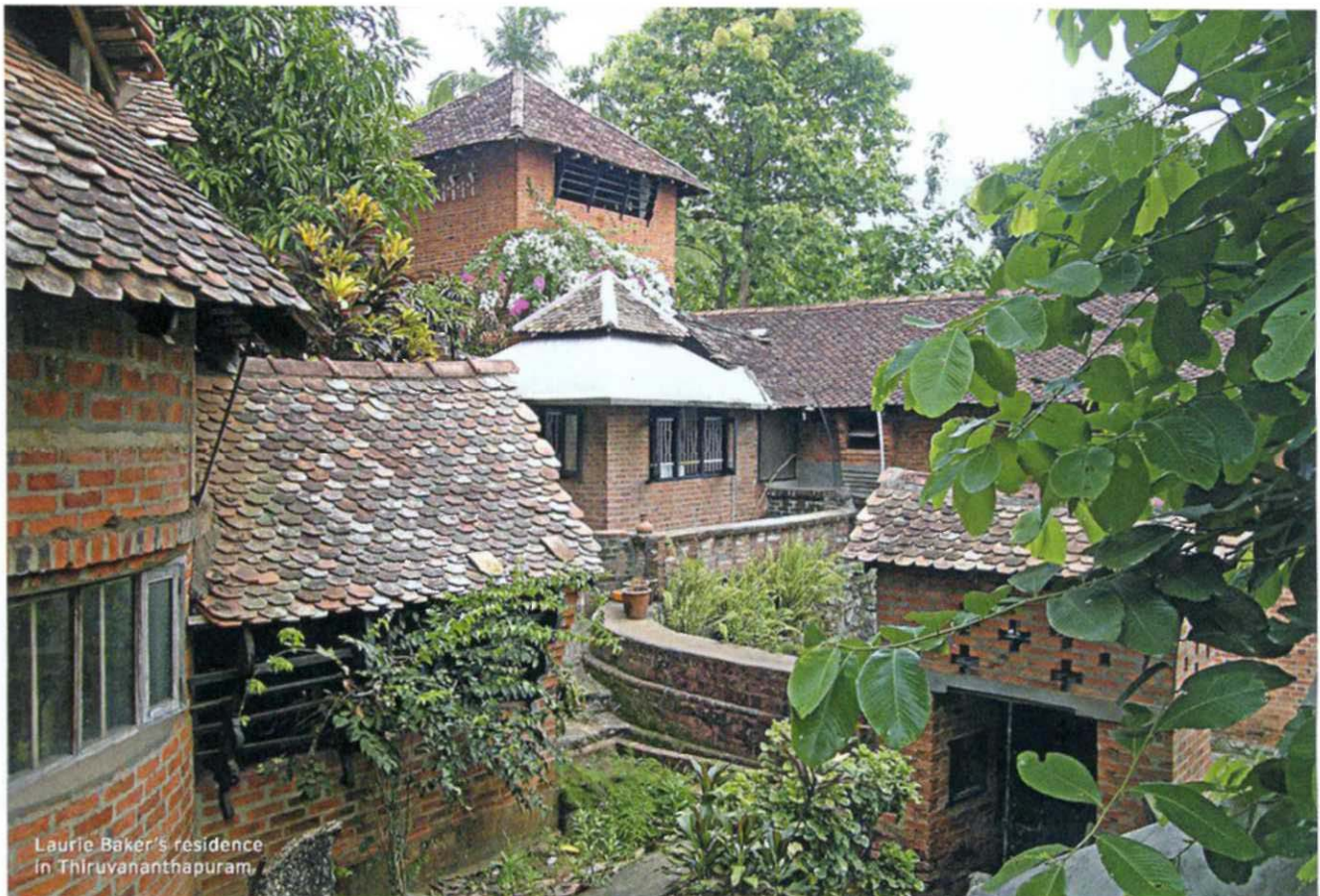
A case in point is Laurie Baker's work in Kerala. For him, building green actually meant building with locally produced red, burnt bricks and avoiding expensive and resource-consuming materials, such as cement and steel. There was a strong element of social equity, and he used similar resource-conserving materials for people with very different income levels.

Baker's buildings are perhaps the most sustainable buildings built by any architect in India, but it is doubtful if any of them would get a Gold or Platinum rating. None of Baker's buildings are air conditioned by mechanical means,

but they all provide a reasonable degree of comfort. With the change in contemporary circumstances and comfort standards, Laurie Baker's type of building is not easily acceptable today. He built in the Gandhian spirit of sacrifice and that requires the user to accept somewhat lower levels of comfort and security. Baker compromised on certain things that are considered essential today, but the principles that Baker used are perfectly valid even now, and their application will deliver low-resource-consuming buildings, which will outperform green-rated buildings.

So then, how does one go from green buildings to sustainable development?

To build for the future, we need to see where we are going. The future is hard to predict, but some things are certain. On the demand side, there will be a rise in urban population in developing economies and an increase in levels of income, and consequently, in the buying capacity of individuals. On the supply side, it is expected that climate change and higher consumption levels will cause a shortage of water and energy supply, means of waste disposal and building materials commonly used today. Sustainable design will require careful responses to the situation and it cannot be built around inappropriate systems of the past, however efficient we might make them in the future.



Dealing with cars and car parking are examples of how we are reacting to the past without thinking of the future. Most housing areas in our cities are flooded with cars. The National Building Code requires one to provide one or two car-parking spaces for each dwelling unit. There are not enough roads in our cities to allow each citizen to use a car, but owning a car and parking it close to one's home is considered a basic requirement; and the National Building Code provides for it. The question is: Can we allow car ownership to continue expanding as it has been in the last 15 years? After all, this growth was fuelled by a now discredited credit market.

The system for removing human waste from homes is another such case. We are short of water, but it seems we have accepted the water-borne waste-removal method as the most appropriate, and we are not ready to deal with any waterless system of waste removal. The alternatives include India's Sulabh, China's Eco San and the European vacuum-evacuation system. Indeed a great deal of effort is being made to supply an adequate quantity of water to towns where no piped water supply exists today, simply to flush waste. It's been accepted without question that flushing waste with water is the only way of removing it and that the quantity of water required for this must be made available, whatever it takes. It does not matter that this system continues to pollute our lakes and rivers.

India is a warm country. Barring the hills and plateaus, most places in India require some form of cooling

for citizens to be comfortable. It seems that air-conditioning has been accepted as the best means available for cooling buildings. We are now building air-conditioned housing whether or not we will have enough electricity to use this energy-intensive method of cooling.

Green buildings' rating systems require that we must build using the site, water and energy efficiently with materials that are locally produced. Also, the buildings must provide a healthy and comfortable indoor environment. To make sustainable buildings, one would first need to create a sustainable urban environment and ensure that all sections of society are provided for in an equitable manner. In other words, buildings would have a measure of social equity and be designed in a socially inclusive manner. These issues of sustainability cannot be tackled by individual buildings and must be addressed by proper urban planning. However, the present method of planning and building does not take into account the needs of the majority of the population, but buildings can get a green building label anyway. Such buildings cannot be considered sustainable by any standard.

To create a sustainable community, town or city, green buildings will need to be built in a resource-conserving and socially equitable urban context.

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