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Brick versus Mud

Environment-friendly Houses

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To provide habitats to the ever-growing population, constructing more and more buildings has become essential, transforming the towns and even large parts of rural areas into heat-trapping concrete jungles. However, the scenario was quite different about half a century ago, when the villages were lined with beautiful houses with mud walls and thatched roofs made of straw. Even the sub-urban areas were no different. But now, like most natural features, those are also on the verge of extinction, pushing the environment a step forward towards deterioration, while buildings made of bricks and cement take their place. Such houses, which also need sand and steel, contribute immensely to environmental pollution, especially global warming and the resulting climate change.

Brick Houses

The bricks are made of clay and baked in kilns. It is a highly polluting process, needing half a ton of coal for 1000 bricks. On the other hand, when 1 ton of coal is burnt, it releases 2.2 to 2.9 tons of carbon dioxide along with huge quantities of sulphur dioxide, nitrous oxide, hydrogen chloride, hydrogen fluoride, etc., as well as particulate matter with diametres between 2.5 and 10 micrometres (PM 10) and 2.5 micrometres or less (PM 2.5), depending upon the type and quality of coal used. Besides, coal mines are also sources of gases like carbon dioxide, carbon monoxide, methane, etc., and cause extensive deforestation.

The other main ingredients in brick houses are cement, sand and steel. Manufacture of 1 ton of cement emits about 900 kg of carbon dioxide along with other pollutants and causes extensive water and soil pollution. Again, the raw materials required are extracted from mines, which have environmental and ecological problems, including deforestation and loss of biodiversity. Similarly, steel industries are among the most polluting ones and the mines that provide raw materials to those have their usual environmental and ecological impacts. Then last but not least is sand, usually removed from the river beds, seriously affecting their natural courses, not only the environment and ecology but also agriculture on both banks.

In addition, the transportation of raw materials from mines to factories and finished products from factories to construction sites have their issues, requiring the laying of roads for the vehicles carrying them. Such vehicles use large quantities of fossil fuels.

Then comes the problem of the non-degradable nature of kilned bricks. As we see it today, those used in various constructions centuries ago in different ancient civilisations are still lying in places. At that time, the materials were used on a limited scale. However, those are used extensively to build houses, roads, and other construction covering almost all human habitations. Therefore, once a time comes when very little natural land may be left in such locations to plant trees and avoid such a situation, the alternative of going back to traditional houses made from natural raw materials has caught the imagination.

In our country, traditional houses are region-specific, depending upon the local availability of natural raw materials. For example, on the western coast of southern India, laterite