Green Homes Of Our Past

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The traditional rural home, made of clay earth walls and thatched roof, is both eco friendly and ideally suited to the local climate. Unfortunately, it's also being fast replaced by the more modern materials of brick and cement. But its exceptional advantages are still praised by home-owners and architectural experts alike.

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"The dwellings of the ordinary folk were of mud and straw, humble, unpretentious, in which appearance is sacrificed for convenience and economy," records Dr John Davy, a medical practitioner and amateur chemist, who worked in Sri Lanka during the 19th Century.

This simple dwelling to which he refers, called a mati geya (clay house) in Sinhala is built using the wattle and daub method. In this style of building, a framework of poles is sunk into the ground, with reeds or jungle vines woven horizontally between the poles to make mat-like screens (wattle or warichchi in Sinhala). The spaces between the exterior and interior walls are then filled with mud. Both sides of these

walls are then plastered (daubed) with a wet mud mixture.

This style of building and the materials used have remained unchanged over the centuries. While natural decay and the development of building materials have left very few ancient wattle and daub houses, the process is being followed faithfully by the few who continue to live in these simple houses.

In ancient times, there were strict rules about the building of private homes, and this may have influenced the simple plan and design of these houses. The 18th Century sailor, Robert Knox, records that villagers "…are not permitted to build their houses above one storey high, neither may they cover with tiles, nor whiten their walls with lime, but there is a clay which is white and that they use sometimes" (this is a reference to kiri mati, which is still in use today).

The use of natural clay and thatched roof is ideally suited to the hot tropical climate of Sri Lanka. When the weather is cool and humid, especially at night, the porosity of the clay absorbs moisture and during the day, when it is warm, the moisture is expelled. So the walls of these houses literary breathe, acting as a natural "air conditioner", which prevents heat from crossing the walls.

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The single room and colonnaded verandah are the most common. The surrounding walls of this verandah (pilla) were usually built to form seats or beds. Architect Ashley De Vos writes in his paper titled "Some Aspects of Traditional Rural Housing and Domestic Technology"(1988) that these houses have been traditionally separated into two areas: a private and public area. The inner room (the private area) was usually reserved for the women and children, while the pilla or verandah (public area) was used by the men for sleeping as well as for entertaining visitors.

The location of the kitchen differed regionally. In the hill country areas or wet zone coastal areas which experienced regular monsoon rains and damp, the kitchens were located inside the house. In the hot and dry North Central Province, the kitchen is built as an additional space outside the house, sometimes a separate structure with half walls on three sides.

Another interesting feature of these homes is the small windows and narrow doors. Because the inner room was usually only used for sleeping, it was not considered

necessary to have much light. It is also believed that larger openings increased the heat and glare.

The building of a mati geya involves the entire extended family, and often neighbours too. It is a community effort, and traditionally no money was paid for labour, only meals provided and a festive spirit of collaboration lasting for the duration of the building. While the men worked on the timber and thatching, it was women who gathered the clay and prepared it and built the walls and floors. If woven mats were used instead of straw or grass, the women of the family wove these in advance, many weeks ahead.

The plinth or floor structure is first demarcated and then the roof and timber structure is built. The timber subframe is traditionally built of “milla” timbers. The steeply pitched roof is distinctive of this style of housing and was effective in shedding rain water off the surface of the roof. Architect De Vos records that the additional vertical timbers usually stop about six inches short of the wall, which helps to keep white ants (termites) from the roof. It also allows any heat to escape from within the room and cross ventilation to take place. Often, sticks of the yellow Bamboo plant were used for the vertical timbers, and jungle vines, strong reeds or split Areca nut trees knotted horizontally to create the frame. A gap is left in the vertical posts for the main door frame, which is placed in a ceremony called the “ulluhaw panima”.

The roof covering was usually Cadjan (woven coconut palms), Palmyrah, straw, grass (Illuk or Maana) or sometimes a combination of all these materials. A wide overhang is created, projecting about three feet from the wall, ensuring that the mud walls don’t get wet during the rainy season. In the North Central region, the overhang had another reason, writes Architect De Vos. The low hanging roof protected the house from strong winds, and they have only one entrance, reached by crouching under the eaves.

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Once the roof was completed, or while work on it was still on going, the natural clay or mud was brought from nearby quarries, water added and trampled till it formed a homogenous mass. This clay mixture was left in the open for three days, to mature before being used. In some areas, chopped straw is mixed with the mud as

reinforcement against cracks that appear later in the mud walls.

There is no foundation per se, but there exists a plinth of about two to three feet above ground, to protect from the rain water and any local creepy crawlies. The walls were made integrated with the plinth so that there is no need for a separate foundation. This plinth is built as a perimeter wall, using mud balls (mati undi) on top of each other till they reach the necessary height. This is then left to dry for a week, and thereafter the centre is filled with earth, dampened with water and trampled and flattened.

Next comes the building of walls, with mud balls being put into the wood and vine framework. The mud balls are hit with slight force and extreme skill, called “katu mati gehima”. The wall is built in stages, usually about three feet, left to dry and the balance done as the second half.

Once the walls are filled in this manner, the second coat of coarse sand and clay (demati) is applied. In some areas, they add paddy husk to this mix, and this is applied as a finishing coat to level and smoothen the surface of the walls. The floor is usually completed using a mixture of ant-hill red clay (humbas mati) and sand. This is topped with a mixture of more ant-hill clay and cow dung. To finish off, a thin mixture of cow dung and water is applied. This top layer is usually replaced twice a year, and the old dung paste is removed and a new paste applied. Research has shown that cow dung is a very practical disinfectant, leaving no discernible smell once it is dry.

These simple yet attractive mati houses may rapidly become a thing of the past, but the simple techniques used, the community bonding it created and the minimal environmental impact of its construction are qualities to be valued and remembered.

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