

THE STRAW BALES OPTION

In this occasional series about different types of houses being built in our area, Christobel Munson interviews a straw bales house builder living “over the border” in 2480-Goonengerry as no straw bales houses could be found in 2479-Bangalow.

If you think a straw bales house probably looks something like those cute little ‘Hobbit’ homes in *The Lord of the Rings* movie, complete with rounded archways and spider webs, or something rather amateurish from an owner-builder magazine, then you’re going to have to press the ‘refresh’ button. Times have changed.

Wandering through the Mafeking Road home of the O’Keeffe family, there’s nothing at all feral or funky in here. Set facing the 70 acres of sub-tropical rainforest of a six-household intentional community called Tibetan Creek Sanctuary, designer-builder Amiten O’Keeffe has designed and built a smart and contemporary, efficiently functioning family home.

“I wanted to reflect the vernacular of early Australian architecture, with the high ceilings and a verandah all around of an early Australian homestead,” he explains. “I wanted the feeling of being rooted to the ground here.” In that, he’s certainly succeeded. The 500mm thick walls provide extremely high insulation and sound-proofing qualities. It’s fireproof and energy efficient, using natural building materials to keep the energy footprint low. “Our energy costs are lower, and since straw bales are good insulators against heat or cold, we have a more moderated climate than the average house,” Amiten says.

With eco-sensitivity a top consideration, the house has a composting toilet and grid interactive solar. From a ‘healthy house’ point of view, he adds, there are very few toxins embedded, so the atmosphere inside the house feels cleaner and healthier. Unlike many local houses, this house remains dry and does not produce damp or mould during the long wet months.

You can see it’s a home that would be comfortable to live in. Living spaces open onto sunny paved terraces and comfortable verandahs. Lawned areas and beautifully tended gardens front onto luscious rainforest, with rock walls, a fire pit, a bunny cage and a chicken tractor indicating a family with kids

enjoys living in this space.

For 27 years, Australian-born Amiten lived overseas, mainly in England. After studying ceramics in Perth, in 1979 he travelled to



A better normal house.

Europe, and after a few years in Greece where he established a pottery workshop, ending up in Dartington, Devon. He began designing and building ‘regular’ houses there in 1982 but it wasn’t until 1999 that he designed and built his first straw bale building.

“I became interested in straw bales through working with cob (a mixture of earth and straw) in the U.K.,” he recalls. At the time, he was part of an organisation called the Devon Earth Building Association. “We were doing lots of renovations work involving cob, but discovered that faults emerging in cob buildings were caused by overlaying contemporary finishes, such as sand and cement, instead of using the traditional lime-based render for repairs. Since the cement wasn’t permeable, moisture built up, damaging the substructure.

“Once we researched what the problems were, we realised we needed to inform the builders, so we got together with the ‘Earthen Architecture’ department of the University of Plymouth, and set up courses in how to repair and maintain cob in the traditional manner”.

This work gave Amiten a great deal of practical experience and on-the-job training, with the added advantage of working with the university’s chemists and engineers. “It was such a simple thing: when using sand and cement renders, if the earth got wet, it just went to pieces. Out of that came the whole technology of re-using traditional materials. After some research, we realised

that straw bales could be used structurally, and found that people were using straw bales in buildings in America and Australia, too.”

Since no structured courses were available, the team experimented. Some people built round, odd-shaped houses. “Because I’d come in from the building side, I wanted to place straw bales in the mainstream”, evident particularly in Amiten’s current home.

The advantages of using straw bales soon became apparent to the team. Extremely high insulating qualities; you could train someone to install bales relatively fast, and a combination of traditional materials such as lime renders fitted beautifully with the use of straw bales. Straw is also seen to be a ‘green’ waste product, and is usefully recycled as a building material. “Today, we need to be building houses as energy efficient as we can. I prefer using natural rather than high tech materials, which tend to have a high background cost and energy footprint.”

Amiten’s company Natural Building Works, has built four straw bales houses, and he’s designed several more. His research found that straw bales home construction began in the dry climate of Nebraska, USA, a huge wheat growing area, with straw as a by-product. Before industrialisation, straw was used as thatch. In the 1800s, when baling machines were invented, poor Nebraska labourers found themselves a cheap building material in the straw bales. Walls could either be load-bearing, or houses could be made with a light timber frame infilled with straw, now the more popular method.

“There’s an old Devon axiom: ‘If you give it a good hat and a good pair of boots, it will last forever’. This is particularly true for natural products: keep it dry, and the moisture out.” (The ‘boots’ are the foundations, which can be a concrete slab or a timber frame. The ‘good hat’ in Amiten’s house, is Colorbond.)

Amiten enjoys working with owner-builders who need initial design input, and someone to shepherd them through the whole process, though he’s also happy to take a design brief from a client for either a contemporary or traditional straw bales home. First, he develops a sketch, which a draftsman puts into scale. Engineering and quantity surveying follow, “then it’s just the standard building process”. He’s found that Byron Council is comfortable to approve straw bales house designs, and has built three in the shire.



Amiten O’Keeffe