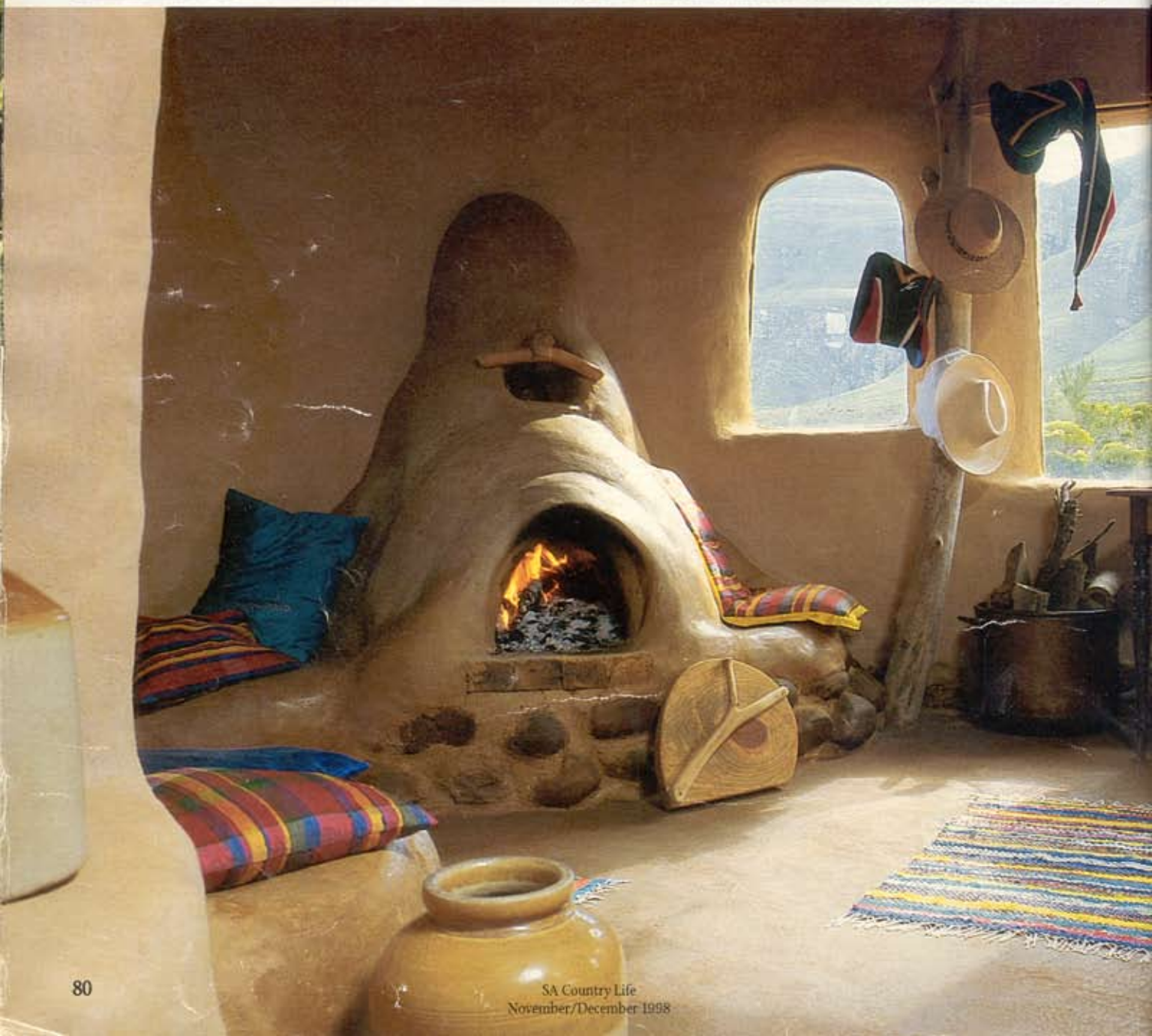


SOUTH AFRICAN COUNTRY LIFE

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Introducing your Guide to Country Hikes
A HOUSE OF MUD AND STRAW
The Lace Revival
BATS MAKE GOOD NEIGHBOURS





by Alex Gremer "Have a look at the structures built by Herta Stürmann," said the Overberg District Council's man at Caledon. "We have never seen anything like it, and were amazed to see what she had built of straw and earth – or cob, as this ancient building method is known."

And how right he was, for the complex that Herta had created was certainly astonishing. Stepping out of the car I could see a domed hut constructed only of cob, perfect for cheap housing, and there was a two-roomed cob-walled guest cottage with Chromadek roof that would make an affordable dwelling. Some distance away, silhouetted against the mountains, stood two bigger houses with free-shaped walls and flowing roofs that instantly reminded me of fairytale dwellings found in children's books.

But I soon realized that Herta and her buildings were more serious than this. She later

pointed out that 500-year-old cob buildings could still be found in Wales, where the concept possibly originated. At the time, rural families there were extremely poor and cob construction may have developed out of necessity, running parallel with other building methods that also used readily available materials.

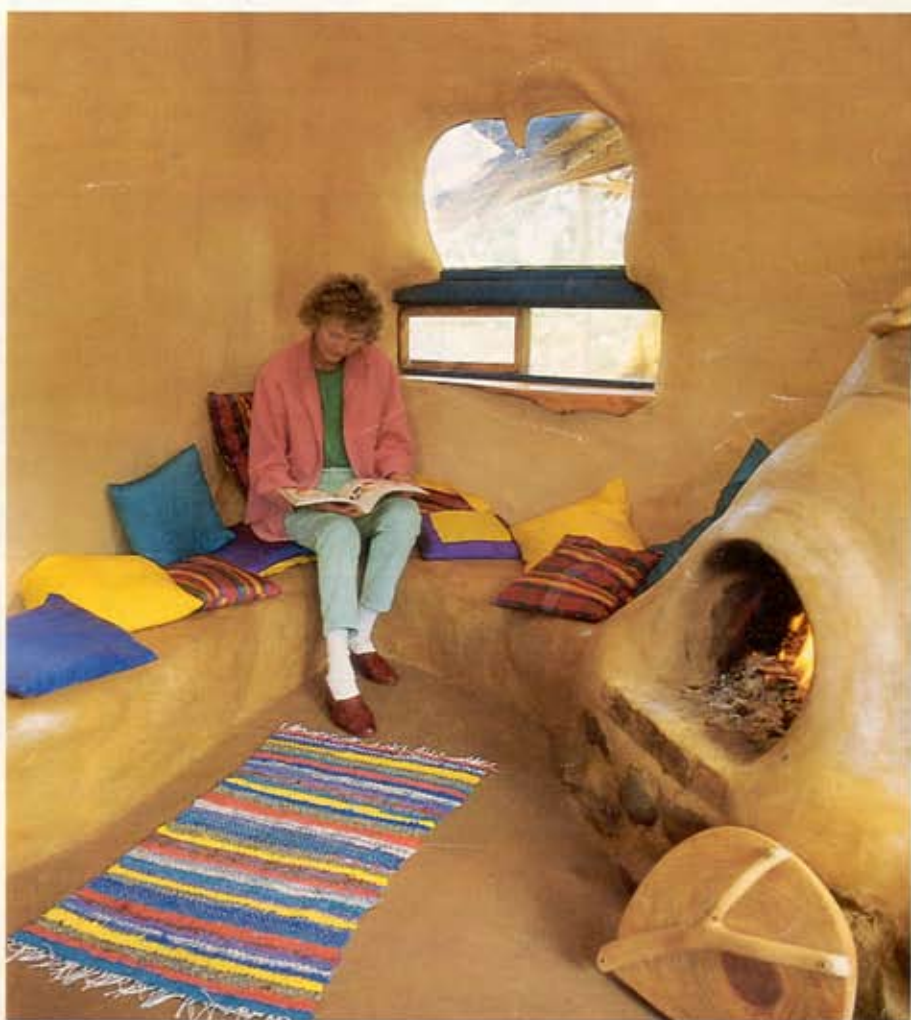
"When my son, Jan, brought the cob idea from America in 1996, we started on the first houses and I had to continue with the building when he went back," says Herta. "As I could find very little technical information in books I proceeded, relying on intuition, common sense and chutzpah."

Like all cob structures, they started with a stone foundation which was 45cm wide and set 45cm into the ground, then packed to 45cm above the ground (this may be different if building on solid rock or gravel). Multi layers of the cob mix were then packed onto this base

and carefully 'knitted' by thumbs, fingers and mostly the hand palms or specially shaped pieces of wood, to compact the cob and fill crevices.

Her cob mixes began as a blend of clay, earth and sand, but Herta pointed out that the proportions will depend on the type of soil used. "A good cob mix only needs a clay content of 20 per cent, and I consider a proper mix as something like Grandma's recipes – never written down, but always perfect through texture, touch and tested experience. Water is added according to pliability, making the mix not too firm nor too runny. Then you add a lot of straw, preferably wheat which is more fibrous than oats straw that can also be used."

The best way to mix the ingredients is to use one wheel-barrow full on a tarpaulin and stomp it with your bare feet after water has been added to the sand and clay. Continue with the



PREVIOUS PAGES Flanking a lovely garden pond, the cob house is perfectly placed to take full advantage of the surrounding mountain and fynbos scenery.

OPPOSITE PAGE Any shape is possible with cob construction (above left), including this fully-domed hut that is ideal for inexpensive, basic housing. The free flowing design of Herta Schürmann's cob house (above right) reminds one of a fairytale cottage in a children's book. Large flat pieces of glass, set into the cob walls (left), bring light and the beauty of mountain scenery into Herta's cosy lounge. Herta (above) enjoys a quiet moment in her lounge with its built-in cob seating and fireplace that also serves as an efficient oven throughout the year.



stomping after adding the straw. The mix is ready as soon as the straw is coated with earth, and the clumps (called cob, which is an old English word for a small amount of earth) have a plastic consistency.

As the layers of cob mix slowly formed the wide walls of her home, which needed no structural supports, Herta incorporated the doors and windows. Some of the latter were opening units, while others were flat pieces of glass (she recycled vehicle windows) set into the walls. Each layer of the cob mixes went wet-on-wet to form the seamless structure and, where any working layer became dry, it needed a splash of water before building operations continued.

The walls in her house were done straight up on the inside, but outside they sloped inward. This gave a tapering from the 45cm width of the foundations to 30cm at the top, which is wider than a conventional double brick wall.

"I left a number of ventilation holes in the walls, drawing cool air from the bottom of the southern walls and exiting hot air at the top of the north facing walls," explains Herta. "In winter I regulate this air flow by plugging the holes."

Although she does not rely on the national electricity grid or municipal water, Herta recommends keeping such services in mind when designing a cob house. Although any electricity and plumbing points can be retrofitted, it is better to plan and install the necessary reticulation lines as the construction progresses.

It may not be everybody's cup of tea, but Herta loves her built-in bath, basin, furniture, and especially her fireplace. Sculpturing and being creative is an important part of constructing with cob, which is so pliable that it lends itself to all organic forms similar to those used by potters. Cob also blends in well with other natural materials.

As the walls are all load bearing, any type of pitched, flat or shaped roof can be fitted over a cob building. Herta opted for Chromadek sheeting fixed to roof beams and purlins that were embedded into the walls, each secured with a 'deadman' – about a 10cm diameter and 40cm long log – that was set into the walls 50cm below the roof beams, with log and beams linked with tightly-pulled, heavy gauge wire.

Once the roof was on, Herta finished the walls. Both the inside and outside first received a hand-applied plaster coat, using a mix of finely sifted sand, sifted clay and a bit of fibre. She could have used wheat straw for this, but found that digestive bran was ideal for the plaster mix. And it was cheap. She used about 350g per wheelbarrow of plaster.

"Once the outside walls were plastered, I painted on a mix of boiled linseed oil and turps as a sealant to stop the walls being washed out," says Herta. "The walls still get wet, but the natural properties of the clay and the thickness of the walls act as a barrier to prevent the inside getting damp. The treated walls also allow the house to breathe, preventing any mustiness."

For the floor, she removed earth to a depth of roughly 15cm, then filled up the space with chipped

stone. On top of this came a 15cm layer of cob in the same mix as used for the walls, and a final 2cm topping identical to the mix used to plaster the walls. Here the final finishing was four coats of boiled linseed oil and turps, followed by one coat of boiled linseed oil and beeswax for waterproofing.

This mixture gave the floors a shiny dark-brown hue, that was nicely offset by the lighter colour of the interior walls, created by painting them with a boiled mix of cake flour and water, to which Herta added some kaolin and finely sifted building clay.

"I started off waterproofing the basin and bath with a roof paint, but later used the same method as on the floor," explains Herta. "This is also the way I sealed and waterproofed the walls and roof of the dome-shaped building. The same formula was applied to the cob furniture and fireplace."

To keep the house cosy in winter and cool in summer, an insulating layer of raw wool – discarded samples from the Wool Board – was used between the hessian ceiling and the roof sheeting.

The Overberg District Council has granted Herta a Permanent Structure Certificate for the two houses she has built on the farm, and this may pave the way for other councils to do the same. At present, Herta is busy with five projects in various areas, each requiring different approaches due to terrain, finance and size. To keep costs down, she tries to use freely available building material that is not more than 30km from each site. "Building your own cob home is not only very cost-effective, but keeps you well-grounded and very fit."

Later, while we were enjoying delicious buchu, lemon grass and mint tea, Herta expressed her philosophy regarding the role cob construction can play in our modern world. "Earth is in dire straits because of the misuse and abuse of all our natural resources. We have to stop believing in people who preach the religion of commercialism and consumerism, and take full responsibility for our most basic needs, shelter and food. Don't destroy, but let's start to work in unison with Mother Nature and give back to her more than what we take."

This enterprising lady will help anybody who wants to go the sustainable route to build their own inexpensive shelter. All you have to do is write to Herta Stürmann, P O Box 1197, Hermanus 7200. 🐾

OPPOSITE PAGE Rough wooden shelves (above) blend in with the built-in cob sink and worktops in the kitchen. The hessian ceiling slopes down low in the main bedroom that is on the top level (below left), where Herta also has her study. Herta meditates in her special built-in seat sited in the centre of the house (below right).

RIGHT The pliability of cob construction becomes obvious in the bathroom (top) with its built-in ablution facilities, seating and interesting window. Herta peers through a window complex (centre) that is brightened by a few pieces of coloured glass. The simplicity of cob construction can be seen in this section (below) of unfinished wall that is part of a new extension to the house.

