



A RETRACTABLE EXTRA BED AND SCREEN MAKES THE MOST OF A SMALL BEDROOM.

## TAKE IT TO THE LIMIT

DESIGN INDABA's experimental, low-cost housing project for the Freedom Park community in Cape Town shows just how much can be achieved within a strictly confined space and budget.

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PHOTOS COURTESY OF DESIGN INDABA

For the 90 per cent of the world's designers who design for the 10 per cent of the consumer élite, the only limitations are those of imagination. Minimalist and multifunctional designs are an intellectual conceit, not the solution to a problem. In designing furniture for Design Indaba's 10x10 low-cost housing project, however, Bryan Cunningham, Kaylie Dimock and Sathvik Sivaprakash of Ottawa's Carleton School of Industrial Design were forced to work within rigid restrictions.

Situated in the Freedom Park community of Cape Town, the ten two-bedroom, 60-m<sup>2</sup> prototype homes were designed for families of four to 12 people, the majority of which have a weekly income of less than ZAR100 (about €10 at the time of writing). In providing occupants with 60 m<sup>2</sup> of floor space, architect Luyanda Mphalwa has greatly improved on the size of standard €5250 government-issue houses for the poor, which are typically no larger than a tiny 40 m<sup>2</sup>. Mphalwa's award-winning, double-storey housing project features a sandbag construction method that lowers overall building costs and allows for a roomier interior.

Despite the continued, if somewhat erratic, government roll-out of houses for the urban poor, no thought seems to have gone into what happens when the houses are occupied. 'No furniture manufacturer really caters for the low-income consumer – and especially not for the consumer with limited living space,' says Design Indaba project manager Mike Purdham. 'From a design perspective,' adds Carleton student Bryan Cunningham, 'it was amazing to see how people live within such

restrictions, and how they adapt existing products to meet their needs. We saw the limitations as a challenge to provide these families with furniture that makes it easier to live with multiple family members in such small spaces.'

The students drew up guidelines for their work based on research into comparable designs and on Design Indaba's documented fieldwork relating to the community in question. Sivaprakash points out that the trio of designers wanted 'to design a system of furniture with a cohesive language that accommodates families of various sizes, maximizes use of the limited space, is economically viable, utilizes local materials and manufacturing, and follows the open-source model. The team focused on common living and bedroom environments.' Designed for the second bedroom, Sivaprakash's bunk-bed system not only affords room for multiple children to sleep, but also gives each child a personal space and storage area. The wall-mounted bunks fold up during the day, freeing up floor space for other activities.

Tackling the master bedroom, Kaylie Dimock also addressed the issue of privacy. Here, however, she needed a strategy aimed at multiple couples. A second sleeping surface can be removed from below the main bed frame of Dimock's trundle bed. A detachable headboard houses a privacy screen constructed primarily from reclaimed cardboard tubes, a waste product from the textile industry. For efficient use of the room throughout the day, both screen and bed are retractable. Turning his attention to the living room, Cunningham's cost-effective sleeper

couch fulfils the requirement for lounge seating and guest accommodation. When used as seating, the piece supports up to four adults and includes integrated storage space for bedding and pillows. When guests spend the night, the sofa is rolled over to reveal a bed.

Prototypes were presented to the community in February. 'The community was really enthusiastic about the multifunctionality of our designs and the way they save space during the day,' says Sivaprakash. 'They also appreciated the fact that all three projects attempt to compensate for the lack of individual rooms – or any personal space, for that matter – by providing independent beds, privacy and integrated personal storage.'



WORKSHOP WITH RESIDENTS.



THE ROLL-OVER SLEEPER COUCH IN ACTION.



DESIGNER BRYAN AND RESIDENT JOSEPH.

'From a design perspective, it was amazing to see how people live within such restrictions'

BRYAN CUNNINGHAM

WALL MOUNTED BUNK BEDS FOLD UP DURING THE DAY, FREEING UP FLOORSPACE.