



Eco-Friendly Haven

Green principles are deeply ingrained in the design of this farmhouse in the Himalayas by Saubhagya Sharma of IDIEQ.

TEXT: SUMAN TARAFDAR PHOTOGRAPHS: SMRITI SINGH AND SAMRIDHI

White as the dominant colour is striking in this sideways view of the house. As a colour, white reflects the maximum heat, keeping the building cool in higher temperatures.





The house has multiple modern elements, from solar panels to ergonomic accessories.



Colour is added aesthetically wherever needed, like in this room, to brighten interior spaces.

architect and founder at IDIEQ, has built this house for his clients, Harish Chand, his wife and their young daughter. Very down-to-earth folk, their requirements for their home had been just as brief – walls and roof, in keeping with ancient 'vaastu vidya'.

The spaces include a living lounge, a public space, and a separate, more private lounge. Also on the drawing board were four bedrooms, including ones for kids and guests, four washrooms, a 'pooja' room, a dining space, a kitchen, and a mini-pantry. Other areas included storage, a

study and computer room, an open study lounge, an entrance sit-out, public out-lounge, summer terrace, winter terrace, drying terrace, summer garden, winter garden and open-mid lounge, excluding farm storage, cattle space and farm.

Sharma, very conscious of the local environment, has built this house by making it speak volumes in terms of restoration, recycling, cost, energy saving, digital simulation and holistic usage of materials. This 2,000 sq ft farmhouse is in the pristine Terai region, in the flatland adjoining the Himalayan foothills.



farmhouse



Looking out from the balcony.



The sylvan Himalayan mountains stand guard over picturesque Khatima in Uttarakhand. Situated at a height of 299 metres, it's just a stone's throw away from the Indo-Nepal border where the mighty Sharda river gurgles and roars down the mountains. On the northern periphery of Khatima is the village of Chinki, even more lush and green – a perfect location for a dream house in the hills.

That is where Nainital-based Saubhagya Sharma,

Innovative use of space is accentuated by the positioning of fans, while a pastel blue wall provides relief.







FACT FILE

ARCHITECT
Saubhagya

PROJECT TYPE
Design & Conservation Of Farmhouse

CLIENT
Mr & Mrs Chand

LOCATION
Chinki Village, Khatima, Uttarakhand

COVERED AREA
2,000 sq ft Including Shaded Areas On Ground

CONSTRUCTION COST
Rs 58 Lakh (Including All Interiors, Fixtures And Consultancy)

ON-SITE TEAM (CURRENT STAGE)

HEAD MASON
Patwari

CASTING
Nandram & Yadav

FABRICATION IRON/SS
Maurya

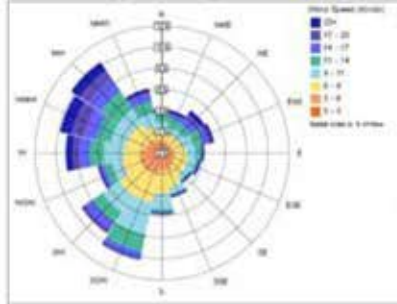
FABRICATION ALUMINUM
Noor Mohammad

CARPENTER
Faem

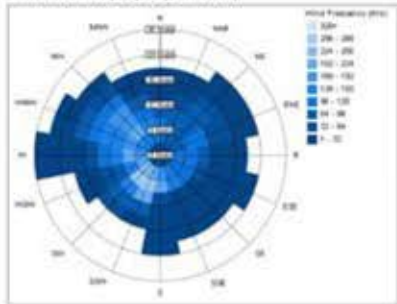
FINISHES
Pappu & Vipin

CLIMATE STUDY

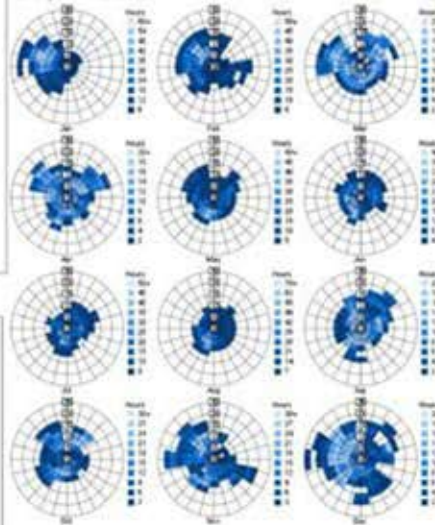
Annual Wind Rose (Speed Distribution)



Annual Wind Rose (Frequency Distribution)



Monthly Wind Roses



Room Schedule (Khatima)

Number	Area	Name
1	132 SF	Entry Porch
2	201 SF	Connecting Lounge
3	267 SF	Formal Living
4	147 SF	Dining
5	97 SF	Kitchen
6	270 SF	Parents Bedroom
8	24 SF	Mandir
9	290 SF	Guest Bedroom
10	68 SF	Public Wash
11	258 SF	Upper Lounge
12	226 SF	Master Bedroom
13	221 SF	Daughter's Room
14	153 SF	Study
16	271 SF	Winter Terrace
17	206 SF	Recreational
18	58 SF	Pantry
19	198 SF	Summer Terrace
20	94 SF	Master Wash & Dress



INITIAL SECTION THROUGH GUEST ROOM SHOWS EAST FACE



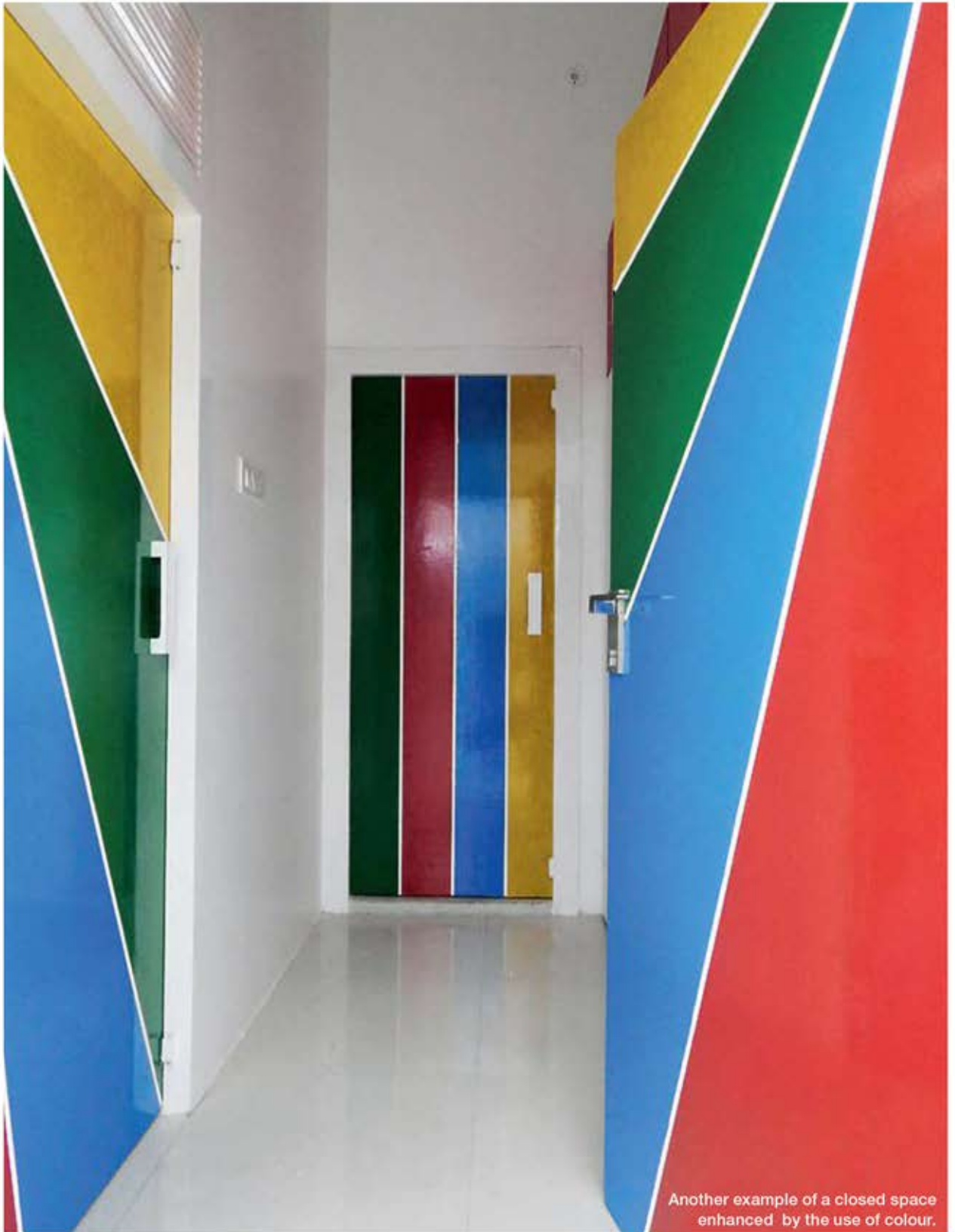
LOOKING TOWARDS EAST (WALLS CONSIDERED SEE-THROUGH)



This building is in a remote village. All masons, artisans, fabricators and other people who were involved in the construction lived within a radius of 10 km from the site and were trained on-site at various stages. All the construction materials and equipment were also brought in from nearby. 'Both of these factors along with recycling, massively saved the cost, turning this into a low-cost venture,' says Sharma. Also, it provided employment to the local people, empowering women by training them to work with metal, ferro-cement, spiral columns, built and funicular shells.

'It's fascinating how amenable a building can be to the personality of its occupants, especially a residence like this, which sees villagers come and go frequently. I had to create a series of defined spaces that flow easily into one another, retaining the warmth of the family along with a village lifestyle or undefined interludes by visitors,' he says.

The process was important, especially the relationships to site and landscape, spatial narratives and material relationships, which were a constant part of the design process from the very beginning. Not even a single tree was chopped for construction; in fact, all the doors/windows are 100 per cent recycled. This building is 100 per cent earthquake-resistant for up to 11 in the 'Mercalli' intensity scale. The outer walls reflect



Another example of a closed space enhanced by the use of colour.



90 per cent of the heat in summers through passive natural ventilation. Also, all appliances and lighting in the house are run by energy produced through 'photo-voltaics'.

The initial planning ideas included the form-follows-function approach. As the project turned out to be more of a hands-on one later, aesthetical ideas were incorporated within the generated form. Temperatures and other factors in the building were tested using 'BIM simulation'.

'The space, the geometry, the light of architecture in great proportions must remain the core aim, while engineering aims for zero carbon,' stresses Sharma. This balance between the poetry of architecture and its green engineering is crucial and was easily achieved

here using BIM simulations and appropriate calculations on light, wind, forces, climate and spaces.

The function of every window was decided parametrically for wind, light, vision and heat exemption, rejecting all the southwest winds and taking in the cool northwest breeze. A lot of wood used for doors and windows was recycled waste of other buildings, and bought at a very low cost. The outside ledge for sitting, called 'patangar' in the hills, was built at a very low cost just by bending the railing at 35 degrees. 'The client was apprehensive about the idea initially, but later it turned out to be a very efficient solution for the sit-out,' says Sharma. 'I saw a lot of its usage in south India (mostly in Kerala homes),' he adds.

There were initial challenges. On an early visit, Sharma found that the drawings were not referred to for the initial three months of construction. A major challenge on this site was the brick and concrete. Though burnt brick and concrete are the common building materials, it is a major concern for the building industry as huge construction debris can neither be degraded nor recycled. 'Looking at this problem critically and figuring out ways to turn around this kind of architecture, we came up with precast concrete techniques which used concrete components assembled in such a way that they could be easily dismantled and reused again, resulting in controlled construction waste,' says Sharma.

The dominant colour scheme is white. 'White-

Attention to the usability and aesthetics of the floor and ceiling respectively enhance the quality of living.

farmhouse



There is ample use of colour here which however does not overpower the feeling of lightness that the house imparts.

ness allows the architectural ideas to be understood more clearly - the difference between opacity and transparency, solid and void, structure and surface,' says Sharma. These things are more perceptible in a white environment. Shadows define high detailing with white. Also, white reflects the maximum heat, keeping the building cool in scorching temperatures.

Sharma says he had to meet the clients' needs keeping his preferences in mind. 'I, for instance would keep minimal spaces with very little colour on the walls. When Harishji asked

me for colour, I did it in very subtle ways.'

Saubhagya aimed for the interior spaces being uncluttered and transformable by the client, thus making it a dynamic design. 'I wanted to create a style that lasts as well. A lot of interactive spaces like wardrobes and stuff have nice surface detailing so that it breaks off with the simplicity of the rest of the house and people can feel it. The daughter's room, streamlined and feminine, has colour used only on the wall opposite the bed, so that it is not overwhelming. There is a

good flow of air due to the rooftop holes. The daughter's room is the brightest in the house and the yellow used gives it an enriching feel.' This building has no curtains or fabric attached. It helps in reducing the maintenance and gives an unbreakable flow.

The final product crafted by Saubhagya Sharma is definitely something that sets an example for the area, and should inspire others to make their homes more holistic, keeping the ecology and topography of the area in mind without degrading the delicate natural balance of the area. 