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Turning trash into treasure: Mayem family leads the way with home biogas plant

The plant processes 5kg of kitchen waste daily; has no odour, requires minimal maintenance and has reduced their LPG consumption by half

ERWIN FONSECA

MAYEM: In a remarkable step towards sustainable living, Rupesh Chopdekar and his family from the remote village of Haturlim in Mayem have successfully installed a home biogas plant, setting an inspiring example for others in the State. This initiative has not only reduced their household waste but has also generated clean cooking gas for their daily use.

The Chopdekar family is the only household in Goa to have installed a home biogas plant, joining the ranks of just two educational institutions — Shiroda College and Arambol College — that have adopted similar systems.

According to Chopdekar, the biogas plant has been operating smoothly for over a year without requiring any maintenance. The plant, installed outdoors, functions effectively under both sun and rain, eliminating the need for special shelter or additional care.

"Before installing the plant, we studied its operation and were convinced of its benefits," Chopdekar explained. He credited the New India Multipurpose Cooperative Society (NIMS) in Mapusa, particularly Managing Director Samir Morajkar and Chairman Adv. Tanaji Sawant, for their support in facilitating the installation.

The home biogas plant has a capacity of 2 cubic metres and costs Rs 65,000, with a subsidy covering nearly half the cost. Ap-

proved by the Union Ministry of New and Renewable Energy (MNRE), the plant can process about 5 kg of kitchen waste daily (excluding eggshells), generating up to two hours of cooking gas. For every 5 kg of waste, an equal quantity of water must be added.

The plant offers significant savings for families, reducing their LPG consumption by half. Additionally, it produces approximately 5 litres of nutrient-rich slurry each day, which is highly beneficial for plants.

Rajesh Gauns, the NIMS installation in-charge, explained that the initial set-up requires around 150 kg of cow dung and 1,000 litres of water to create a culture of anaerobic bacteria. "This is a one-time process. Once the bacteria are established — usually after three weeks — kitchen waste can be added regularly," Gauns informed.

The biogas plant has an estimated lifespan of 15 years, but it is believed to last even longer with minimal maintenance. Chopdekar emphasized that since its installation, the plant has op-

“In one year, we’ve had no problems, only benefits — clean energy for cooking and nutrient-rich slurry for our plants. Initially, we installed it as a trial, but we soon realised its long-term value, and it has now become an essential part of our home — Rupesh Chopdekar

erated without issues and has only delivered benefits.

"Our ward residents have become more aware of proper waste disposal. People who once discarded their waste on the roadside are now bringing it to our plant instead, having realised its value," Chopdekar said.

He highlighted the absence of odour from the plant, as all processes take place in a sealed environment. Farmers, too, can benefit by using cow dung instead of kitchen waste. For every 20 kg of cow dung mixed with an equal amount of water, the plant can produce approximately 40 litres of slurry.

Gauns noted that a larger version of the plant, with a 7 cubic metre capacity, can process up to 12 kg of wet waste daily, generating four hours of cooking gas and around 30 litres of slurry. This larger unit costs about Rs 1 lakh.

The methane gas pro-

duced by the biogas plant is a clean and eco-friendly alternative to LPG. Gauns assured that the plant is designed using eco-friendly, rat-resistant materials, ensuring durability and security even when filled with waste and gas.

Reflecting on their experience, Chopdekar expressed satisfaction with the plant's performance. "In one year, we've had no problems, only benefits — clean energy for cooking and nutrient-rich slurry for our plants. Initially, we installed it as a trial, but we soon realised its long-term value, and it has now become an essential part of our home," he said.

Chopdekar believes such biogas plants can play a crucial role in addressing Goa's growing wet waste issue while reducing dependence on LPG.

"The burden on large garbage treatment facilities can be reduced if more families adopt such home-based solutions. This initiative can significantly contribute to keeping our villages clean," he added.



A JOURNEY INTO THE HEART OF GOA

In our continuous efforts to put people at the center of our journalism, we bring to you a weekly collection of stories, specially curated from our ground-level reportage which celebrates the joys, and shares the sorrows of people in their grassroots. These are, at heart, very simple stories, simply told. Interesting initiatives, out-of-the-

box thinking, dogged persistence on any issue, and the struggles of people over the years as they try and put their disrupted lives back together are not just news stories.

Each is a document from the wards and vaddos of Goa, a postcard, a letter, a share. This collection is brought to you from O Herald's team of report-

ers who have been given one simple mandate - go out, travel, and speak to people about their lives.

From Wards and Vaddos is as much your project as O Herald's and we welcome all of you on this journey into the heart of Goa. Pls email editor@herald-go.com or reach us on Twitter, Facebook, and Instagram.

Of wood, wisdom and workmanship:

Shyam Harmalkar preserves Goa's forgotten carpentry heritage

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ALDONA: Shyamsundar Krishna Harmalkar, a beloved resident of Santarxette, Aldona, has dedicated over 50 years to traditional carpentry, specialising in house repairs and wooden furniture restoration — all while still using manual tools. With no formal training, Harmalkar learned the craft under the guidance of his uncle, spending three years as an unpaid apprentice before mastering the trade.

Recalling his early days, Harmalkar explained how people once bought logs and soaked them in rivers for months to ensure durability. This method produced wood that could last for decades, unlike today's practice of cutting and using logs immediately, which drastically reduces their lifespan. Harmalkar emphasised that trees should only be cut when fully matured to ensure strength and longevity.

In his long career, Harmalkar has witnessed a shift away from traditional wooden roofs, known as tizzor, to metal sheets and cement slabs. He attributed this change to rising timber costs and reduced availability.

Despite the trend, he continues to advocate for regular maintenance of wooden structures, stressing that neglect often leads to severe termite infestations and costly repairs. Harmalkar, who is one of the few carpenters specialising in crafting and repairing wooden A-frame roofs seen in most colonial houses, advises homeowners to conduct maintenance every five years to extend the lifespan of their wooden roofs and structures.

Reflecting on his early earnings, Harmalkar recalled receiving just Rs. 2 for his work when he started out, with subsequent increments of 50 paise. Despite meagre wages, he supported his family, as the cost of living was much lower then. "With 25 paise, I could manage an entire day's shopping," he said, highlighting the stark contrast with today's economic realities.

SHYAM'S COLLECTION OF TRADITIONAL CARPENTRY TOOLS AND THEIR KONKANI NAMES:

KISOI — Used for creating designs (internal round designs, smooth straight lines, or slanting/curved patterns).

GORBINN — Tool for marking measurements on wood.

FILFILLY — Used to create border gaps in wood designs.

TOPONN — Functions like a drill machine for making holes.

INNEM — Tools of various sizes for creating shaped holes.

KURTUMN — A right-angle tool for precise markings.

KHORVOTT — A cutter for trim-



ming wood.
BIDDI (VOUS) — Used to hold wood securely in place.
TIZOR — Tool for creating decorative designs on wooden roofs.
MEASURING TAPE — An old school collapsible tool, over 80 years old

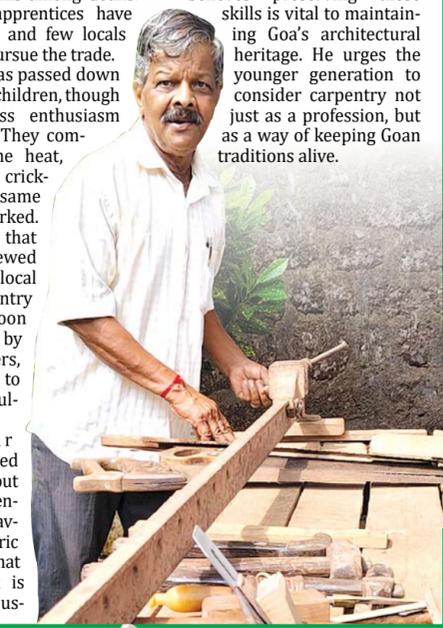
Despite his advancing years, Harmalkar continues to work, often climbing rooftops in the sun to complete repair jobs. He takes pride in his craftsmanship, earning praise from his community for his dedication. However, he lamented the decline of traditional carpentry skills among Goans. Most of his apprentices have been migrants, and few locals are willing to pursue the trade.

Harmalkar has passed down his skills to his children, though they show less enthusiasm for the work. "They complain about the heat, yet they'll play cricket under the same sun," he remarked. He warned that without renewed interest from local youth, carpentry in Goa may soon be dominated by migrant workers, posing a threat to the region's cultural heritage.

Harmalkar also expressed concern about modern carpenters relying heavily on electric tools, noting that his own work is still performed us-

ing traditional hand tools. Despite these changes, he remains committed to his craft, proudly sharing that he has never needed a doctor's visit and remains healthy and content with his work.

As the number of traditional carpenters dwindles, Harmalkar believes preserving these skills is vital to maintaining Goa's architectural heritage. He urges the younger generation to consider carpentry not just as a profession, but as a way of keeping Goan traditions alive.



A woman's quest to document the stories behind Goa's beautiful ancestral homes

Heta Pandit's book is a testimony to the evolution of Goa through the ages; its food, its culture, and its families

KRYSTAL D'SOUZA

PANJIM: In a palatial spot in Candolim, along the touristy beachy belt, there lies a house that seems untouched by time. The 'Costa Frias House' has essayed the role of a safe abode for Nirmala Costa Frias and her family who have been living here since she got married in 1969.

Speaking about the bygone days, Nirmala recounts them as magical times. "The sala [living room] and the dining room was the space where the family entertained guests, so these two rooms were elaborately decorated and embellished. Our house is probably the only house in Goa with the wash basin in the dining room made of pink marble, specially imported from Carrara in Italy."

As she goes on about the memories the home has held through the years, her son Jose is hard at work these days, trying to put together the family tree. He says their tree is "unique" as it



PICS: DANIEL D'SOUZA

mentions the daughters' names too, unlike others that focus mostly on male lineage. While the Costa Frias family home has been witness to many generations of the family and their joys and sorrows, it is one of the many homes in Goa that has these legacy stories etched into its veins and cracks.

Heta Pandit's book 'Stories from Goan Houses' is doing justice to bringing these stories to light. It shows the world that Goan homes transcend beyond being spots to point and marvel at while on a holiday, but rather they are time capsules that hold different worlds within their brightly painted facades.

At 69, Heta who grew up in Baroda says she defines herself as a pioneer of sorts. "I worked with Dr Jane Goodall on a chimpanzee research station in Tanzania, East Africa; worked as a volunteer in the environmental field pioneering the saving of several monumental buildings in Bombay; then left for Munnar to work in the tea gardens after the 1993 communal riots in Bombay," she says, adding that she played the role of the country's first women tea plantation managers along with her cousin.

It was in the year 1995 that Heta

moved to Goa, a place that would come to mean a great deal to her in the years to come. Today, having lived here for 28 years and counting, Heta says it's been a journey. She has 11 books authored on Goan heritage to her credit, along with being the founder of the Goa Heritage Action Group.

Having been a spectator of the evolving Goan culture, Heta says the changes she has witnessed have by far been positive. "That is, there is more awareness that Goa is more than a party destination, and that it has a history and culture that is unique and extraordinary. Even Goans have begun to sit up and take notice of the uniqueness of their own culture outside of their inner circles."

She points to evidence of this in her personal experience. "When I worked on 'Houses of Goa' way back in 1998, there was very little trust. People did not know us. They did not know what goes into a book. They were shy about sharing. The world has changed a lot since then."

She speaks of how people she had

known for years now suddenly wanted to share their stories, the histories of their families.

"There is also the story of their struggle and the challenges they faced trying to preserve and protect their beautiful homes. In the past, they were ashamed of sharing these challenges with the world. They were ashamed of saying that they were facing financial difficulties, but now that they have overcome these challenges, they want the whole world to know about it. They are proud of their achievement!"

'Stories from Goan Houses' weaves the tale around 21 select homes in Goa to tell stories that have never been told before — legends associated with the house; the trials and tribulations; and the love and care that has gone into the preservation of not just the house but the house as a crucible of Goan culture.

Through the pages of the book, it is evident how homes are sometimes more than simple brick and mortar, but gatekeepers of secrets, silent watchers of family traditions, and sometimes even members themselves.

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BEYOND BRICK AND MORTAR, A WINDOW INTO THE PAST

The 21 families chronicled in the book have novel tales that they recount to Heta, which she shares with the world. For instance, the Gaunkar House in Bandora with its facade of yellow ochre and burnt clay is 250 years old, and the children recount how they grew up going for rides in British-made trucks down the road. It is only recently that the family switched to modern stoves from the traditional wood fire ones.

Another story is of the Dempo Nivas in Calapur, inhabited by the Dempo family. Yogesh, who grew up in this home echoes the thoughts of the family when he says, "I am who I am today because of this house."

A common thread that binds the 21 homes is that of family and unity. For instance, at the Nadkarni House in Sattari, the family believes in the principle that was passed down through their generations — staying under one roof. Sandeep Nadkarni, one of the members, recounts how his growing-up years sometimes had 30 kids of the same age under the same roof!

The best part about these stories, says Heta, is that they

let her in on a part of these people's lives. For instance, Sandeep shares in the book that the home had two unwritten rules — chicken would never be cooked in the house and a first floor would never be built.

While some homes are known for being close-knit, there are others that are known for opening their doors to just about anyone who wishes to come in and spend a moment. One such home is the Kelekar House in Priol, which is filled with the book collection of the Gandhian activist and famed author Ravindra Kelekar. Architect Girish Kelekar, his son, has now opened their doors to scholars, visitors and students who wish to immerse themselves in the legend's writing.

The book also tells the tale of the Kamat House, the family who set their home in an old bead factory in the 18th century; the Dada Vaidya House, whose Dada Vaidya, a pioneer of Ayurvedic medicine, practised; the Sanvordekar House — which housed 125 people under its roof at the same time — among others.

—Article edited by Pranita Bhat