

NOW MAKING: COST-EFFECTIVE AND SUSTAINABLE HOUSES MADE FROM COFFEE HUSKS

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The housing deficit problem has been on the rising edge, especially in Colombia. In Colombia, there is a housing deficit of more than 65% in rural areas. Many families do not have adequate dwelling facilities. Housing remains a big-time crisis worldwide. A construction company in Colombia has found the fix for this. And interestingly so, by using the most abundant by-product found on their land - coffee husk.

THE GENESIS AND HISTORY OF WOODPECKER SAS

'Woodpecker SAS' founded around 10 years ago as a sister firm to Maeco SAS. Maeco is a well-known construction company in Colombia established more than 36 years ago. The intent was to provide a lightweight construction system. A system that can be applied easily for housing and classrooms in rural and isolated places where traditional construction systems cannot work. The company helps to solve the housing issue in areas like Colombia, Latin America, and worldwide.

LEVERAGING COFFEE HUSKS FOR AN ECO-FRIENDLY SOLUTION

Tests were conducted with different natural fibres, including rice fibre, grass, sawdust, palm fibre for the material. But, the material which provided the breakthrough was coffee husk - something Colombia has in abundance. Usually, farmers pile loads of coffee husks for dumping or burning. Implying that the coffee husk, in general, contributes to pollution of either land or air.

"We selected coffee husk because it is stronger and dryer compared to the other fibres. Also, it is easy to be shredded and milled to make it in powder", says Alejandro Franco, CEO of Woodpecker SAS. "The coffee husks were burned by the people, contributing to pollution. But now we use it for WPC. We combine the husk with an existing polymer which is usually thrown away after use." The research eventually led to the finding of Wood Plastic Composite(WPC). The composite is novel, ingenious and effective.

COLOMBIA BASED CONSTRUCTION COMPANY IS BUILDING AFFORDABLE, SUSTAINABLE INFRASTRUCTURE USING A COMPOSITE MADE OUT OF COFFEE HUSKS AND A RECYCLED POLYMER

WPC'S ECO-FRIENDLY PROWESS

In each house, Woodpecker uses approximately 3 ton of WPC material. The WPC agglomerate consists of the world's two best materials: coffee husks and polymer. WPC is a strong material, durable, fireproof and easy to maintain. Compared to wood, WPC is better because it does not burn. Also, it is splinter-free, resistant to insects, and eco-friendly. "1 kg you use of WPC is 1 kg less you cut from trees," says Alejandro. The houses range from 4500 USD to 13000 USD, which is cost-effective as per the features these houses have.

INSTALL THE HOUSE JUST LIKE LEGO TOYS

You probably would have heard of LEGO toys. These are very easy to install, and children can play with the toys and construct, as per their imagination. Woodpecker has a "LEGO KIT System" which is very similar to these toys. The purchaser of the kit can install it in 5-6 days. They provide an instruction manual with one guide and two helpers. All you need is a screwdriver, a hammer, an electric drill. No professional labour is required, which makes the whole process a lot simpler.

THE POWERFUL DWELLING

As of now, the firm has built more than 3000 social houses and more than 1200 classrooms. The impact on social infrastructure has been tremendous. Be it housing, sanitation or education, their innovation has made ways for new alternatives. It has brought the impoverished people out of their bad living conditions to now live in vivid coloured dwellings. The model is scalable and can be used in other places and communities easily. They are ready to export worldwide and have a big capacity to build 250 houses/month. "We are open to joint ventures in different countries, which will help other communities to benefit from the WPC-based houses," adds Alejandro.

THE ENVIRONMENT-FRIENDLY MISSION

The hustle to make these houses even more sustainable continues at Woodpecker. They are adding solar panels to some models and draining systems to collect water from rain. For toilets, they are testing dry systems where the solids can be used as fertilizers. It would make the house zero-waste and energy independent.

"We want to make such houses worldwide, especially in difficult-to-go places. By making the process global, it would solve the crisis of safer homes. And do all of that while benefitting the environment" Alejandro says. "It has been the centre of all our strategies. This is why we opted to recycle waste to solve a problem. If you dig deeper to solve an issue, you will always find a way."

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