

LOW-COST HOUSE COOLING SOLUTION

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Overview:

- *Introduction*
- *Keeping the roof cool*
- *Keeping the walls cool*
- *An exhaust to keep the air cool*
- *Conclusion*

Introduction:

The temperature of our planet Earth is increasing rapidly. As per the report published by IPCC (Intergovernmental Panel on Climate Change) the temperature is increasing due to the prime reasons:

*1. **Greenhouse effect** occurs for the Carbon-di-Oxide and Carbon-Monoxide emission due to fossil fuel burning.*

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*2. **Deforestation:** Cutting of trees and forest reduces the CO₂ absorption.*

*3. **War:** Using destructive weapons during wars disbalanced the nature.*

*4. **Factory emissions:** Methane, CO, CO₂ kind of gas emission from factories.*

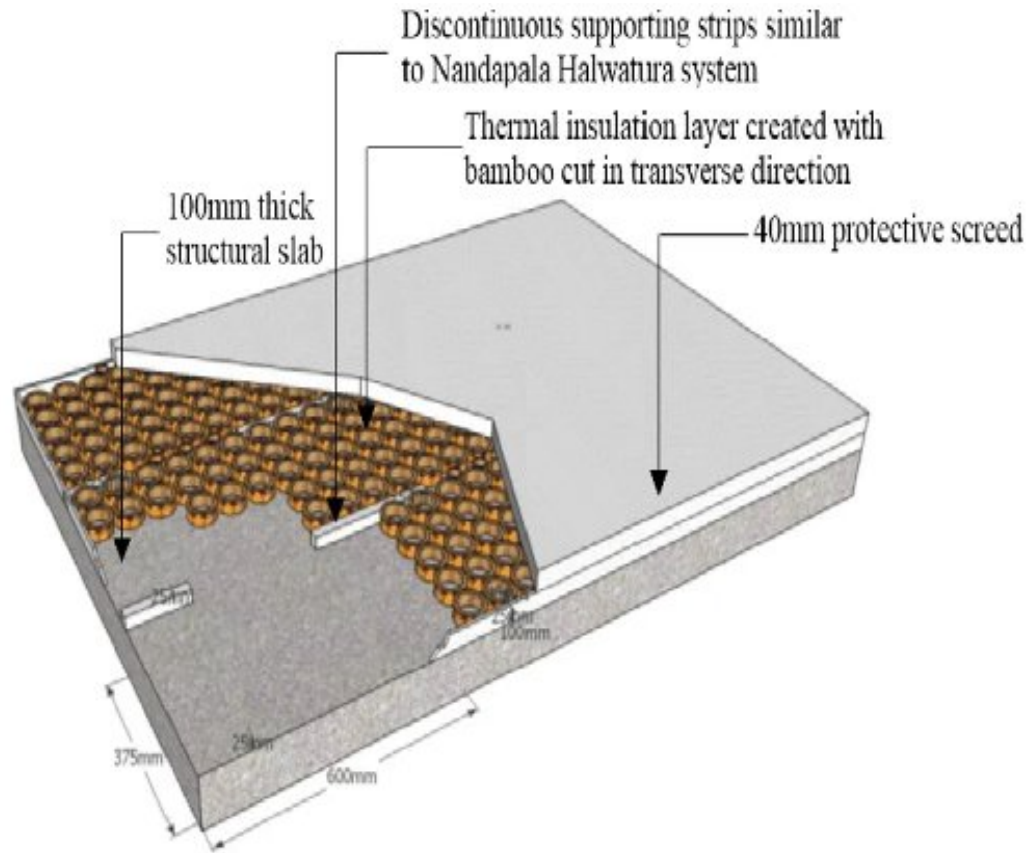
As a result the environmental temperature is increasing gradually which creates uncomfortable weather condition, impacting overall productivity. So, we have prepared a model to cool down the interior temperature of a house.

Reduction of House temperature:

We have used 3 technics to reduce the room temperature.

- *Reducing roof/ceiling temperature*
- *Reducing the wall temperature.*
- *Extracting the hot air inside the room.*

Reducing the roof/ceiling temperature:



We have used here the concept of discontinued concrete layers between roof and ceiling which resist the heat to transmit from rooftop to ceiling.

We have used a net made by bamboo strips between the concrete layers of rooftop and ceiling.

This structure helps to resist the heat transmission from rooftop to ceiling.

2-3 degree centigrade temperature difference can be observed between rooftop to ceiling.

Reducing the wall temperature:



The external side of the wall is to be coated by the following ingredients:

Zinc Oxide power - 60%: It is used for high solar reflectivity and UV protection.

Fevicol kind of glue: Act as a binder.

And water as per requirement.

These helps to resist the heat transmission from wall.

Extracting the hot air from room:



The following sources are responsible for the hot air inside the room:

- 1. Hot air from electronics appliances.*
- 2. Hot air from kitchen.*
- 3. Air from breathing.*

Using a simple exhaust fan, the hot air from the different internal sources can be taken out from the room.

Conclusion:

We can reduce the room temperature using these technics. It can reduce the use of Air-conditioners which helps to reduce the energy consumption.

But it must to be mentioned that we must act as a whole globally to restrict the global temperature.

As per IPCC if we can't restrict the temperature gain globally within 1.5 degree C by 2050 then consequences will be devastating which will impact agriculture and global economics.

Thank you