



SUSTAINABLE HOUSING PROGRAMME

PILOTS IN CONSTRUCTION MATERIALS AND LAYOUTS

A CASE OF BAMBOO CONSTRUCTION TECHNOLOGY

Sustainable Housing Programme intends to explore the possibilities of achieving sustainability in built environment through different interventions on a pilot basis and subsequent scaling of pilots.

1



Pilots in construction materials and layouts

2



Pilots in energy efficient appliances and technologies

3



Pilots in institutional housing

4



Pilots in public housing



ABOUT THE LIVELIHOOD

Home based Grocery Stores

Home based small Kirana (Grocery stores) are one of the major activities that employ women in the informal sectors across India.

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WOMEN LED LIVELIHOOD ACTIVITIES

HOME AS THEIR ‘PLACE OF WORK’

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Livelihood Identified for Pilot Implementation:
Small convenience Store

‘HER’ STORY

LAKSHMI BEN



Lakshmi Ben resides in Rajiv nagar, Ahmedabad and runs a small convenience store from past 30 years.

She spends a major part of her day in the livelihood activity and has future plans to invest in it.

SAVITA BEN



Savita Ben resides in Bamroli, Surat and runs a small convenience store from past 20 years. She believes that provision of infrastructure for her livelihood activity would help enhance her economic output.

EXISTING CONDITIONS

Lakshmi ben and Savita Ben indulge in their livelihoods for more than 12 hours exposed to high heat stress due to their poor habitat conditions. Apart from the thermal discomfort, the temporary conditions of their shops are prone to damages effecting their economic performance.



Issues Identified in the existing workplaces

1



Heat Stress due to the tin roof

2



Damage due to poor roof conditions

3



Damage due to water leakages

4



Lack of furniture and storage

SUSTAINABLE ALTERNATIVE TECHNOLOGY

MHT had identified and researched various alternate technologies for construction including roofing and walling materials and compared them across a matrix to understand the potential of their application in different contexts. One such material being analysed was the Bamboo mat and corrugated sheet.

FEATURES

Material:

Bamboo (Mat and Corrugated)
Sheets

Company: Eco Shelter

Implementation Location:

Surat & Ahmedabad, Gujarat

Components for Implementation:

Walling and Roofing

Durability:

25 years

IMPLEMENTATION

Bamboo
corrugated
sheet

Bamboo
mat walls

Galvanized
Iron Frame

Concrete
flooring

IMPLEMENTATION OF THE BAMBOO ROOF CORRUGATED SHEET IN RAJIV NAGAR, AHMEDABAD



Lakshmi ben's shop roof was fixed with the Bamboo corrugated sheet roof along with a wooden door and shelves to enable proper storage. These elements were fixed to the already existing structure of brick walls.



IMPLEMENTATION OF THE BAMBOO MAT & BAMBOO ROOF CORRUGATED SHEET IN BAMROLI, SURAT

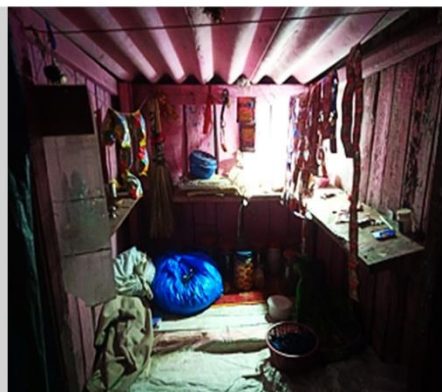


Savita ben's shop was made out of temporary structure. Therefore, the implementation was conducted to the whole structure. Bamboo mat was used as the walling material and Bamboo corrugated sheet was used as the roofing material for the pilot.



POST IMPLEMENTATION

SAVITA BEN'S GROCERY IN BAMROLI, SURAT



Post Construction of the Savita ben's grocery in Bamroli, Surat

LAKSHMI BEN'S GROCERY IN RAJIV NAGAR, AHMEDABAD



Post Construction of the Lakshmi ben's grocery in Rajiv Nagar, Ahmedabad

KEY IMPACTS & LEARNINGS



Enhanced economical output



Sustainable building material helps in increasing thermal comfort



Improved built environment enhances the work efficiency of the women



Improved quality of life of the family



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SUSTAINABLE HOME BASED LIVELIHOOD THROUGH CONSTRUCTION MATERIALS AND LAYOUTS

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