

Footprints E.A.R.T.H

Ujasiyu

Innovative solutions to bring light and air in squatter settlements'

By Sakshi Agrawal



Inadequate housing infrastructure for the urban poor in Indian slums has long been an undealt meta-issue in our country. Owing to the paucity of land, squatter settlements emerge as deep long houses with more than three walls being shared, leaving no room for natural light and ventilation. The roofs of these houses are made of galvanised iron by default and convenience, making inner spaces even hotter. Artificial measures such as fans and lights would only spark unaffordable electric bills. Such drab and dark living conditions are detrimental to the physical and mental well-being of the residents. In wake of this, Mahila Housing Trust (Self Employed Women's Association) initiated 'Ujasiyu' in association with 'Footprints EARTH' that provides a simple, innovative and sustainable solution to this complicated menace.

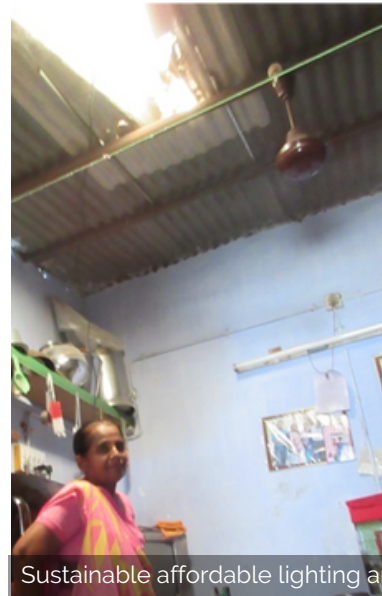
'Ujasiyu' is a simple dormer window that can be fitted to the roof allowing natural light and ventilation into the houses of informal settlements. This option led to a modular prototype worthy of mass off-site production as a cottage industry. The dormer window is made of fibre-glass moulded to fit on corrugated steel from which most existing houses are made of. The window shutter is made in translucent plastic which diffuses light and prevents glare. This illuminates the space instead of creating merely a light shaft. The plastic is moulded into a hump with an opening at the bottom to allow air to circulate, aiding in convective ventilation. The gap is covered with gauze to prevent insects from getting in.

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These dormer windows were installed in over hundred homes in Ahmedabad industrial slums and the results were monitored over the year. Over the year these homes revealed a minimum of Rs. 250 a month electricity bill saving, about Rs. 1500 increased income through home based economic activities due to long working hours, improved education quotient, reduced health stress and the perception of an elevated social status due to daylight and ventilation conditions.

The solution is being transferred to other state slums as well. These efforts were also recognised with United Nations Habitat Award citation. 'Ujasiyu' is a story that has come full circle after a series of research and experiments towards a green solution. Such initiatives lay out the true benefits of sustainability that extend beyond the environment to reap economic benefits and charter well-being.

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Sustainable affordable lighting and natural ventilation innovations

