



JUGAAD
Shade canopy, New Delhi 2008

Sanjeev Shankar

Introduction and Summary

Jugaad was first installed and exhibited at 48 degree Public.Art.Ecology; a three week public art festival held in New Delhi from 12th to 21st December 2008. The project was supported by the Goethe Institute, New Delhi and the German Technical Cooperation(GTZ), New Delhi.

The ambition of the festival was to interrogate - through a number of art/architecture interventions and projects - the teetering ecology of the city through the prism of contemporary art and architecture. Situated in various public spaces around New Delhi, it was an attempt to draw a complex and diverse public into the world of contemporary creative practice with the environment as its new radical edge.

JUGAAD

'Jugaad' is an Indian term which refers to attaining any objective with the available resources at hand. It gives new life to objects discarded as valueless. It reminds us that the familiar is not necessarily known. The journey in New Delhi began with three questions:

- _ What happens when constraints act as triggers for innovation?
- _ What happens when people change their mind and work together?
- _ What happens when a thousand oil cans decide to fly?

By redefining the ubiquitous cooking oil can, Jugaad takes recycling and reuse beyond a simply utilitarian measure into an exciting world of architecture and design possibilities. The installation looks at the following issues:

- (i) The project celebrates and encourages the act of jugaad. It highlights the unique talent of jugaddis who use constraints as catalysts for innovation. In a world of excessive commodification, it aims to provoke a new genre of art, design and architectural thought.
- (ii) The project lays special emphasis on issues of sustainability, recycling, redefining and repurposing.
- (iii) The project carries out extensive material and structural research to develop a novel and integrated material system where the cooking oil can is both surface and structure. The modular material system is designed for replication and disassembly.



(iv) The project experimentation predicates itself on community participation. An oil can is no more just an oil can. It is now an object of pursuance. Stiff initial resistance within the community to explore and modify the discarded oil can, which is treated as 'waste', has gradually given way to a micro industry which has engaged a substantial number of people. The project has witnessed a change in the attitude of everyone involved and made them responsible towards their surroundings.

Jugaad sets a precedent for a participatory and inclusive design approach involving the inhabitants of Rajokri, an urban village at the edge of New Delhi. This vision might eventually go beyond New Delhi and become a successful model for other places. In the following pages, we recreate the journey of jugaad which culminated in a suspended shade pavilion made out of 945 discarded oil cans.



Process

Jugaad has travelled the keen edge between restraint and an exciting, risk taking approach. From conception through till research, prototyping and final installation, the journey had to break through many frontiers. Creating an architectural installation of this magnitude with the use of a new material demanded the expertise of numerous people who were all driven by the urge to experiment and create a purposeful, authentic design response.



Concept Proposal



Discarded cans collected from Delhi

Process

Jugaad - Public Art Project



Can cover being cut out



Process
Jugaad - Public Art Project



Cans being washed in hot water



Cover edge bending



Process

Jugaad - Public Art Project



Drilling holes in the covers and cans



Cans being transported



Structural system explores an integral solution which combines the principles of a tensile structure using steel cables suspended on steel pulleys with a honeycomb structure. The oil cans perform both as surface and structure.

Structure

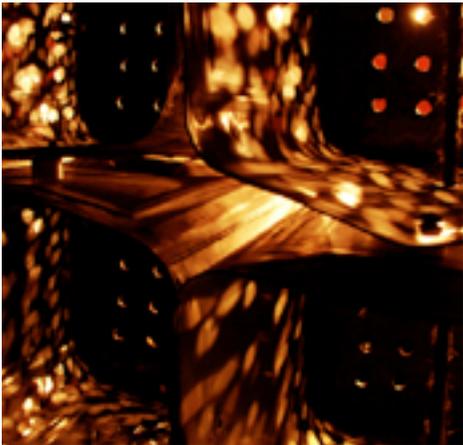
Jugaad - Public Art Project



Prototype with 110 cans installed and tested for wind load, structure and light details. 20v halogens were placed in existing holes of the can covers and natural fibre rope was used in place of steel cables.

Installation

Jugaad was finally installed on Ramlila grounds near Ajmeri Gate in New Delhi. It was open to the public from 12th to 21st December 2008. The canopy was later disassembled and transported back to the village and reassembled.



Night view

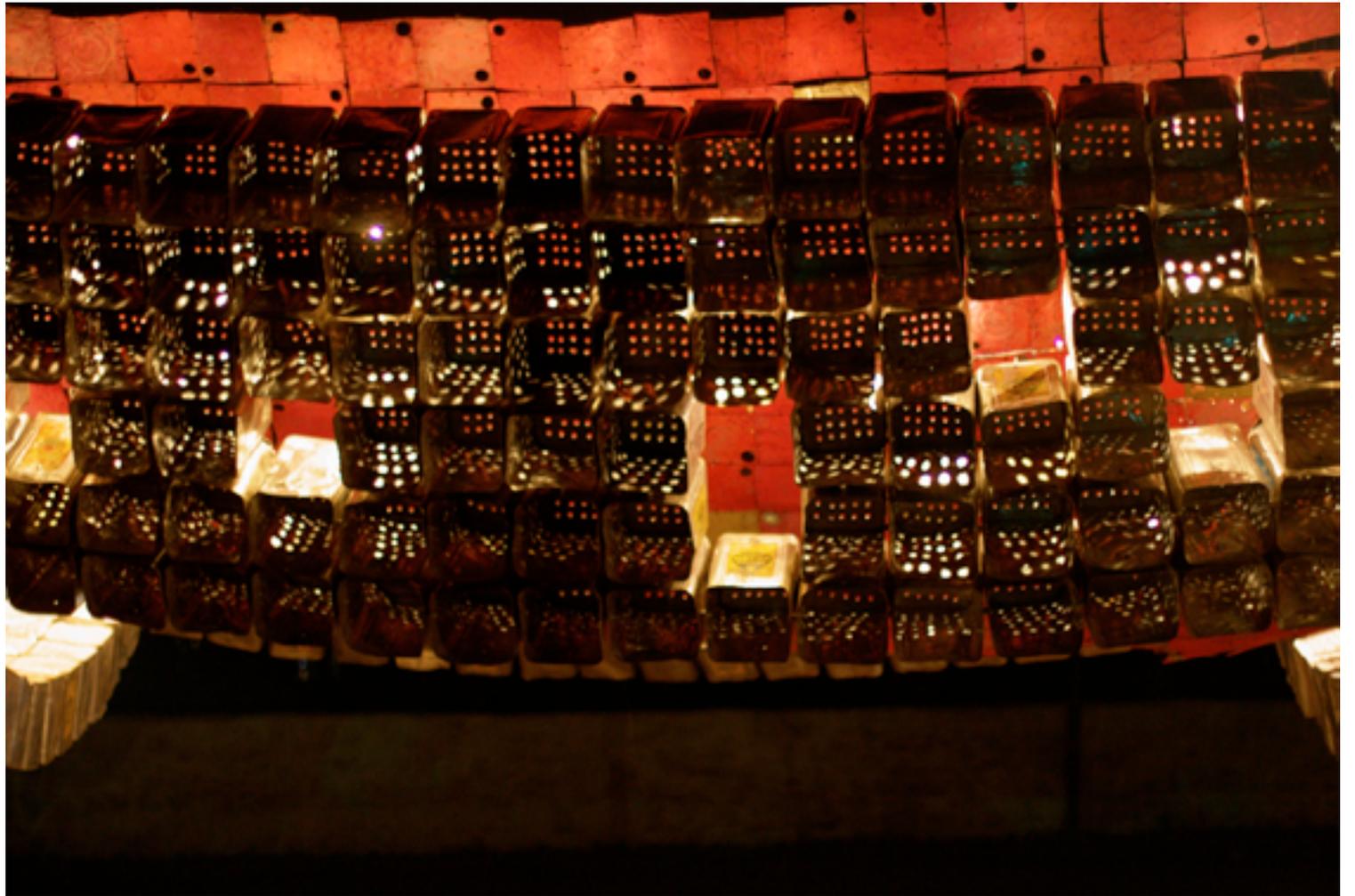
The final installation was spread over an area of 750 square feet and consisted of 692 discarded oil cans and 945 discarded oil can covers. The skins were suspended over pulleys using 12mm and 6mm steel cables which were fastened into the ground.



Night view

Installation

Jugaad - Public Art Project



Side view



Detail of can joining

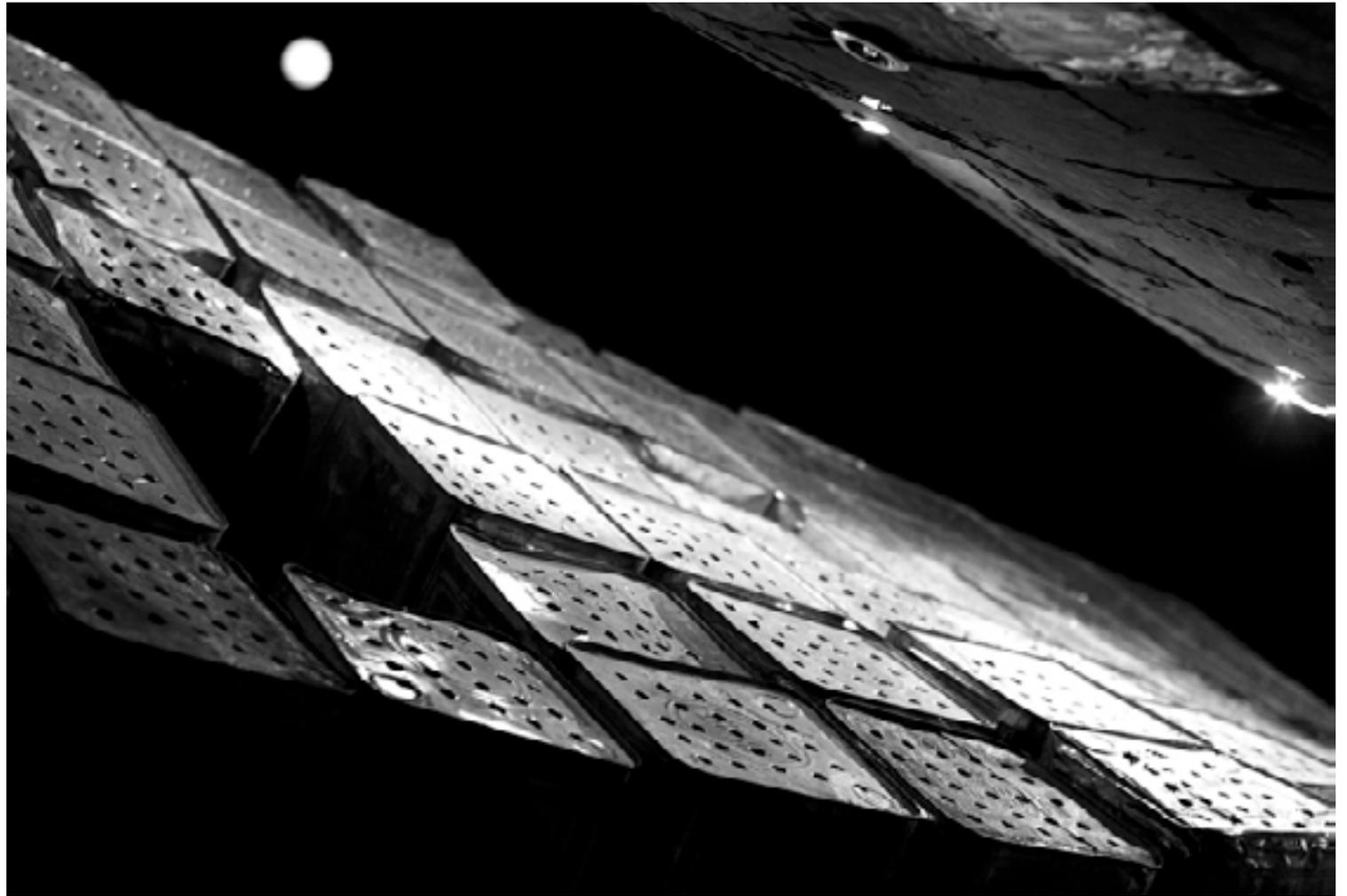
The cans are joined together using locally available nuts and bolts which act as shear connectors (each can weighs 700 gms)

Installation

Jugaad - Public Art Project



Day view



View through the skins at night



People sitting under the canopy

People

Jugaad - Public Art Project

Production: Karmdhari
Dileep
Sunil
Malti
Raj Singh
Charandas

Structure: A. Sen
Sanjeev Shankar

Installation: Vinod
Karmdhari
Subhash Chand
Shaqueel Ahmad
Sanjeev Shankar

Photography: Adam Roney
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Sanjeev Shankar

Organizers: Khoj
GTZ
Max Mueller New Delhi
Goethe Institute New Delhi



Credits

Jugaad - Public Art Project