

EMERGENCY SHELTER

FOR EARTH QUAKE AFFECTED VILLAGE

RAMVAV-KUTCH-GUJRAT.

**FOR
JET- AIRWAYS.**

NIVARA HAKK WELFARE CENTRE

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'SANKALP'

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INTRODUCTION

After the recent earthquake in the district of Kutch, thousands of people are now living in fields or on roadside. Weather condition is not good, days are 38°C while nights go down to 8°C. From March onwards, the day temperature is going to rise upto 45°C. to 48°C. Women, children and the old have to survive in the open under these conditions. A visual survey suggest that over 75% of the houses in the towns and almost 90-100% of the village houses in Bhuj, Bachao and Rapar talukas have become structurally unsafe if not fallen. It will take months, may be a year before reconstruction and rehabilitation programmes are implemented.

A quick assembly of emergency shelters, produced in very large numbers may be upto 1,00,000 units is immediately required. These structures must be earthquake resistant and could be made of bamboo or steel and covered with reinforced mud and tarpaulin for insulation. This approach will require minimum manpower and professional input. They can be placed in individual properties wherever possible or together in clusters in the common land of the villages. This will encourage community dialogue, which is extremely important in the present situation in which families, and communities have been separated.

Agencies involved in relief work including the Government have been able to provide community tents in some of the towns and villages that are either better known or are along the main routes. Bulk of the distant villages in the remote areas is yet to receive help. Women, children, the old and the sick are all living and sleeping together in these community tents. This is not good for too long and can lead to many more social and psychological problems. It is necessary infact to quickly dismantle these large tents and provide individual family shelter instead. This will bring family units together. The reunification of the family will help them regain courage and get over their trauma early. Moreover with families coming together there will be a greater opportunity for a meaningful dialogue and planning for the future.

In the interim period that is before reconstruction programme is undertaken and completed, a temporary emergency shelter program is necessary in the villages. Nearly 800 family units are being erected by Nivara Hakk Welfare Centre and financed by Jet-Airways in village Ramvav in Rapar taluka, another 200 by siemens, 150 units by YUVA and another 530 by I.C.I.C.I. (to be started) are underway.

The details of the temporary shelter, its construction details and estimate of cost are enclosed herewith. Also photographs of the erection in the village Ramvav are enclosed.

There has been an overwhelming response with active local participation by the affected people in the implementation of the temporary shelter program.

DESIGN AND DEVELOPMENT

MODEL UNIT

Various components of the unit are prefabricated at Ahmedabad and Bombay and transported by road to the village. Each truck carries materials for nearly 40 houses. Production is geared to 40 units a day.

Assembly of one unit takes about one and half-hours with the inputs of four people.

CONSTRUCTION AND MATERIALS

The superstructure is made of square steel tubes. For the roof a double layer of bamboo mats, and tarpaulin is provided to effectively insulate the shelter.

One side panel has a roll up door while the other side has a roll up window.

PEOPLES PARTICIPATION

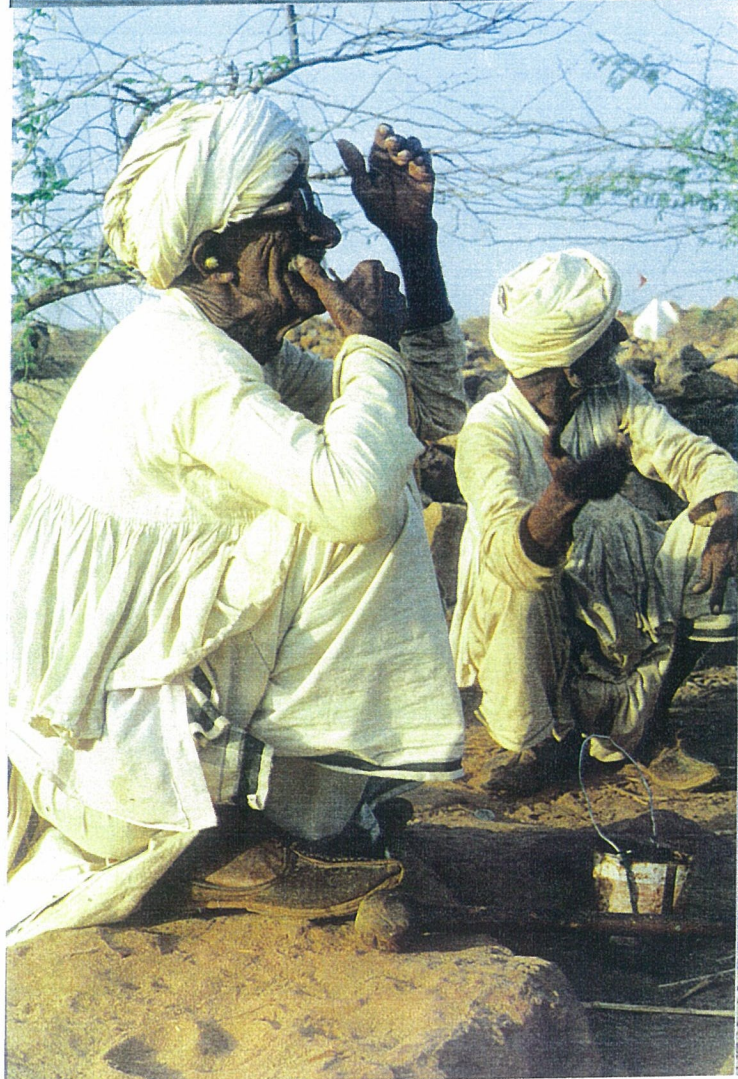
Erection of this temporary structure allows for active participation by the affected people. What is more interesting is that there is a lot of possibility of people adding to it and improving this core emergency shelter, for e.g. building a plinth, finishing the floor, extending verandah etc.

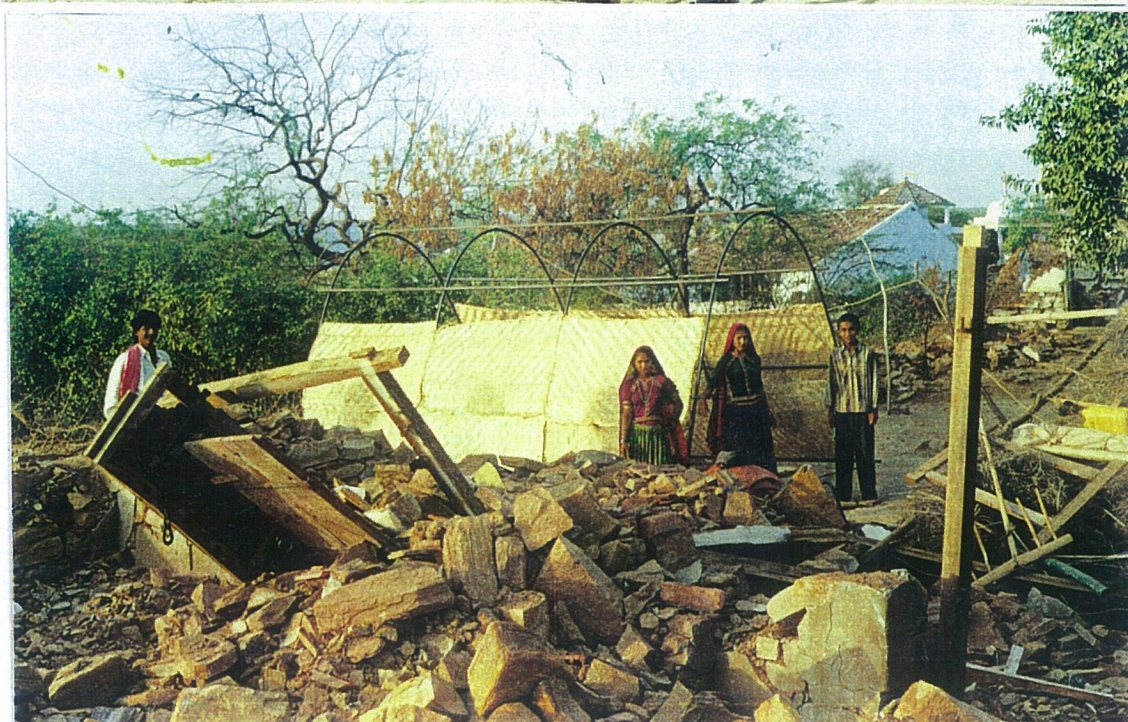
FUTURE INVESTMENT/ DISASTER MANAGEMENT PLAN:

Design and production of this shelter is seen as a long-term investment for availability of emergency shelter in the area. During any future calamity- be it an earthquake or a cyclone there structures can be made available immediately and assembled in a matter of hours. It would be necessary for the village community or the district administration to disassemble the temporary structure upon the completion of the reconstruction programme and store them in emergency shelter godowns. Thus the expenditure now is a contribution to the disaster management scheme for now and for future.

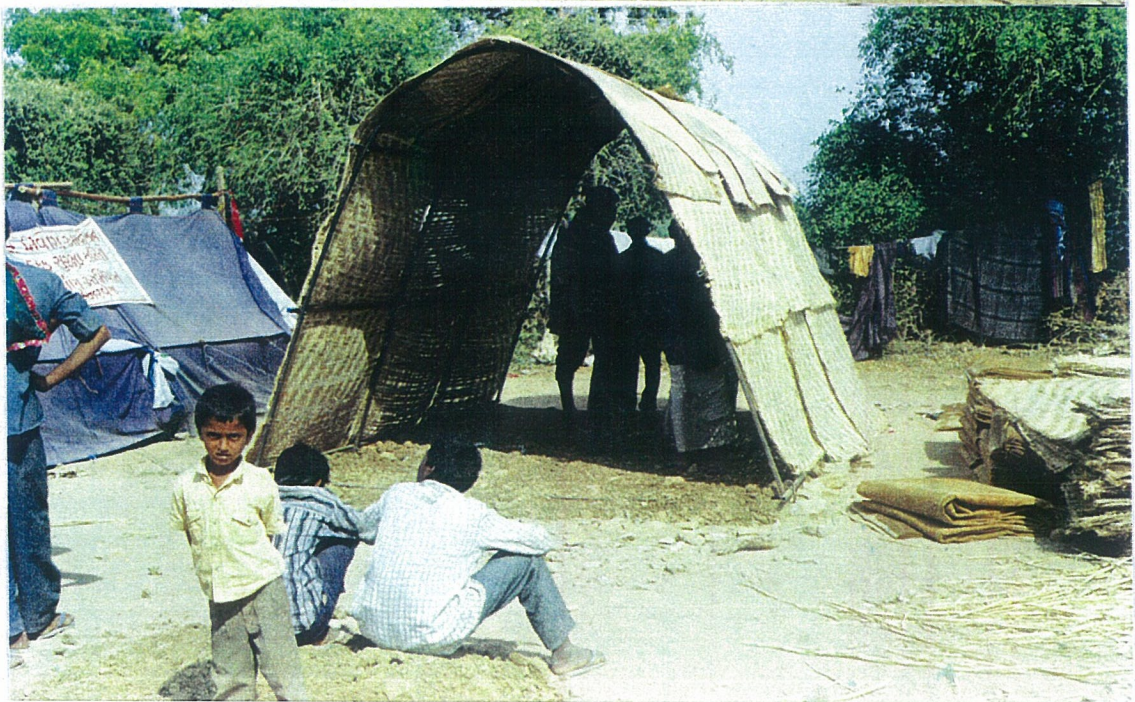
VISUALS

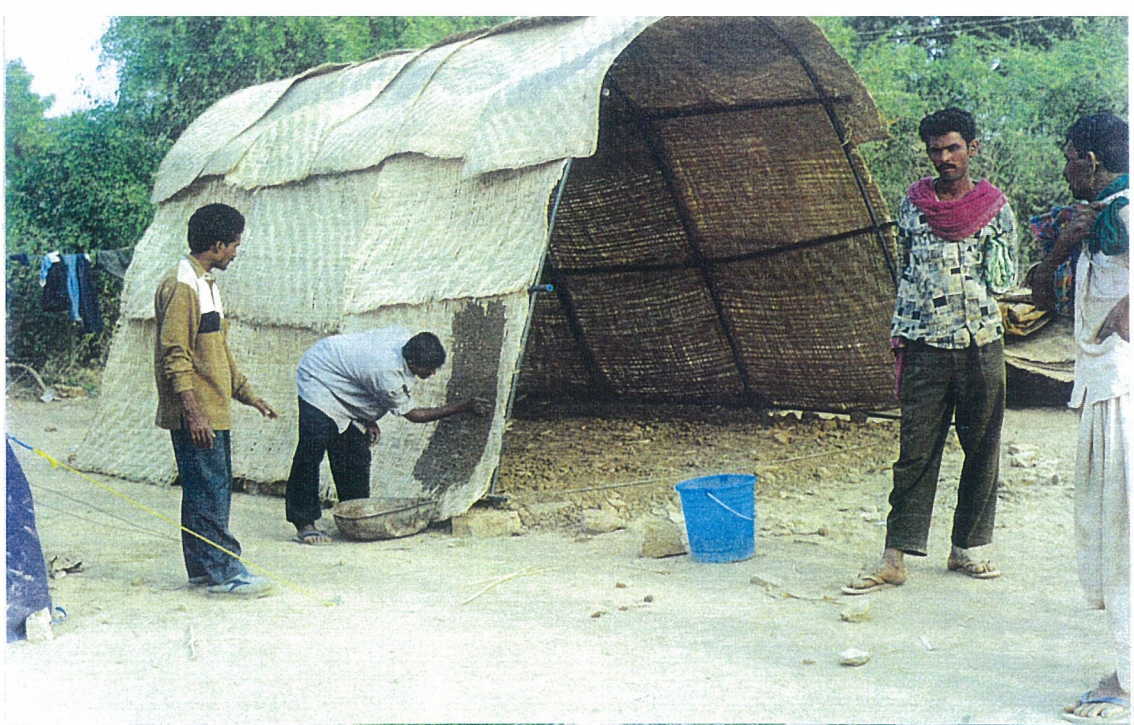


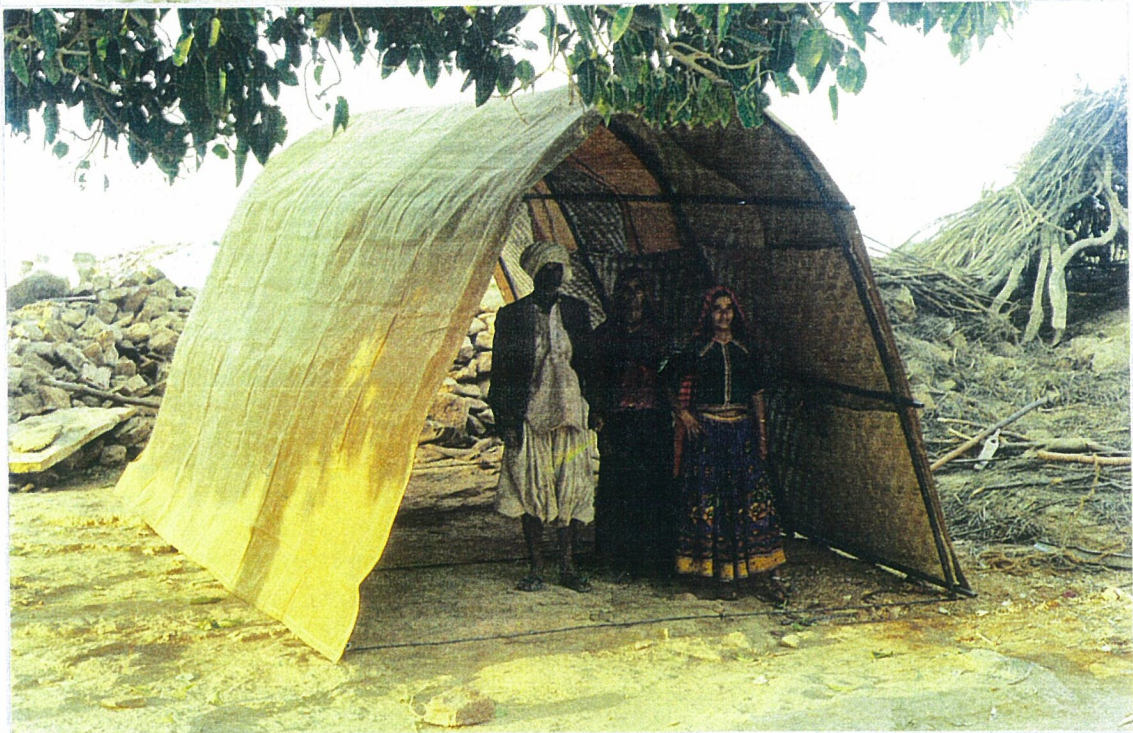




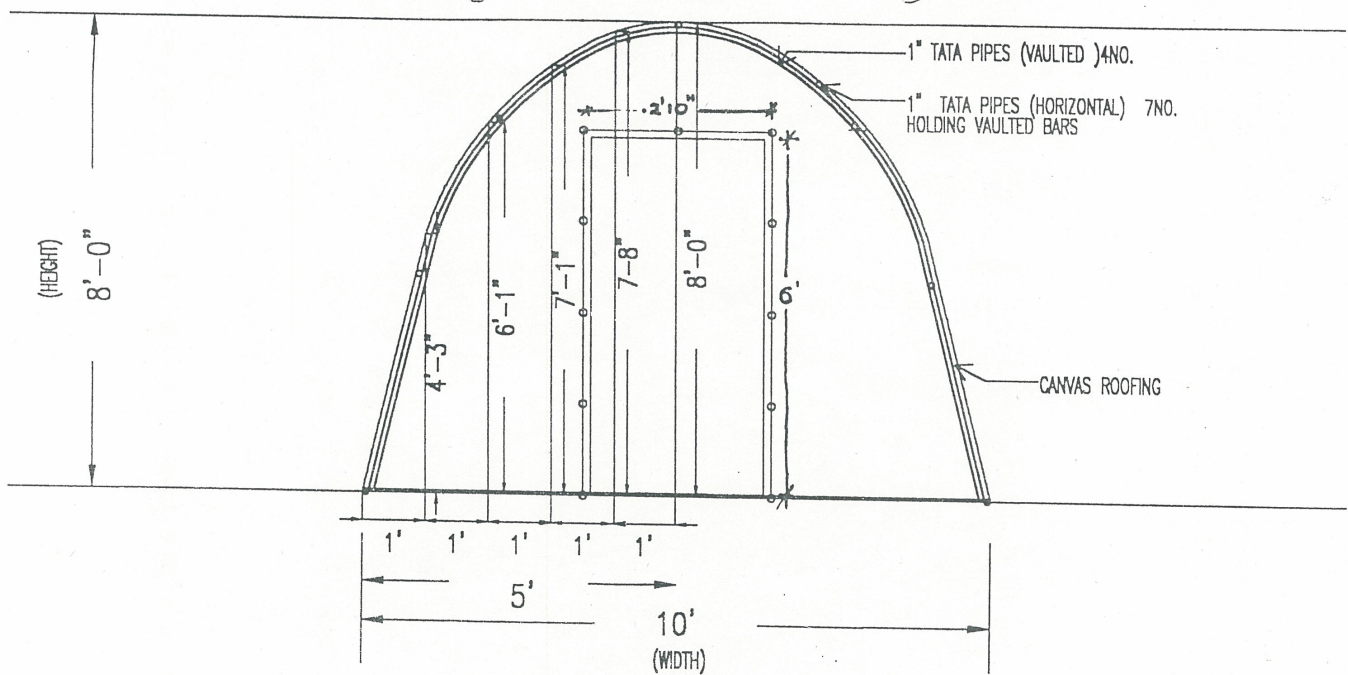








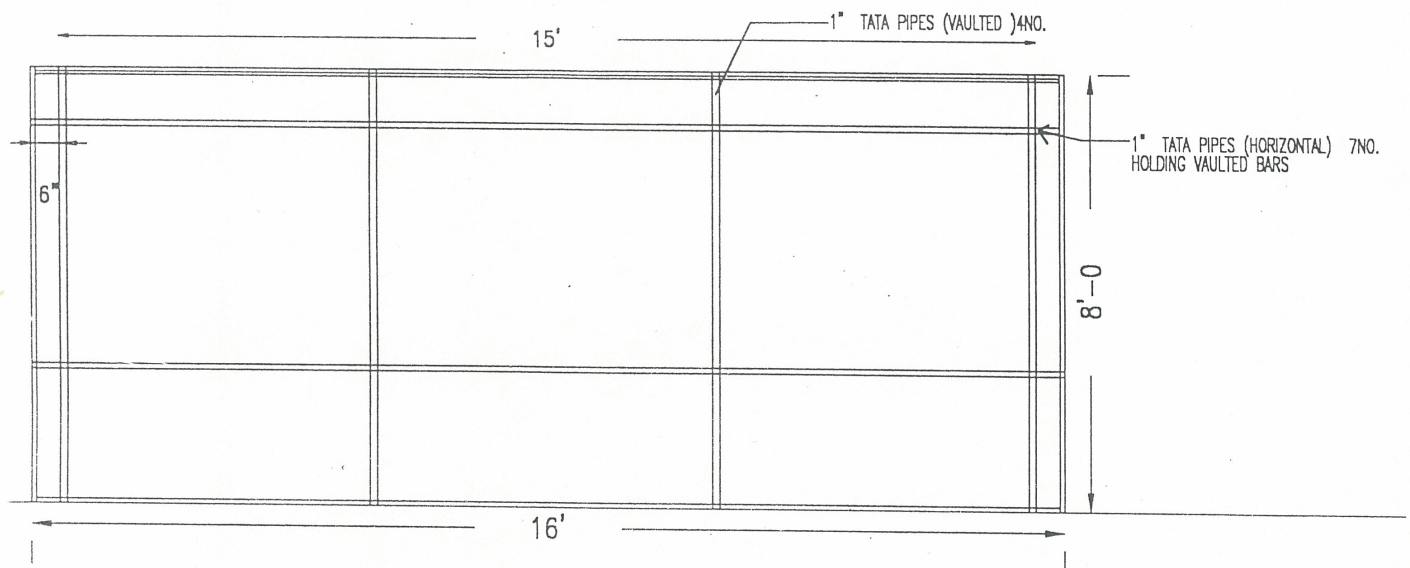
DRAWINGS
SPECIFICATION AND COST



ELEVATION OF SIDE COVER

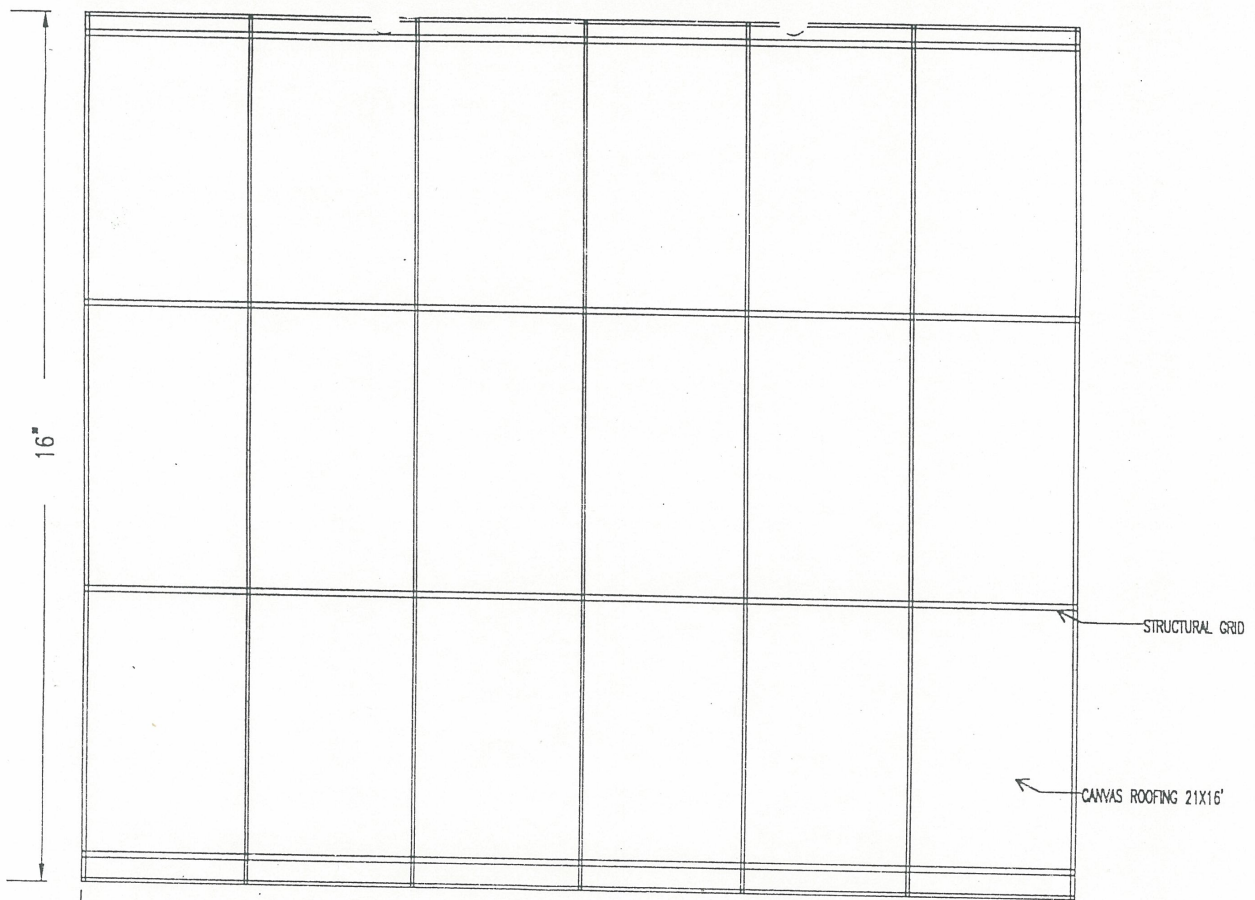
SIZE OF CANVAS 21' X 16'L

EMERGENCY SHELTER DESIGN
FOR EARTH QUAKE AFFECTED VICTIMS



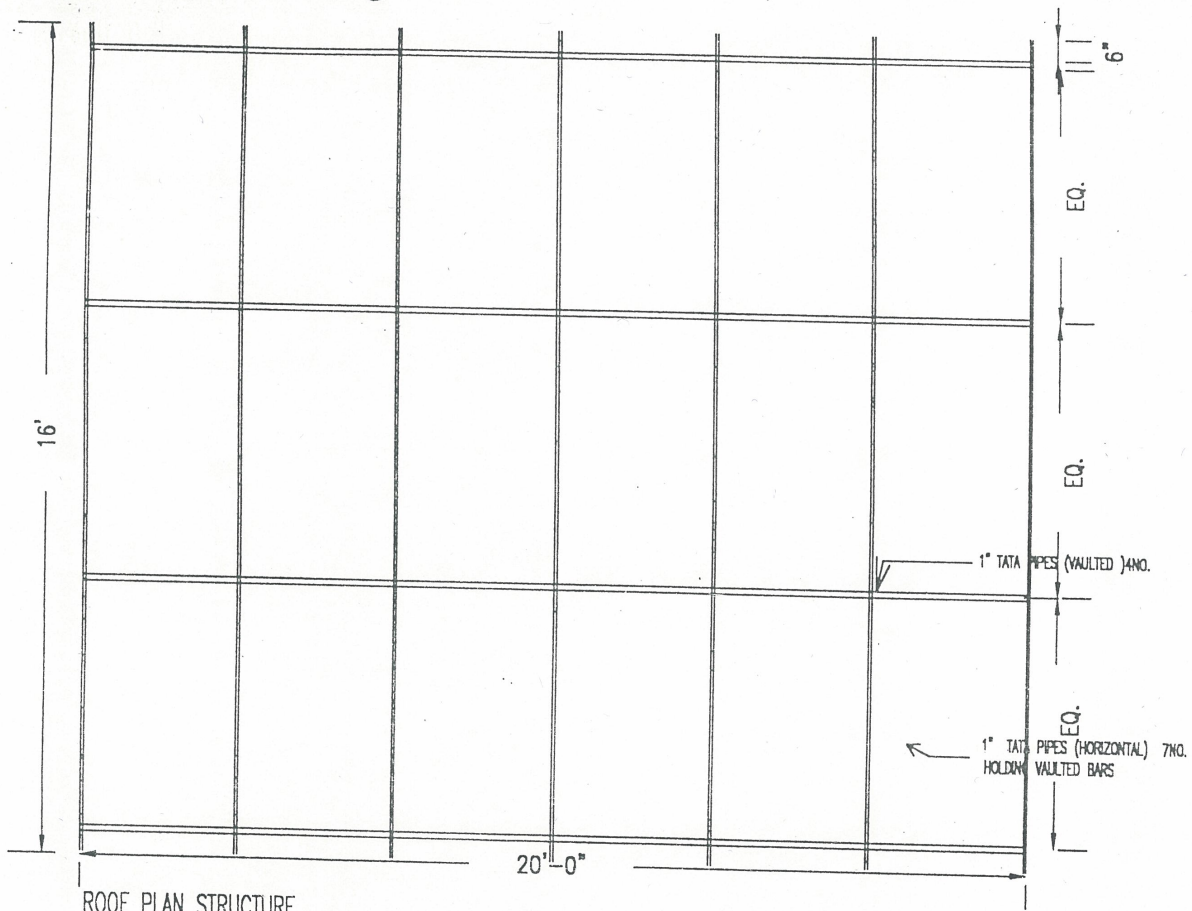
SIDE ELEVATION
SIZE OF CANVAS 21' X 16'L

EMERGENCY SHELTER DESIGN
FOR EARTH QUAKE AFFECTED VICTIMS



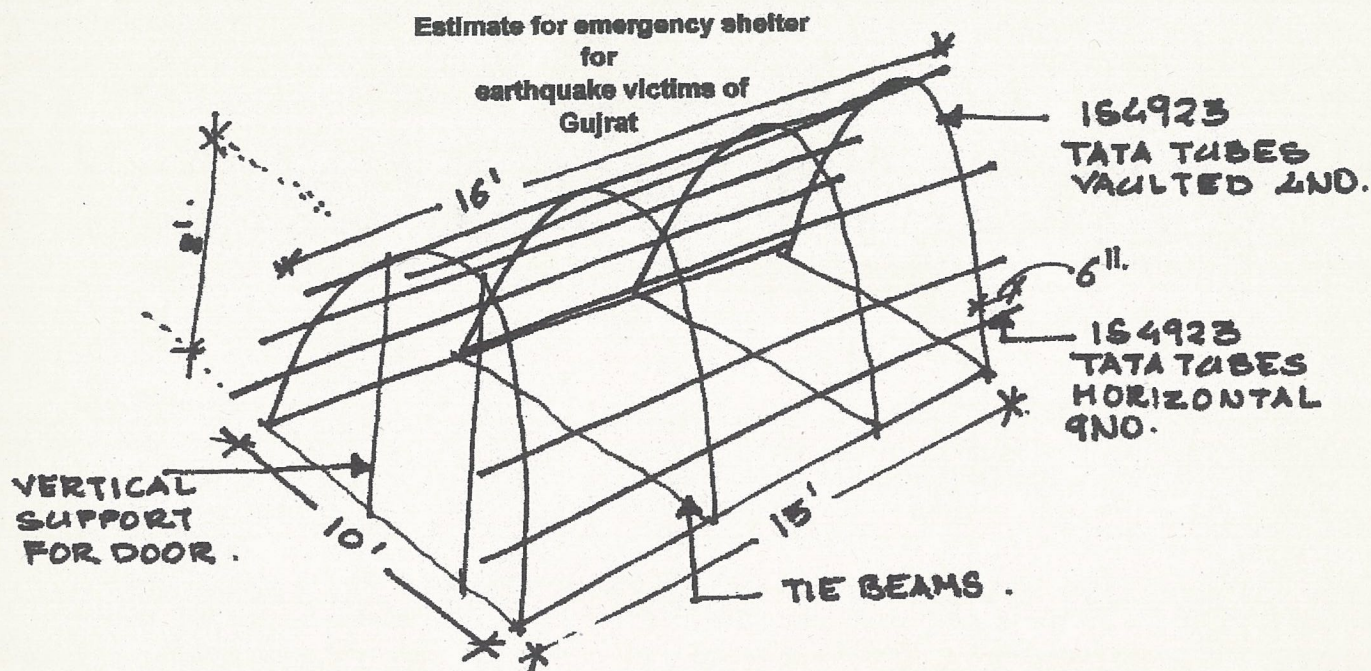
MEASUREMENT ROOF PLAN FOR CANVAS
SIZE OF CANVAS 21' X 16'

EMERGENCY SHELTER DESIGN
FOR EARTH QUAKE AFFECTED VICTIMS



ROOF PLAN STRUCTURE

EMERGENCY SHELTER DESIGN
FOR EARTH QUAKE AFFECTED VICTIMS



Shelter. - size 15' L and 10' wide.

1 Steel quantity

- | | | Rs. |
|---|--|-----|
| a | IS4923, 1" Dia Tata tubes (vaulted)-4no., L-20', 1"x1" square sections of thickness 2.6mm
4no. L-20', 1"dia | |
| b | IS4923, 1" Dia Tata tubes (horizontal)-4no., L-16', 1"x1" square sections of thickness 2.6mm
with 6" projections from either side 4no. L-16', 1"dia | |
| c | tie members 4no., L-10' | |
| d | binding wire | 30/ |

total cost of steel **Rs.3800/**

2 Roofing

- | | | |
|---|---|-------|
| a | Talpattri 6'x4', 2-bundles, 10in each bundle | 445/ |
| b | Canvas | |
| | 1 Canvas roofing 21'x18' of grade 601 21'x18' | 1753/ |
| | 2 canvas for gable ends 12'x9' of grade 601, 2no. 10'x9' | 925/ |

total cost for one temporary rehab unit **8953/**
approx. **7000/**

NOTE: The above cost does not include:

- 1 Transport of material from Bombay to Ahmedabad and finally to the site
- 2 Expenditure for volunteers food and transport
- 3 Expenditure for setting-up volunteers camp and kitchen

10/06/ 12/13/38
09/06 03/08/01

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