

# Deriving Inspirations

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Head of Department (RF & Microwave – EE),  
IEEE STEM Champion,  
Chair IEEE Student Activities Committee, Islamabad  
Vice-Chair IEEE MTT/APS/EMC/CAS Joint Chapter, Islamabad,  
NUST-SEECS**

# Reasons to Volunteer

We know very well about our **RIGHTS**, however,  
We frequently overlook our **RESPONSIBILITIES**

# Reasons to Volunteer

**RIGHTS**



**RESPONSIBILITIES**

# Reasons to Volunteer

**Build Yourself**

**Build Community**

# Reasons to Volunteer

## It's Good for You:

- Volunteers gain knowledge of local resources available to deal with community problems.

## It Saves Resources:

- Volunteerism provides valuable community services so more money can be spent on local improvements.

## It Brings People Together:

- From diverse backgrounds to work toward a common goal.

# Reasons to Volunteer

## Strengthens Your Community:

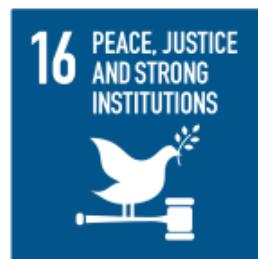
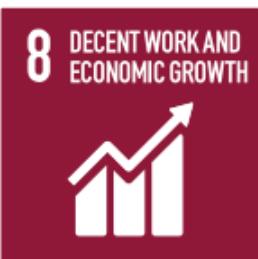
- Support families
- Improve schools
- Support Youth

## A Chance to Give Back:

- People like to support community resources that they use themselves or that benefit people they care about.



# SUSTAINABLE DEVELOPMENT GOALS



SUSTAINABLE  
DEVELOPMENT  
GOALS

# What Can you Do?

- Building schools and **renovations** of schools/hospitals
- **Free tutoring** programs
- **Vocational training** for the poor
- Environment protection, **tree plantation**
- Community **awareness** on social, hygienic and environmental, and energy related issues
- Blood donations, eye and other organ donations
- **Disaster relief efforts**
- Working for **orphanages**, **old homes**, and special people
- Workshops seminars related to **first aid**, fire safety, basic human values, disaster management, and other areas

# Institute of Electrical and Electronics Engineers - IEEE

Founded: January 1, 1963



> IEEE-USA (Regions 1-6)

**Region 1**  
**Region 1**  
(Northeastern  
US)

**Region 2**  
**Region 2**  
(Eastern US)

**Region 3**  
**Region 3**  
(Southern US)

**Region 4**  
**Region 4**  
(Central US)

**Region 5**  
**Region 5**  
(Southwestern  
US)

**Region 6**  
**Region 6**  
(Western US)

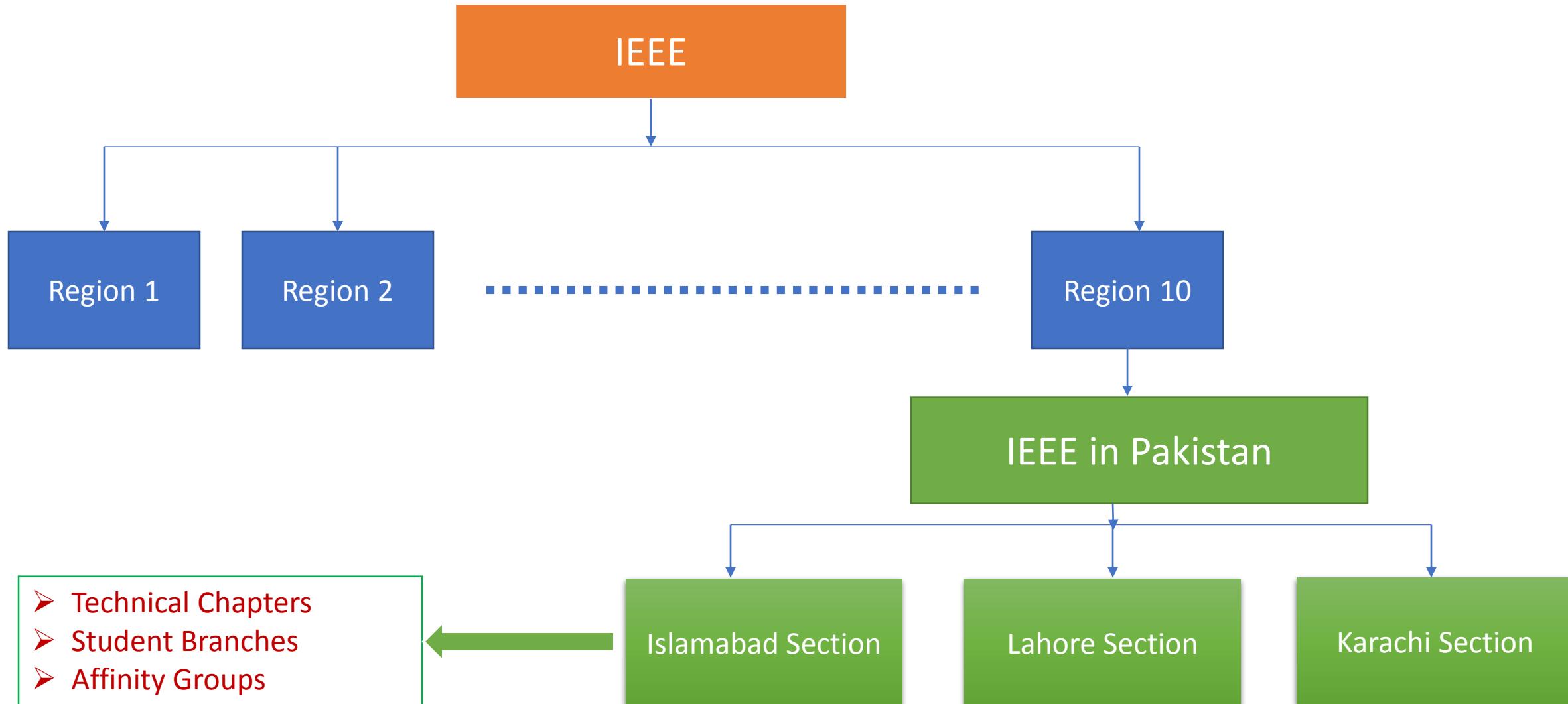
**Region 7**  
**Region 7**  
(Canada)

**Region 8**  
**Region 8**  
(Africa, Europe,  
Middle East)

**Region 9**  
**Region 9**  
(Latin America)

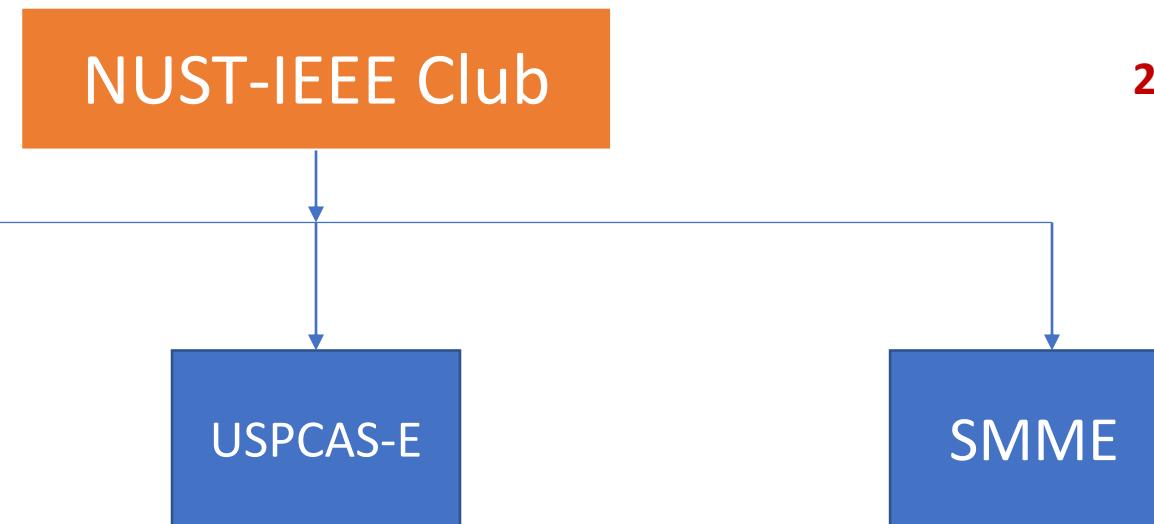
**Region 10**  
**Region 10**  
(Asia and  
Pacific)

# Institute of Electrical and Electronics Engineers - IEEE

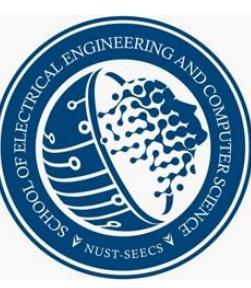


# NUST-IEEE Club

- The main objective is to engage the students of different NUST schools
  - Organizing joint ventures such as NUST flagship/non-flagship conferences, workshops, seminars and student activities



26<sup>th</sup> September 2022



# STEM Activities for Unprivileged Communities



# STEM Activities

- **Unprivileged Communities**

- Orphan Children
- Government School Children

- **Hand-on Activities**

- Wireless communication
- Radar Target Detection
- Electronics
- Robotics
- Coding
- Internet of Things (IoT) – Home Automation

- **Total Children Trained in 2023 > 300**

- **Total IEEE Volunteers Participated in Activities > 50**





# STEM Workshop - Example

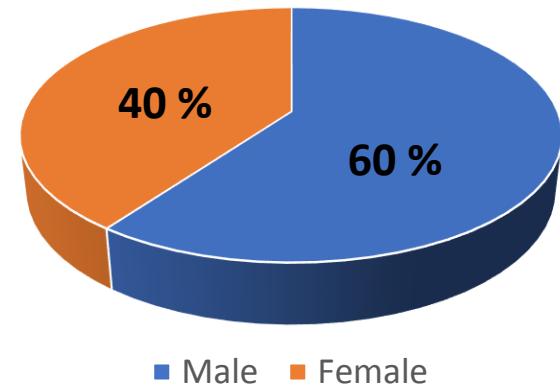
Span **8x** → **22-31 August @ NUST H-12 Campus**

Schools/Trusts **4x** →  
→ Noreen Zindagi Welfare Trust, Islamabad  
→ Nasir Foundation School, Rawalpindi  
→ Peak School, Rawalpindi  
→ Quaid e Azam School, Rawalpindi

Orphans **33x**



**SUSTAINABLE DEVELOPMENT GOALS**





# STEM Workshop (contd.)



## Activities

- A. Basics of Electric Circuits
- B. Introduction to Robotics
- C. Human-robot interaction – Data Transmission through Morse Code
- D. Making an Obstacle Avoidance Robot using Ultrasonic Sensor
- E. Machine learning: Making a Smart Classroom
- F. Designing a Radar System
- G. Themed Challenge: Mars Rover
- H. Making a Home Automation System using Bluetooth





# STEM Workshop (contd.)

Provided STEM Workbooks



Engineering Profession





# Few Glimpses of other STEM Workshops



Islamabad Section



IEEE Islamabad Section





# Flood Rehabilitation Efforts



# NUST 'Own a Village' Concept

## Volunteers:

- Faculty
- Students



**3221+ FAMILIES**  
Beneficiaries



# NUST 'Own a Village' Concept



**3000+ RATION BAGS**  
Distributed



**3221+ FAMILIES**  
Beneficiaries



**10 AFFECTED AREAS**  
Locations

## PROVINCE WISE DISTRIBUTION

**1200+ Families**  
**SINDH**

**600+ Families**  
**KPK/GB/AJK**

**1121+ Families**  
**BALOCHISTAN**

**300+ Families**  
**PUNJAB**



# NUST FLOOD RELIEF CAMPAIGN - SINDH

## (Own a Village)

### Village Hafeez Abro & Lal Hingoro, Hyderabad



# NUST FLOOD RELIEF CAMPAIGN - SINDH

22

- School of Electrical Engineering and Computer Science (**SEECS**) Islamabad– **Lead School**
- United States Pakistan Center for Advanced Studies Energy (**USPCASE**) Islamabad
- Pakistan Navy Engineering College (**PNEC**) – Karachi

# PHASES OF DISASTER RELIEF



# HAFEEZ ABRO & LAL HINGORO



**100 + 250**

Population



**No School – closest in  
Bhindo Sharif**

Education Facilities



**No facilities – closest in  
Bhindo Sharif**

Health Facilities



## Mosque Condition

Partially Damaged



## Houses

Total	20 + 40
Partially damaged	3+6
Completely damaged	4+17



## Facilities

Electricity	Yes
Gas	No
Drinkable Water	No

## Location

District: Hyderabad  
UC: Dhamachani

## MAP Directions

Coordinates: 25°23'21.4"N  
68°28'26.5"E

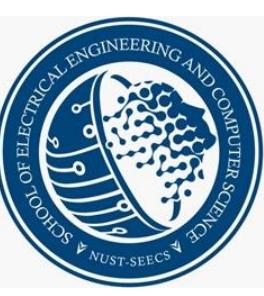
Google Maps Link:  
<https://goo.gl/maps/8J7M3vN5GKFjzySb9>



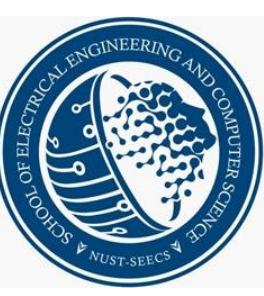
**~1.3 + 2  
Acres**

# Project Phases

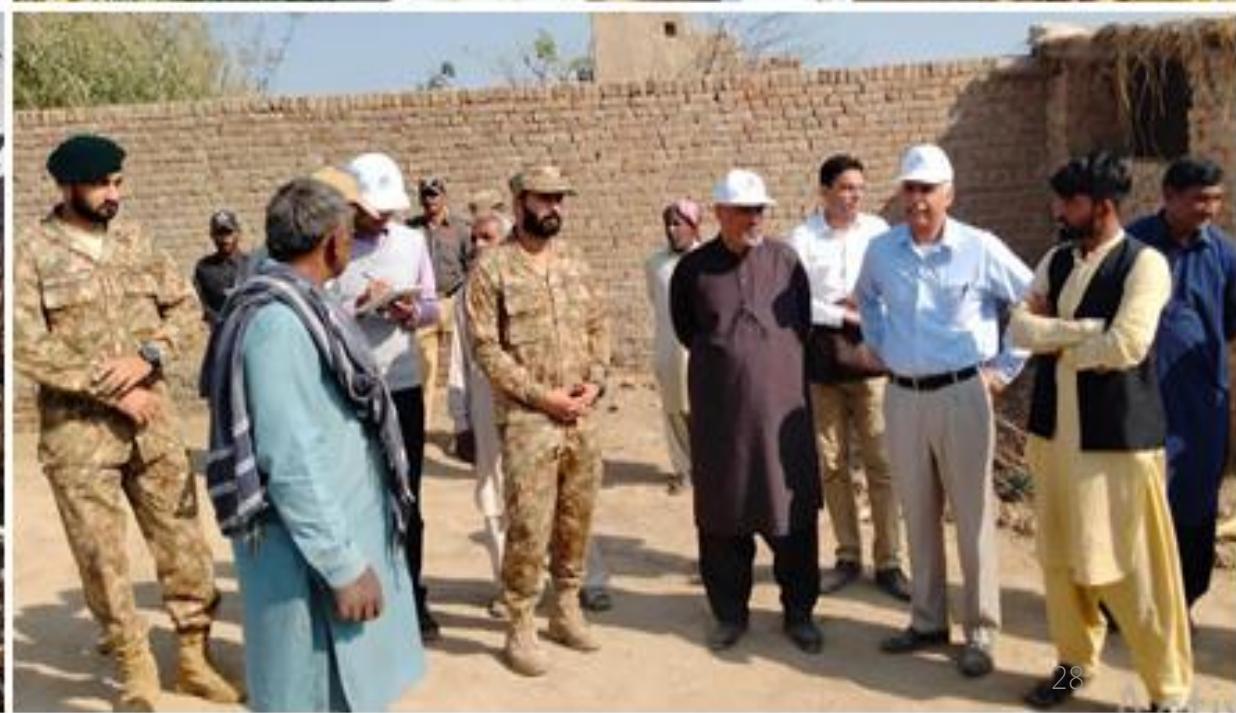
- PHASE-I - Completed
  - CONSTRUCTION of 18x HOUSES
  - Minor Repair of Houses
- REHABILITATION PROJECTS
  - Construction/repair of boundary wall where required
  - Leveling of playground
  - Medical Camp organized for affectees
  - Kitchen gardening
  - Provision/Establishment of two sewing centers (Funded by SEECS students)
  - Distribution of Egg laying chickens with cages
  - Distribution of Mosquito Nets
  - Distribution of Eid Clothes
  - Distribution of Cattle (Goats)
- PHASE-II – InProgress
  - Rehab Projects (Livelihood sustainability) in process
  - Vocational Trainings
  - Provision of Green Energy



# PHASE-I



# GROUND SURVEY



# PICTURES FROM GROUND SURVEY

29



# PICTURES FROM GROUND SURVEY

30

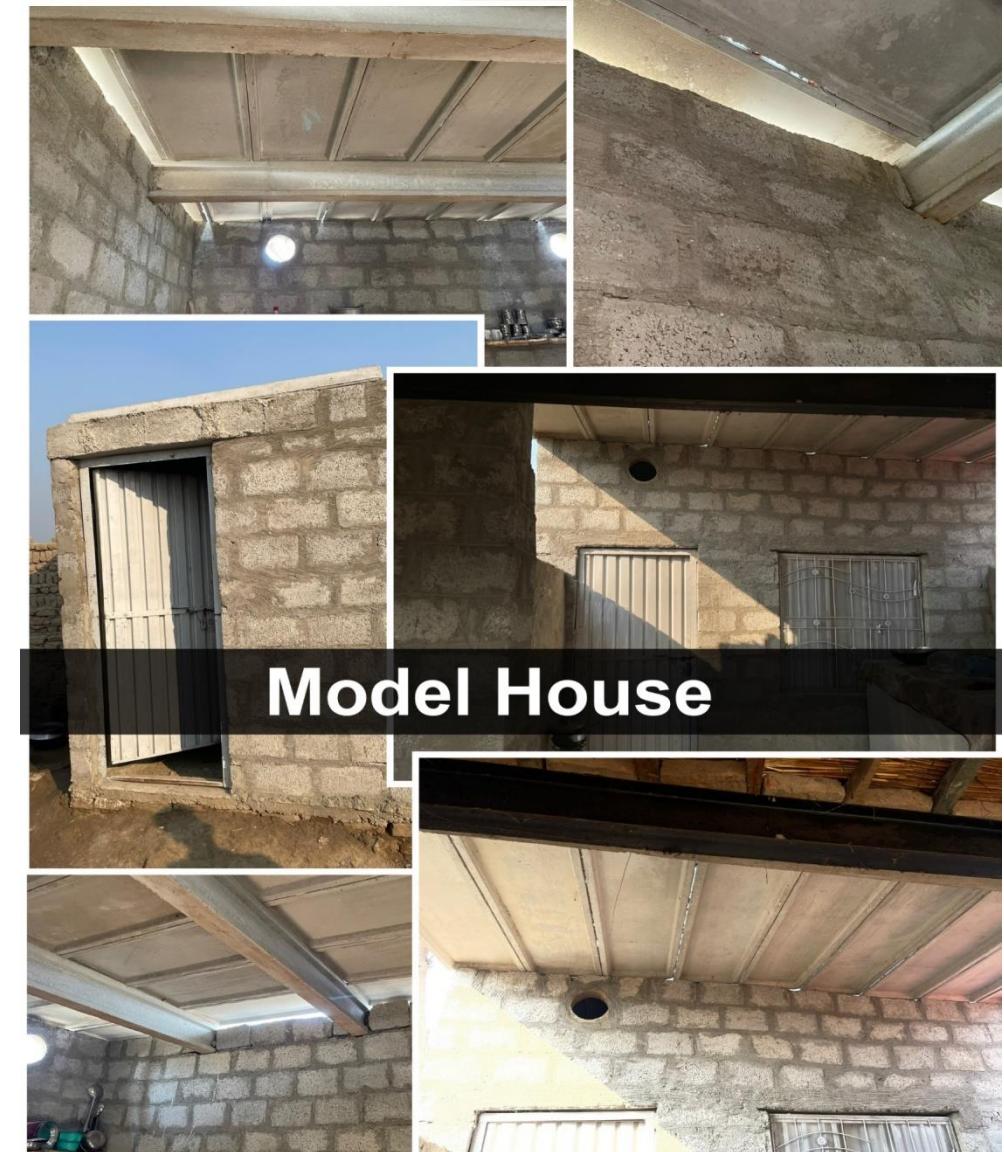
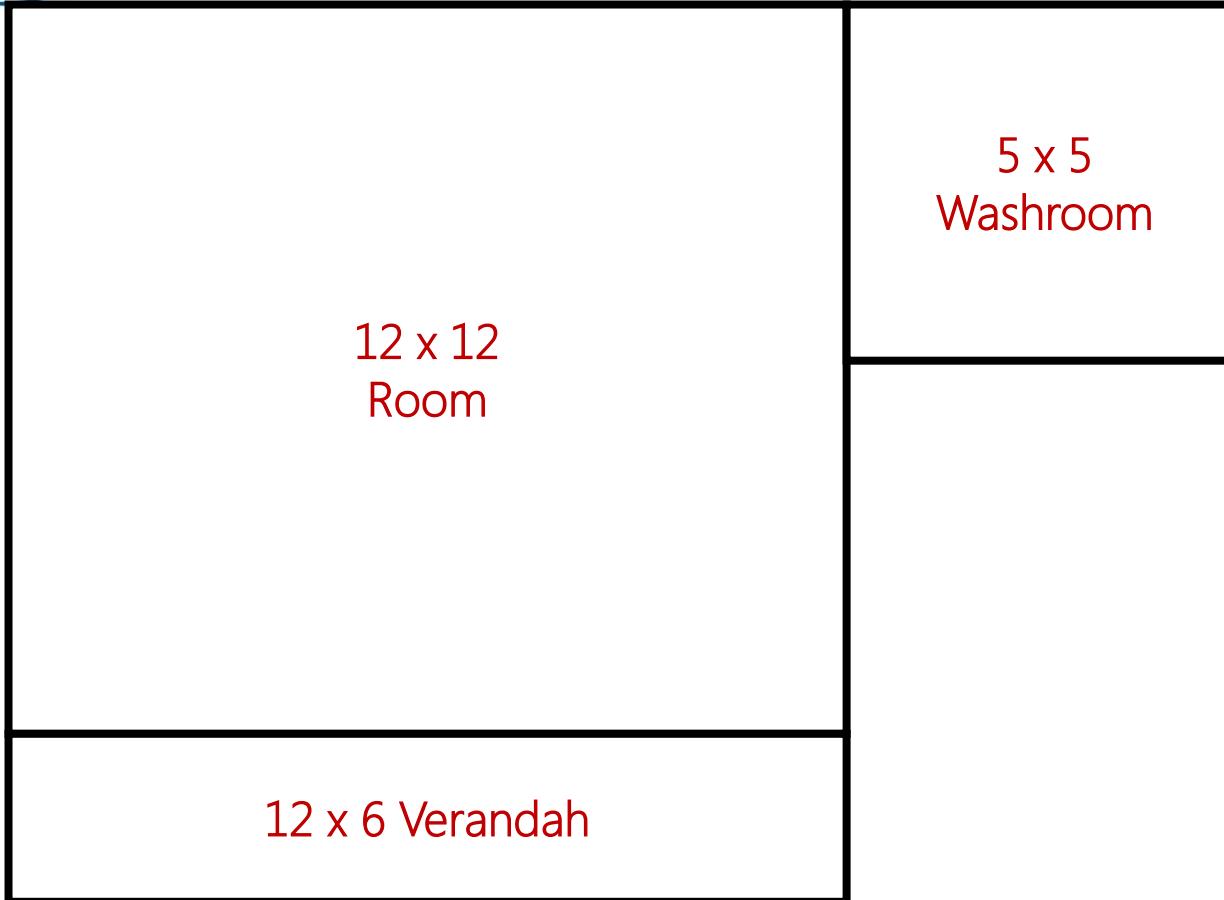




# **CONSTRUCTION OF 18 HOUSES**



# MODEL HOUSE

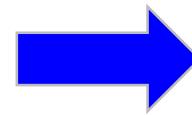












First Model House

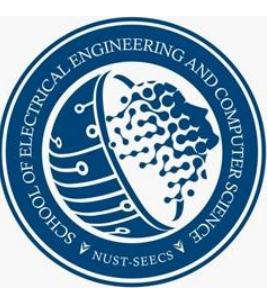






# NUST INSIGNIA PASTING





# LIVELIHOOD SUSTAINABILITY PROJECTS

## LEVELING OF MAIN ENTRANCE (Lal Hingroo), PLAY- GROUND AND PROVISION OF DRAINAGE LINE



## SEWING Centre and Kitchen Gardening



# Medical Camp



## Distribution of Clothes and Mosquito Nets





# PHASE-II

## Distribution of Livestock





Visit of Dr Muhammad Ismail Sindh Agriculture University Tandojam



## Solar Panel Systems Installation on 18 Houses

### Solar Panel Includes:-

- Longi Hi-mo 6A Grade Solar Panels  
570-600 Watt
- Solar Panel Frame galvanized
- Wires DC Wires newage
- Simtek 70 (MPPT) Controller 12 Volts
- Osaka 135 Battery 105 Ampere –hour
- Insulation and power Plugs.



## Solar Panel Systems Installation



## Solar Panel Systems Installation



## Solar Panel Systems Installation



## Solar Panel Systems Installation



# Solar Panel Systems Installation



# HOW CAN YOU CONTRIBUTE

## Description

- Water Treatment Plant
- Skill Development
- Education



# Thank You

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