

TECHNOLOGY & DEVELOPMENT 609 TRAINING CERTIFICATE

This is to certify that **Mr. Shankar Jamjagale** studying second-year **MTech** at **C-TARA, IIT Bombay**, bearing **Roll Nos. 24M0224** have undergone Training of 9 weeks (from May 12th to July 14th 2025) under the TD-609 field visit course at Katri village in Nandurbar District, Maharashtra. It was under my supervision. The details of the Training work are as follows:

- Analysed data from 150+ survey respondents and 2+ government schemes using KOBO toolbox
- Design Bamboo Bridge and identified the factors driving to Social economic and environment
- Proposed a 10-kW hybrid wind-solar microgrid for 35 households in Patil Pada, Katri Village, to provide 24×7 clean electricity. The system will include 3×1 kW vertical-axis wind turbines, ~7.63 kW solar PV, and a 20-kWh battery bank, with ~4 km single-phase AC distribution. Each home will receive one fan, two LED lights, a mobile charging port, and a small appliance socket. Daily household demand is ~0.5 kWh, totalling ~17.5 kWh/day for all homes
- Rainfall Analysis by using the Symon's gauge (non-recording type) rain gauge is installed by Krish Vigyan Kendra, Nandarubar in Hanipada.
- Analysed hydrological parameters from NASA POWER satellite and group-level sensor data using Python (pandas), identifying an 8% error to improve local sensor calibration
- Designed a 10-bed Primary Health Centre (PHC) for Katri Village, covering approximately 1,470 sq. Ft, with spaces for OPD, clinic, examination, lab, wellness room, day-care, pharmacy, and waiting area.

Authority Signature

Digital Signature
Chaaruchandra Arun Korde
(10001958)
16-Aug-25 03:28:15 PM
Chaaruchandra Korde

Assistant Professor, C-TARA

Indian Institute of Technology, Bombay