



**DEMONSTRATING BENEFITS OF RENEWABLE ENERGY TOWARDS BUILDING
RESILIENCE OF MARGINALISED COMMUNITIES TO CLIMATE CHANGE IMPACTS IN
KARACHI, (PAKISTAN)**

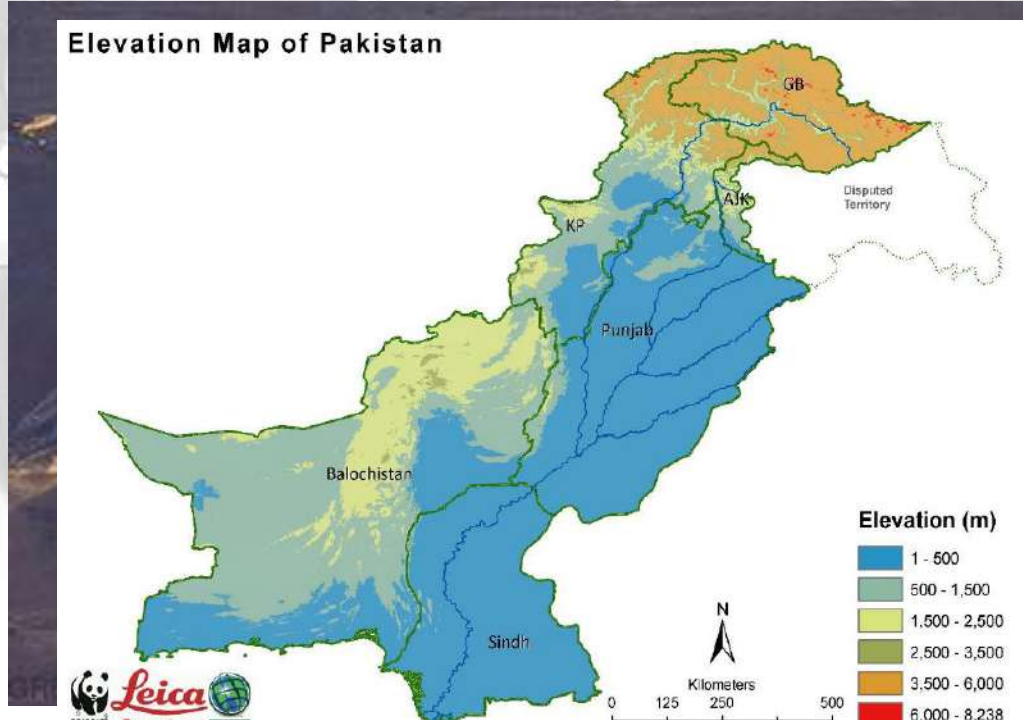
HAMERA AISHA , WWF-PAKISTAN

**Session 3.3: Solar Plus: Alternatives and Enhancements to Solar for
Power Generation**



KARACHI - AN INTRODUCTION

- Largest cosmopolitan city of Pakistan
- Indus river delta – spread over 3,530 km²
- Economical, philanthropic, educational country



Legend

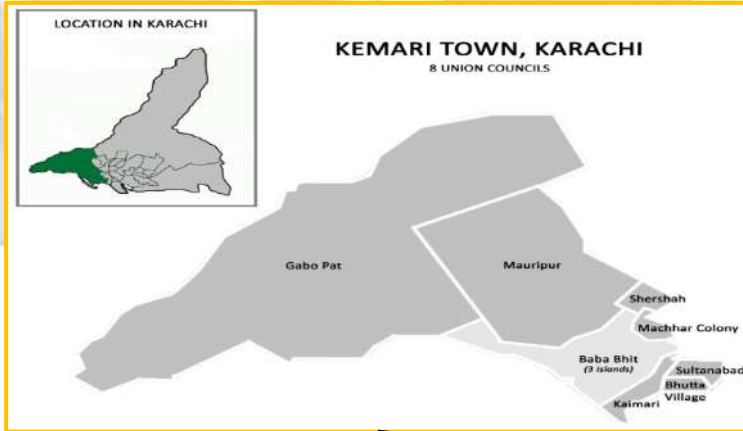
- Project Location
- City
- District Boundary
- Province Boundary

0 25 50 100 Miles





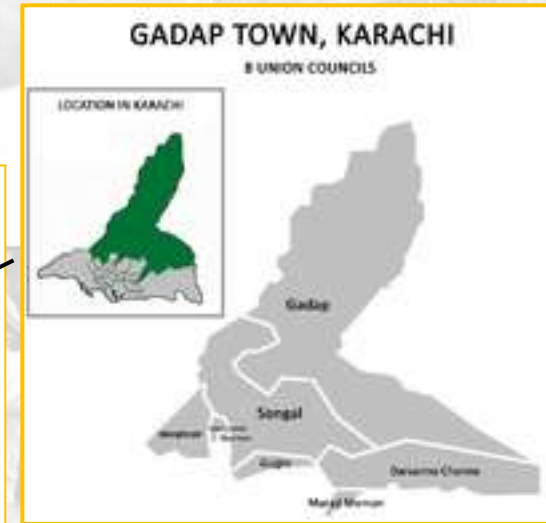
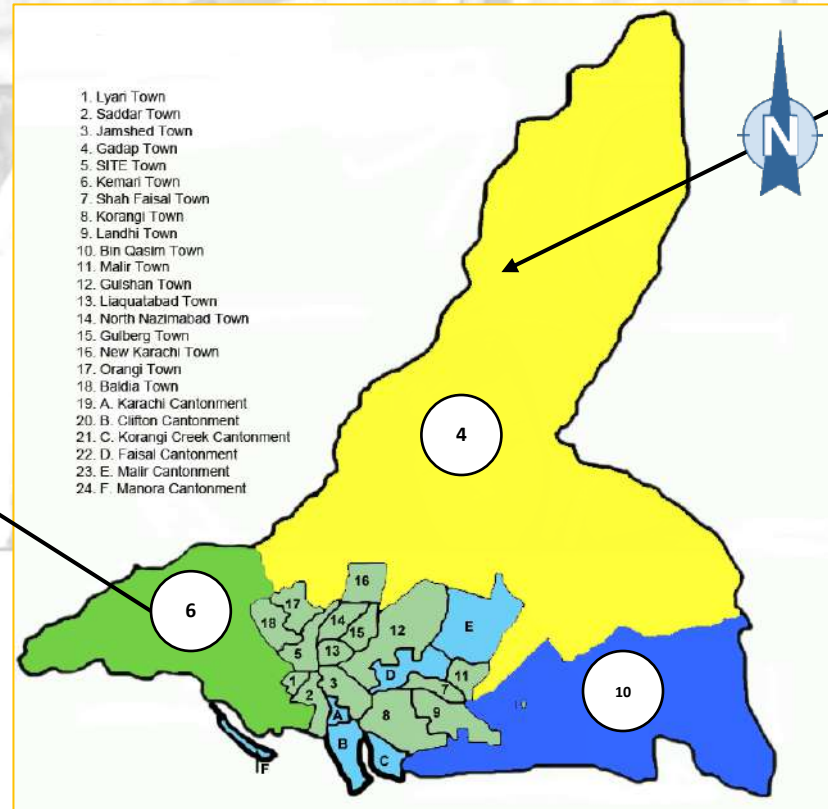
LOCATIONS



08 Off-grid villages (760 HH)

Three Towns of Karachi

- Gadap Town
- Rehri (Bin Qasim Town)



19 Off-grid villages (1050 HH)

Marginalized communities
Climate migrants
devoid access to basic amenities
including water, electricity, health
care and education



PROJECT OBJECTIVE

“ENHANCED ENERGY SECURITY AND CLIMATE RESILIENCE,
THROUGH TECHNOLOGY TRANSFER TO KARACHI, WHICH SHALL
CONTRIBUTE TO IMPROVED ENERGY ACCESS, DIVERSIFIED
LIVELIHOODS [OF ENERGY DEPRIVED PEOPLE]”



KEY PROJECT PARTNERS AND ROLES

WWF-Sweden

- Overall project management and coordination
- Technical role in implementation of One Planet City Challenge (OPCC) and capacity building on carbon emission reporting
- Contact point for access to renewable energy technologies



WWF-Pakistan

Overall field implementation of the Project and the Lead of the Open Planet City Challenge and associated activities



KMC and K-Electric

- Technical advice on solar energy solution , OPCC, RE policy need event Plant for Pakistan - K-Electric
- Facilitating interaction with important stakeholders for OPCC and RE Policy initiative

**About 2000
Beneficiary
HHs
(> 15,000 individuals)**



SUSTAINABLE DEVELOPMENT GOALS ALIGNMENT



DOMESTIC SOLAR UNITS - DSUs



1639

households solar electrified in the selected **27** off-grid villages of Gadap Town and Maripur



Helped to **identify off-grid communities** and the **technology solutions** that can meet the household minimum energy need

The award-winning product range from **Sun King** ideal for off-grid areas; it caters to the communal dynamics of multiple families in one household configurations



DOMESTIC SOLAR UNITS

Environmental benefits



Cumulative solar energy generation from 1639 solar units
0.02 megawatts with avoided CO₂ emission 68.92 tCO₂e per year

Socio-economic benefits (direct and indirect)

- Increase household income generation due to increased access to electricity (30-40%)—stitching, handicrafts making, etc,
- Savings on the costs spent of kerosene oil, candles, diesel (100%)
- Reduction in snake bites and poisonous insects bites incidences (70%)





DOMESTIC SOLAR UNITS - DSUs

Trained local electricians with skills in
DSU installation and repair

Maripur

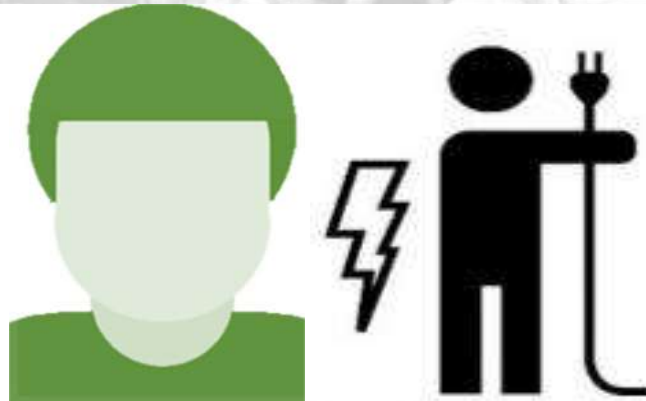


31

Gadap
Town



13



1650

Beneficiaries educated to maintain DSUs and
associated safety instructions





DOMESTIC SOLAR UNITS — SUCCESS IN PICTURES





WAY FORWARD AND LESSON LEARNT

- Local level contextualization of interventions is key to success; adaptive virtue of WWF-Pakistan has worked to adjust for these elements. However future designs must only be based on comprehensive situation analysis;
- **Mobilized:** Community groups trained to adopt and sustain the Project interventions
- **Empowered:** Trained community members to repair and fix DSU
- Developed a better understanding on the dynamics of community and adopted culturally acceptable and economically feasible RE models
- Seeding effective adoption of renewable energy interventions requires a rather extensive mobilization and support process for intended gains to be actually realized – future designs must cater to this pivotal factor;



THANK YOU

Acknowledgments

Donor: Nordic Climate Facility (NCF) of Nordic Development Fund (NDF)

Implementing partners : K-Electric and KMC