

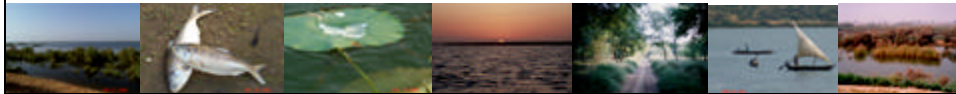


for a living planet®

Alternate energy to the Coastal Creeks Experience of Wind Turbine



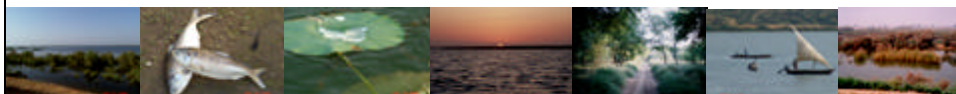
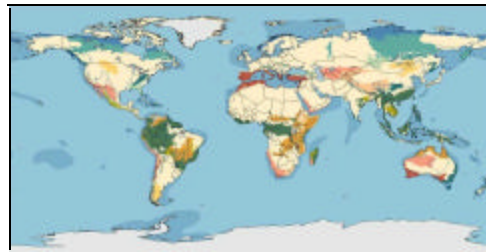
Dr. Ghulam Akbar
Regional Director, WWF - Pakistan



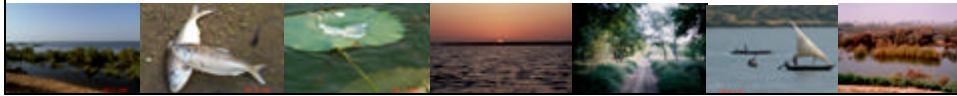
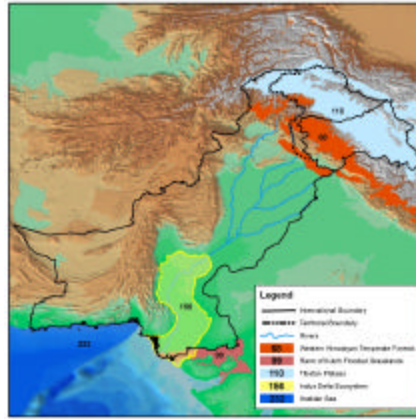
Indus Ecoregion – Part of G 200

Principles of Ecoregion Conservation

- (i) Long-term Biodiversity Vision for the region (50 years)
- (ii) Focus on fullest possible range of biodiversity in an ecoregion
- (iii) Integrated approach (linking natural resources and livelihoods)
- (iv) Developing solutions in partnership with stakeholders at levels

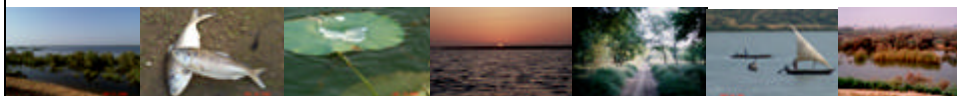


Global 200 Analysis identified the Indus Delta Ecoregion amongst the 40 most biologically significant ecoregions in the world.

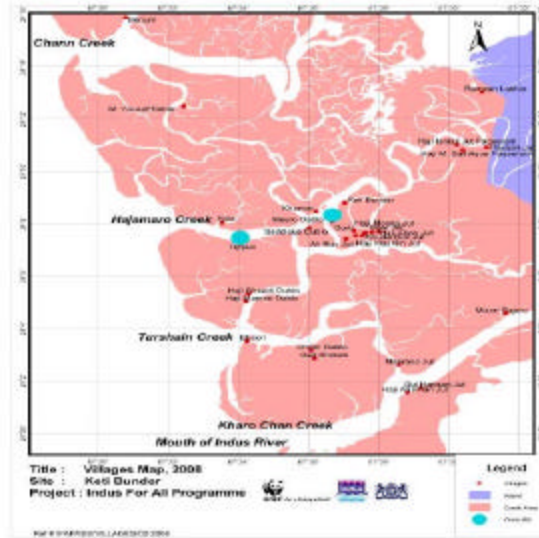


Indus for All Programme

- Four Key Objectives**
- (i) Community-based natural resource management at priority areas
 - (ii) Mainstreaming of poverty-environment linkages at decision-making levels
 - (iii) Improved institutional capacity for environmental management at various levels
 - (iv) Improved alignment and collaboration for stakeholder interventions

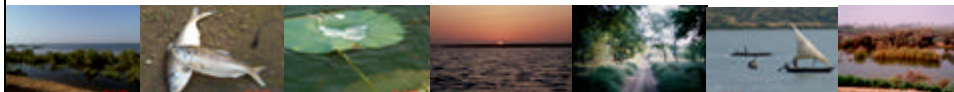


Creeks of Keti Bundar



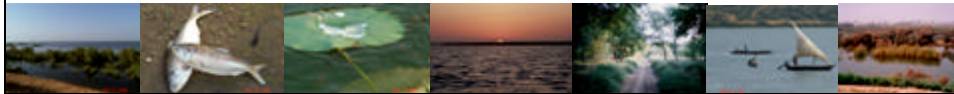
Rationale for Alternate Energy

- ✘ Reduce pressure on Mangroves
- ✘ Help increase mangrove cover
- ✘ Creek villages: physically inaccessible and costly for electricity provision
- ✘ Availability of wind
- ✘ Energy for poverty alleviation and reduction of social isolation



Profile of villages

Village	Tippin	Meero Dablo
No. of Households	100	56
Population	650	364
Access to water	Buying from tanker	Buying from tanker
Major livelihood	Fishing	Fishing
Availability of School	Nil	Nil

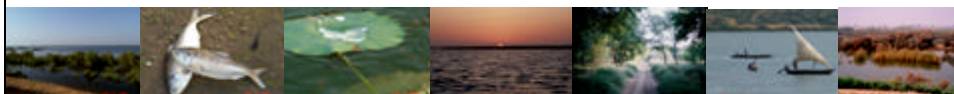


Installation of Wind Turbines



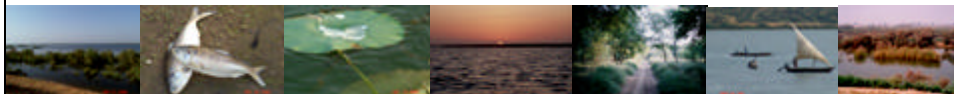
Tower Height: 20ft Tilt type tower with Gays wire
Charge Controller Inverter: 24 volt DC 220VAC modified Sine wave

Rated Power	500 WATTS
Cut In	3.5 m/sec
Cut Out	20m/sec
Rated Wind Velocity	9-10 m/sec
No of Blade	3
Rotar Dia	8.45 FT
Generator	PM Alternator 3-phase
Inverter	Short circuit protection, overload protection
Storage	110amp/hr 2 batteries deep cycle



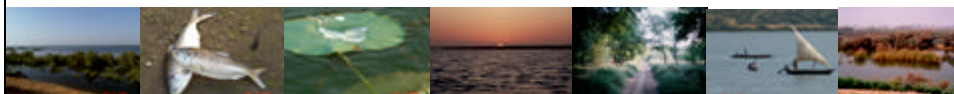
Economic Benefits

- ✍ Each Household is saving Rs. 150-200, total saving for 40 household will be Rs. 6000-8000 per month and annually Rs. 96000
- ✍ Increased economic activity in the night such as grading of shrimp Saved small shrimps, earlier dumped into waste due to night
- ✍ Increased income of women



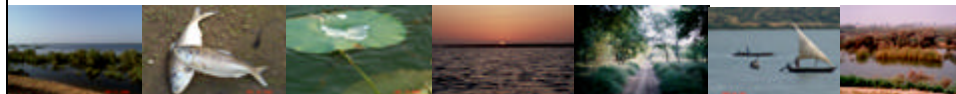
Social Benefits

- ✍ Facilitate women work in the night such as cooking and serving food
- ✍ Protection from kerosene oil pollution and light fluctuation effects on eyes
- ✍ Increased women productive activity in the night such as mat-making
- ✍ Increased socialization due to gathering in the night



Community Participation & Sustainability

- Two member committee for wind turbine management
- Committee members are trained in simple operation
- Monthly maintenance fee is fixed Rs. 50/-
- Demand for other wind turbines in the neighboring villages
- Monitoring by WWF-P field staff periodically



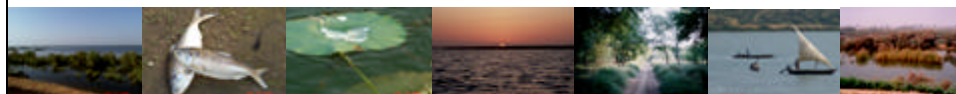
Challenges and Opportunities

Opportunities

- Wind potential area
- Willingness of communities & Cost sharing
- Difficult to connect creek villages with national Grid

Challenges

- Collection of maintenance fee
- Proper handling of batteries, inverter etc.



Thank you

