



NORWEGIAN CHURCH AID

Norwegian Church Aid in Partnership

With

The Barefoot College Tilonia

India

September 2005



Our Solution

- An Innovative Demystified and Decentralised Solution
 - Solar Electrification of Remote Non Electrified Villages Using the Barefoot Approach



Community Ownership

- Preparing the Community first and then Bringing in the technology
- Identifying Semi Literate Poor Men and Women from Remote Rural Communities and Training them to be Barefoot Solar Engineers.
- Decentralising the Management, Control and Ownership to the Community Level
- Persuading Communities to pay per month for the repair and Maintenance of the solar Units



What is Unique -Demystification

- Demystification of Technology- Putting the Technical Process of Fabrication, Installation, Repair and Maintenance in the control of the poor communities.
- Establishing a Simple Rural Electronic Workshop (REW) in **every** Solar Electrified Village so that all major and Minor repairs could be carried out within hours.
- Creating Technically and Financially Self Sufficient Solar Electrified Villages.



Barefoot Solar Engineers - Profiles

7 Men and 3 Women

Names	Biographical data	Village and Province	Education	Occupation
MEN				
Mohamed Ishaq	Aged 36, Married, 3 children,	Shabartu village, Bamiyan	6 th Class wife illiterate.	Farmer, annual income \$ 200.
Mohamed Isa	Aged 38, Married, 6 children.	Shabartu village, Bamiyan	3 rd Class. Wife illiterate	Farmer & owns shop, provision annual income \$ 200.
Mohamed Hamid	Aged 40, Married, 9 children	Eklinga Village, Orozgan	8 th Class. Wife illiterate	Farmer & owns shop, provision annual income \$720
Sher Mohamed	Aged 20, Not married,	Yaklinga Village, Orozgan	9 th Class, wife illiterate	Owens shop provision annual income \$ 530
Mohamed Jan	Aged 30, Married, 3 children	Katasang Village, Daikundi	10 th Class, Wife illiterate	Farmer, provision annual income \$ 180.

**Barefoot Solar Engineers – Profiles Cont'd**

Dos Mohamed	Aged 36, Married, 4 children.	Gumbaj village, Badakshan	10 th Class,	Farmer, annual \$ 200 - \$500
Allauddin	Aged 35, married, 2 children	Nawabad Village, Farajab	5 th Class, wife illiterate	Farmer annual income \$ 200- \$500
Names	Biographical data	Village and Province	Education	Occupation
Women				
Gul Jamal, Moh'd Jan's wife	Aged 26, Married, 3 children,	Katsang Village, Daikundi	10 th Class	Housewife. Indirect income \$100-\$200
Gul Gotai Dos Mohamed's wife	Aged 35, Married, 4 children	Gumbaj village, Badakshan	10 th Class	Housewife. Indirect income
Gul Bahar, mother to Allauddin	Aged 55, Married, 3 children	Nawabad Village, Farajab	6 th Class	Housewife Teacher, Indirect income.



Contribution from Community

Province	Contribution per households/month (Afs)
Bamiyan	50
Faryab	50
Urozgan	50
Daikundi	50
Mazar-Sharif	Still Negotiating increase
Faryab	Still Negotiating increase
Daikundi	Still Negotiating increase
Badakshan	50



Energy Survey

Provinces	NGO's (implementing Partners)	Villages
Bamiyan	FG/NCA	50
Bamiyan	AKDN	50
Parwan	AKDN	50
Masar-Sharif	NPO/NCA	50
Nangahar (Jalalabad)	FG/NCA	50
Baglan	AKDN	50
Urozgan	ADA/NCA	50
Daikundi	FG/NCA	50
Badakshan	AKDN	50
Daikundi	GRSP/NCA	50
Faryab	CHA/NCA	50
Kandahar	ADA/NCA	50
Badakshan	CCA/NCA	50
Kapisa	CHA	50
Total number excluding cluster of villages (Baglana & Badakshan)		700 villages



Rain water Harvesting Survey

Provinces	NGO's (implementing Partners)	
Masar-Sharif	NPO/NCA	
Faryab	CHA/NCA	
Daikundi	FG/NCA	
Badakshan	AKDN	
Samangan		
Ghazni	CHA	



Future Work Adopting the Barefoot Approach to Solar Electrification

Donor	Implementing Partner	Local Partner	Province	Number of villages	Funds
ADB	NCA	Not Decided	Bamiyan/ Badakshan	2	
SAFE	NCA	ADA	Urozgan	1	
SAFE	NCA	GRSP	Daikundi	1	
Skoll Foundation	NCA	FG	Bamiyan	2	
MFA	NCA	FG	Bamiyan	1	
MFA		GRSP	Daikundi	1	
MFA		ADA	Urozgan	1	



Future Work Adopting the Barefoot Approach to Solar Electrification

Donor	Implementing Partner	Local Partner	Province	Number of villages
Indian Embassy	NCA	ADA	Urozgan	?
Indian Embassy	NCA	ADA	Kandahar	?
Indian Embassy	NCA	FG	Bamiyan	?
Indian Embassy	NCA	GRSP	Daikundi	?
Indian Embassy	NCA	CCA	Badakshan	?
Indian Embassy	NCA	FG	Jalalabad	?
Indian Embassy	NCA	CHA	Faryab	?
Indian Embassy	NCA	NPO	Mazar Sharif	?
Indian Embassy	BC\AKDN		Baghlan	
Indian Embassy	BC\AKDN		Badakshan	
Indian Embassy	BC\AKDN		Parwan	
Indian Embassy	BC\AKDN		Bamiyan	2 villages in addition to 45 NSP villages



What has been accomplished

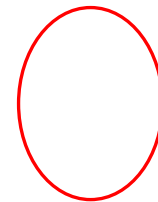
- Training of 10 barefoot Solar Engineers
- Purchasing and Transportation of Solar Units to the 5 different Regions:
 1. Bamiyan
 2. Urozgan
 3. Daikundi
 4. Badakshan
 5. Faryab
- Agreement with Afghan NGO and Communities to Solar Electrifying 5 Villages (124 households):
 - Bamiyan – 36 households
 - Daikundi – 17 households
 - Badakshan – 21 Households
 - Urozgan – 20 households
 - Faryab – 30 households
- Solar Electrification of one Health houses in Urozgan
- A detailed water and Energy survey of 100 villages is being conducted by Several Afghan NGO.
- As of 29th Sept one village has been fully Solar Electrified in by the 2 barefoot solar engineers in Bamiyan in 3 days.



On going Projects and potential for Expansion



Province	Households
Bamiyan	36
Urozgan	20
Dai Kundi	17
Badakshan	21
Urozgan (Health houses)	17
Faryab	30



Possibility for Expanding to more Villages



Funds Utilized

- For Training = \$ 14,000
 - For Purchase of 141 Solar Units = \$ 75,500
(Individual houses, Health Centre, 5 Rural Electronic Workshops)
 - For Transportation, Insurance = \$ 5,000
 - Documentation and Making a film = \$ 15,000
- Total Cost = \$ 109,500

THIS IS WHAT THE UNITED NATIONS AND OTHER BIG DONORS SPENDS ON ONE CONSULTANT IN AFGHANISTAN FOR ONE YEAR