ANNEXES

Annex I

MHP Initial Enquiry Form

To be filled in consultation with the entrepreneur, community facilitator(s), and/or other relevant persons.

1. Information about the Location **Date: .....,.**

Name of main customer/community leader..... Position: .....

Address:.....

Name of main village: .....District .....

VDC: .....WardNo.:.....

Other village(s): .....Name of stream: .....

Nearest road head: ..... Days' walk .....

Nearest airport .....Days' walk .....

Travel route details: .....

Has this proposal been discussed with the VDC Chairman? Yes/No

the community? Yes/No

Names of other important community leaders and persons concerned.

Name: .....Position: .....

Name: .....Position: .....

2. Information on the Power Potential

Flow estimates
Width of stream in wet season .....m
in dry season .....m
Depth of stream in wet season .....m
in dry season .....m

Has there been a survey in the past? Yes/No.

If yes, how much flow, head, power was determined?

.....

.....

Are there waterfalls in the stream? Yes/No

Does the stream dry up at any time of the year? Yes/No

Which is the driest month of the year? .....

How many hours/days walk to the spring of the stream? .....

Is the stream water used for any of the following?

- Irrigation Yes/No, Up/Downstream
- Drinking water Yes/No, Up/Downstream
- *Ghatta*(s) Yes/No, Up/Downstream
- MHP installations Yes/No, Up/Downstream
- Other ..... Up/Downstream
- Is there an existing channel that can be used? Yes/No

Summary	
How can the flow be measured?	
Weir?	Yes/No
Float method?	Yes/No
Velocity-area method?	Yes/No
Salt gulp dilution method?	Yes/No
Other	

- How many *Ghatta*(s) can be run one after the other in the dry season? .....

Appropriate method for head measurement
.....
.....
.....
.....
.....
.....

3. Geological Information

Are any of the following features present along the proposed canal route. If so, approximately how much/many?

		Distance			Distance
Cultivated land	Yes/No	.....m	Steep hillsides	Yes/No	.....m
Slope areas	Yes/No	.....m	Cliffs	Yes/No	.....m
Gullies	Yes/No	.....m	Landslides	Yes/No	.....m
Flooding	Yes/No	.....m			

Are there any other features affecting the stability of the proposed channel? Yes/No. If so what? .....

4. Climate and Related Information for the Project Area

Does it ever snow at the proposed MHP site? Yes/No. If yes, how long does the snow stay on the ground? .....

Annual rainfall ..... Do monsoon rains come every year? .....

If yes, how long do they last? .....

Type of vegetation and forests? .....

What crops are grown? .....

Is there a weather station in the area? Yes/No

5. Potential End Uses of MHP

Would any of the following be useful?

Rice huller	Yes/No	Flour mill	Yes/No
Oil expeller	Yes/No	Generator	Yes/No
Sawmill	Yes/No	Paper mill	Yes/No
Workshop	Yes/No	Vegetable/fruit dryer	Yes/No

Other .....

.....

6. Electricity Requirements

	No.	Estimated electricity consumption in kW	Names of villages
Households	_____	_____	_____
Shops/cafes	_____	_____	_____
Hotels/lodges	_____	_____	_____
HMG and other offices	_____	_____	_____
Industry	_____	_____	_____
Other	_____	_____	_____

7. Socioeconomic Information

How much can you/the community invest? Rs .....

Can you/the community get a loan? Yes/No Rs .....

Is there any other funding available to you/the community, e.g.; from government, NGOs, other donors, and if so, how much? Rs .....

Total financial capability Rs .....

Are there any conflicts between parts of the community? Yes/No

If yes, describe. .....

.....

Surveyor's view of capability of the community(ies) to pay for electricity. .....

.....

.....

How far is the proposed MHP site from the main villages that would benefit from the plant?

The nearest village: name ..... km .....min walk .....hh .....

The 2nd nearest village: name ..... km .....min walk .....hh .....

The 3rd nearest village: name ..... km .....min walk .....hh .....

Which of the following are locally available?

Firewood	Yes/No	If yes, cost per load .....
Kerosene	Yes/No	If yes, cost per litre .....
Diesel	Yes/No	If yes, cost per litre .....

Which of the following exist?

Ghatta(s)	Yes/No	If yes, how many?.....
		What distance? .....km ..... min walk
MHP mill	Yes/No	If yes, how many? .....
		What distance? .....km ..... min walk
Diesel mill	Yes/No	If yes, how many?.....
		What distance? .....km .....min walk
Grid line	Yes/No	If yes, what distance? ....km .....min walk

Industry (describe) .....

List local prices of building materials, wages, and transport.

		Locally available
Wood	.....Rs /.....	Yes/No
Stone	.....Rs /.....	Yes/No
Sand	.....Rs /	Yes/No
Gravel	.....Rs /	Yes/No
Semi-skilled labour	.....Rs / day,	Yes/No
Mason	.....Rs / day,	Yes/No
Carpenter	.....Rs / day,	Yes/No
Technician	.....Rs / day,	Yes/No
Transport from road head		
Standard loads	.....Rs / 50kg load	Yes/No
	.....Rs /kg	
Difficult loads	.....Rs / 50kg load	Yes/No
	.....Rs /kg	

8. Community Contribution in Kind

Would the community provide?

Land for MHP plant	Yes/No
Local wood	Yes/No
Sand/stone/gravel	Yes/No
Construction labour	Yes/No
Manual transport labour	Yes/No

Checklist for Survey and Other Equipment

Particulars	Required		Checked date	Tick when packed
	Yes	No		
Topographic maps (1:50,000 or better)				
Markers				
Survey forms				
Paper/Notebook				
Graph paper				
Clip/drawing board				
Ruler/squares				
Pens + pencils + eraser				
Plastic files				
Camera				
Tape 5m				
Tape 30m				
Compass				
Abney level				
Surveyor's level				
Measuring rods				
Theodolite				
Altitude meter				
Pedometer				
Salt 2 kg				
Conductivity meter				
Thermometer				
Bucket				
Weir (V notch)				
Polythene sheet				
Spirit level / trapping panel				
Stop watch				
Plastic pipe 20m				
String				
Chaining pins				
Pegs				
Knife / *Khukuri*				
Umbrella				
Sleeping bag				
First aid kit				
Candles/matchbox				
Torch				
Calculator				
Water bottle				
Dried food				

Annex 3

Household Survey Data

S. No.	Name	Type of House	No. of Rooms	No. of Bulbs	Other Uses	Power Req.	Monthly Income	Remarks
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
	Total Power Required							

Shop Survey Data

S. No	Name of Shop Owner	Type of Shop	No. of Rooms	No. of Bulbs	Other Uses	Power Req.	Remarks
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
	Total Power Required						

Other uses include fans, radios, TV, irons, and so on.

Annex 5

Gumba/Temple/School/Office/Other

S. No.	Name	Type	No. of Rooms	No. of Bulbs	Other Uses	Power Req.	Remarks
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
	Total Power Required						

Annex 6

Lodge Survey Data

S. No.	Name	Type (high/med./low)	No. of Rooms	No. of Bulbs	Other Uses	Power Req.	Remarks
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
	Total Power Required						

Small-scale Industries

S. No.	Owner/Name	Type	Power Req.	Remarks
B.	Planned Small-scale/industries			

Annex 8

Detailed Cost Estimate for .... Micro-Hydro Scheme

No.	DESCRIPTION	UNIT	QTY	RATE	COST (35 kW)
1	INTAKE				
1.1	Excavation	m^3			
1.2	Removal of boulders				
1.3	Construction of temporary weirs				
1.4	Gabion work				
1.4.1	Cost of 10 SWG mesh wire	kg			
1.4.2	Transportation of mesh wire	kg			
1.4.3	Gabion box preparation	m^3			
1.4.4	Filling of stone in gabion boxes	m^3			
	SUBTOTAL 1				A
2	HEADRACE CANAL				
2.1	Excavation	m^3			
2.2	Stone masonry (1:4 c/s)	m^3			
2.3	Cement (50 kg bag)	bag			
2.4	River alignment and stabilising work				
2.5	Gravel trap and spillway				
	SUBTOTAL 2				B
3	SETTLING BASIN/FOREBAY				
3.1	Excavation	m^3			
3.2	1:4 c/s stone masonry work	m^3			
3.3	1:3:6 PCC flooring	m^3			
3.4	1:2 c/s plaster (12.5 mm thick)	m^2			
3.5	Fabrication of sediment flush pipe, gates, etc.				
3.6	Porter charge for item 2.3				
3.7	Cement (50 kg bag)	bag			
	SUBTOTAL 3				C
4	ANCHOR BLOCK				
4.1	Excavation	m^3			
4.2	1:3:6 PCC with 40% plums	m^3			
4.3	Cement (50 kg bag)	bag			
4.4	Reinforcement bars (10 mm)	kg			
	SUBTOTAL 4				D
5	SUPPORT PIERS				
5.1	Excavation	m^3			
5.2	Stone masonry in 1:6 c/m	m^3			
5.3	Cement (50 kg bag)	bag			
	SUBTOTAL 5				E

No.	DESCRIPTION	UNIT	QTY	RATE	COST (35kW)
6	PENSTOCK				
6.1	Penstock fabrication and transportation	kg			
6.2	Porter charge for item 6.1	kg			
6.3	Fabrication of expansion joints and transportation	set			
6.4	Porter charge for item 6.3	set			
6.5	Installation of penstock and expansion joints				
	SUBTOTAL 6				F
7	POWERHOUSE AND TAILRACE				
7.1	4m x 5m house (locally made)				
7.2	Machine foundation				
7.2.1	Excavation	m^3			
7.2.2	1:1.5:3 RC works	m^3			
7.2.3	Stone soiling, sand and gravel packing	m^3			
7.2.4	Cement (50 kg bag)	bag			
7.2.5	Reinforcement bars (10 mm dia)	kg			
7.3	Tailrace pipe				
7.3.1	Fabrication and transportation	kg			
7.3.2	Porter charge for item 7.3.1	kg			
7.3.3	Pipe installation	m			
	SUBTOTAL 7				G
8	ELECTRO-MECHANICAL				
8.1	kVA generator	No.			
8.2	kW ELC with ballast tank	No.			
8.3	Cross-flow turbine with adapter	No.			
8.4	Control panel & switch gear				
8.5	ACSR SQUIRREL line conductor transportation and 3 phase, total distance = km	km			
8.6	Insulators and tension cables				
8.7	Transportation of items 8.1 to 8.6	trips			
8.8	Porter charge for generator	kg			
8.9	Porter charge for ELC and ballast tank	kg			
8.10	Porter charge for turbine and adapter	kg			
8.11	Porter charge for ACSR conductor	kg			
8.12	Porter charge for insulators & tension cables				
8.13	Wooden poles (to be prepared at site)	No.			
8.14	Transmission line erection				
8.15	Electro-mechanical installation at powerhouse				
	SUBTOTAL 8				H
	TOTAL CONSTRUCTION COST				=A+B+C+D +E+F+G+H