Rural Power Proposal

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Vision

1. To reduce Digital Divide and provide internet and Broadband services in the Rural area.

Group Discussion (Group A)

- Problems and remedies for Promoting internet services
- 1. The factors preventing internet services in rural areas
- 2. The precedence of the problems
- 3. Solutions for the problems

Using KJ method.....Problems / Issues Selected

Power	Budget	HR	Access	Consumer Issues	Others
Problem of Electricity	Capital Cost	Human Resource	Scattered islands	Affordability of services	Political issues
Power Availability	High investments	Lack/inadequate knowledge on internet use and advantages	Distribution of the Island	Low income	Lack of Policies / Legislation
Electricity	Poor ROI	Lack of skills and knowledge of workforce	Difficulty of Access		Domestic economic problems
Power Problems	Lack of Local vendors	Lack of expertise	No Connectivity		Political will
	Expensive Internet link	PC penetrations and skills			
	Sustainability				
	Operation Costs				
	Viability issues				
	No demand				

The Factors preventing internet services from rural area

	Degree of Significance	Degree of Urgency	Cost to resolve the problem	Degree of difficulty
Power	5	5	4	3
Budget	5	5	5	4
HR	4	4	3	2
Access	4	3	5	4
Consumer Issues	4	4	?	1
Others	4	3	?	?

Objective

 To provide power to rural area for deploying internet and broadband services

Resolving Diagram (Power)



Current Situation

- 1. Island Population = 200 people
- 2. Household = 60
- 3. Power availability in the island = 0%
- 4. PC penetration in the island = 0%

Proposal

- 1. Power source
- 2. One Telecenter with 10 PCs
- 3. Telecommunication equipment (tower, microwave link, mux etc.)
- 4. Communication terminals (fax, telephone, printer etc)

Power estimation based on above scenario ;

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Per user demand = 350watts
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350 x 10 = 3.5kW

Communication equipment & accessories = 10kW

Domestic Utilities = 5kW

Contingency = 5kW

Total Power requirement = 23.5kW

Possible Power Solutions (1)

- 1. Diesel Generator
- 2. Wind Turbine Power Generator
- 3. Solar Power
- 4. Wave Power Generator
- 5. Combination of any two or more (Hybrid)

Possible Power Solutions (2)

Solutions	Initial Cos
Diesel Generator	US\$21,223
Wind Turbines	US\$200,000
Solar Power	US\$51,000
Wave power generation	????
Hybrid	????

Cost Benefit Analysis Engine

Engine cost benefit analysis



Cost Benefit Analysis Wind Turbine

Wind Turbine



Total cost	Benefit Flow
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Cost Benefit Analysis Solar

Solar Cost Benefit analysis



Cumulative benefit flow ----- Total cost

Recommendation

Based on Cost benefit analysis we recommend ;

- The Solar Power Option due to lower Initial Capital Cost and affordable Operational cost. Also the Benefit Flow will have lowest financial impact
- 2. To seek direct fund from a donor as this is part of Universal Service Obligation (USO).