GREEN POWER: SUSTAINABLE AND FEASIBLE ENERGY (SAFE)

FOR BANGLADESH

DESCRIPTION OF VENTURE

1.1 Introduction

Project beneficiaries for our business will be the community families of Kishorgonj Zilla that use the energy services –including households, small business unit and farmers.

Project baseline would have to be deducted from the two scenarios: the first is the one in which the livestock manure are left to decay releasing methane and nitrous oxide. The second is the one in which lighting would be secured through the use of either kerosene or diesel.

The project aims at using manure from livestock to generate household energy, at the Kishorgonj Zilla where livestock is abundant and forest are becoming scarce. We will collect the cow-dung from Aftab Dairy, which is one of the largest dairy firm in Bangladesh. Indeed, in Kishorgonj Zilla, as it happens countrywide, the families rely on firewood for cooking and kerosene for lighting. Although forest biomass is definitely a renewable resource, it is important to note that unmanaged use or abuse of forest resources together with drought and uncontrolled forests burning make the forest resources lesser and lesser available to the local communities. In practice, uncontrolled forest clearing represents a great loss in CO_2 sink capability, which could mean that indirect accumulation of carbon dioxide is to be considered as being caused by this negative practice. Further, unmanaged livestock manure is definitely a great source of methane emissions which have much higher GWP compared to carbon dioxide.

On the other side, for household lighting, the most common fuel locally used is kerosene and, in second place, diesel. Both of them are fossil-based refined fuels and, therefore, potential CO_2 emitters to the atmosphere.

Also, a biogas plant of 60m3 gas producing capacity run with cow dung releases about 354,780 kg slurry per year, which is equivalent to 9940 kg urea +49660 kg TSP + 4320 kg of MOP fertilizer.

Based on the above listed facts, the project activity will avoid methane and nitrous oxide emissions as well as replacing the increasingly intensive use of firewood and liquid fossils, for cooking and lighting, respectively. Being biogas a renewable energy source, net CO2 emissions are inexistent and, the baseline will be mostly considered from what would happen in absence of this initiative. In fact, the most probable scenario would be to improve the release of methane from anaerobic degradation of livestock manure. Also and as an indirect consequence, the use of kerosene or any other fossil based liquid fuel for lighting

while, for cooking, the scarcity of firewood in the vicinity of major villages would result in an increased demand for the LPG. Far away from the villages, this would result in fuel switching to petroleum-based stoves.

1.2 The Potentiality of Biogas:

- In Bangladesh the average cooking requirement per family per day is estimated to be 5-6 hours in rural households.
- Each household needs minimum 4 tons of biomass per year to cook their food as well as to parboil their paddy rice.
- Assuming that 60% of the households use biomass for cooking, about 43 million tons of biomass fuel will be required every year for cooking only.
- Supply of such huge quantity of biomass will exert pressure on the forest and vegetation
- Besides, it will create indoor air pollution, as biomass smoke is considered to be significant source of public health hazard, particularly to the poor and vulnerable women and children.
- Burning of biogas as fuel makes the crockeries and utensil dirty with black carbon.
- As a result of burning cow dung and poultry litter a large amount of plant nutrients gets lost through burning.
- If biogas is produced with these raw materials, improved quality of fuel could be obtained and the bio-slurry generated would be good quality organic manure.
- This manure could be used to improve the soil conditions for greater crop productivity.
- Besides, during night hours no kerosene is needed, rather using biogas mantle can be lighted for great intensity of light.

EVALUATION OF IDEA

2.1 Evaluation

Kishoregong is a rural area of Bangladesh. The people of kishoregong are totally deprived of some basic & crucial needs. Now they are facing severe problem of having electricity & gas. Though most of the people of this district earning their living cost through the agriculture based work. As agriculture is their main profession , so they have to buy fertilizer at a higher cost. For mitigating those crucial needs we take an initiative to introduce "BIO-GAS" project in kishoregong. If we implement this idea in kishoregong, as a result people can easily get the electricity and natural gas at a lower cost. This project also give a solution about getting fertilizer at a free of cost. If this idea introduce than the farmer can use the slurry of this project as fertilizer . So we can say that our idea is an unique one and fruitful idea for the wellbeing of the people of kishoregong.

2.2 Business Model

2.3 Goals & Objectives

Our idea is comprise of some objectives. The main goals & objectives of our business plan are given below:

- Introducing green power for the rural people of Bangladesh.
- Make the electricity available for the rural people at a lower cost
- Producing natural gas for the poor people
- Mitigating the need of fertilizer by an alternative way and at a lower cost
- Inventing an alternative source of energy for the well being of rural people.
- Finally make a profitable business through the marketing and distributing our product

2.4 Products

Product	Feature	Benefit	Need
Gas	Produced in a natural way	▪ Lower cost ▪ Pollution free ▪ Easy to produce	To make a alternative source of fuel
Electricity	Efficient electricity	▪ Increase productivity ▪ Ensure efficiency	To get energy to run industries
Fertilizer	Alternative source	▪ Free of cost ▪ Easy to collect	To get the fertilizer from a easiest source

MARKETING PLAN

3.1 Market Segmentation

The project beneficiaries will be the community families that use energy services-including households and farmers. This project will also be able to provide electricity for commercial purpose on small scale. It will be most beneficial for the running of pumps during the peak hours in the irrigation of the farmlands. The customers of the electricity plan will purchase the surplus kwh at a rate of tk. 2.8 plus vat which is lower than the polli biddut unit tk 2.90 plus vat.

3.2 Target Market Segment

There are two large national players operating in practically in Bangladesh. They are Grameen Shakti and Polli Biddut. Their per unit cost is 2.90+vat. But this project will be able to provide per unit at the rate of 2.80+vat. This project is also able to provide compost fertilizer to the farmlands also. Basically the target market is the local community both household and farmlands. This project aims at providing electricity to those markets at lower cost. This project also aims at providing manure and compost fertilizer to the farmlands to improve the productivity and lowering the production cost. people in this region maintain a purchasing power equivalent to about 50% of their annual income, principal target market is families that earn at least Tk 50000 per year. It is estimated that roughly one-third of households earn this amount or more, meaning that primary target market in Bajidpur thana, sorarchor, humayun pur, bilal pur, gajirchor consists of about 19,000 families. This project also aims at providing electricity for commercial purpose also.

3.4 Pricing Strategy

It will price these kits as low as possible while still yielding an attractive profit. Based on Polli Biddut per unit price 2.90+vat. It will keep the per unit per price at 2.80+vat. It is expected that a family living in an impoverished, rural agricultural community will take this price which is lower than the market price available heartily.

3.5 Customers

The customers of this project are selected, if per unit cost of the electricity is the same, this project can capture the market which is still not served by the other like grameen sakti and polli biddut. Besides polli biddut has a limitation in capacity to provide electricity in all parts of the country. In addition to that the per unit price is going to increase to 3.20+vat per unit. So it will be helpful to capture a large market share for the project.

3.6 Advertising & Promotion Strategy

This project will rely greatly on publicity and word-of-mouth advertising to promote these financing plans. The construction of such a huge project in the community center will be tremendous news in Bajidpur thana, sorarchor, humayun pur, bilal pur, gajirchor, and will therefore serve as a very useful promotional tool. Residents will be unable to avoid noticing the sheer scale of this project. Many people will be employed in this undertaking, and every newspaper and radio station in the region will publicly monitor its progress. Like many rural agricultural villages, this is also a tight-knit community, and people tend to be extremely social. It will have to do little to instigate excitement and conversation about this project. Once built, the generating facility will serve as a constant advertisement of the electricity that this project offers. Due to the visibility of this project, it will ensure that high standards of professionalism are maintained at all times. Embroidered uniforms will be distributed to the technicians that maintain and operate the community center. New, high-quality equipment will be purchased, and the community center itself will have a clean, modern design. Service will be prompt and courteous, and technicians will be well trained and well paid. To complement the publicity aspect, it will also post billboards in the heavily trafficked "downtown" area of the district. The main purpose of these billboard advertisements will be to inform and remind customers of scheduled educational training sessions and technical demonstrations being held at the community center. In addition, posters will be used to announce new service offerings or price adjustments, as needed. Finally, professionally printed brochures, featuring concise descriptions of the financing plans offered, as well as general information about solar energy, will be widely distributed.