











## When Ideas Flow, Villages Grow

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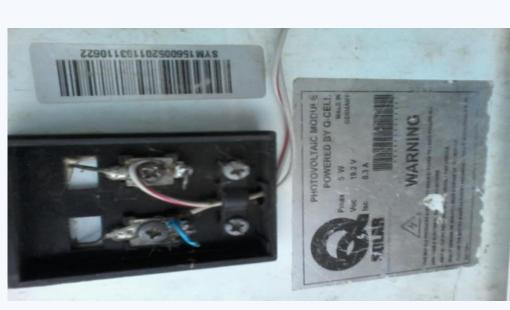
#### Introduction

In 21st century living without electricity is horrible. But in Pakistan one third of population is living without electrification. Any government is not able to provide electricity everywhere like villages on mountains, valleys, deserts or islands even in developed countries. Our distribution companies are not able to maintain the installed grid system. We have a big gap between demand and supply of electricity. Therefore it is not possible for them to keep alive grid 24/7. Electricity is playing an important role in our daily life by improving our production from pumping water for cultivation to grinding grains, sewing the clothes, helping to gain and increase knowledge, creating comfort for us, breaching the distances, socializing us, giving opportunities to enhance our light time. 33% of population is less productive because it doesn't have schedule in hands which is subjected to sun light. Renewable energy can enhance their productivity.

# Off-grid System as an Alternate Source of Generating Electricity

Off grid system is local production of electricity through solar, wind, bio etc. It is essential for population in scattered villages of Pakistan to generate electricity (not depending on grid) through solar, wind and bio because all the sources are available on door steps. Electricity can be produced even by rotating denmo with gear using animals. It is ultimately low cost because the sun is shining brightly, wind is blowing, bio fuel is available, space is there and requirement is limited. A small village Danu Dandal near Nagar Parker Distt. Mithi a small solar unit is installed which has capacity of 80 watt 5 watt each solar plate. The owner of unit Qasim Solengi is earning through recharging the mobile batteries and also providing solar LED light for his Chora (straw hut)and providing wifi facility for the smart phones and laptops. They listen news, songs and take information through radio charged by solar unit and use Whatsapp and Viber and many more. He is planning to upgrade his system for TV and dish antenna also. This example shows that without depending on grid we can grow.







#### Data Collection

Before survey I discussed with my teachers, my father and some of the concerned persons. I designed a questionnaire with name, address, ph no, field, 10 questions and 22 checkboxes. Moreover there was an option for their comments. Then I approached 25 persons with different fields of life. I felt people were amazed by this type of survey from a student of class six. All the people show full cooperation although many of them were not aware with all forms of renewable energy like wind and bio and had lots of questions about them .I tried to explain with my best knowledge in the native language also. In my locality people are aware about solar units. People know that rural areas are suffering from low electricity but they don't bother. They think that it is only responsibility of government .After discussion and survey the concept is changed now.



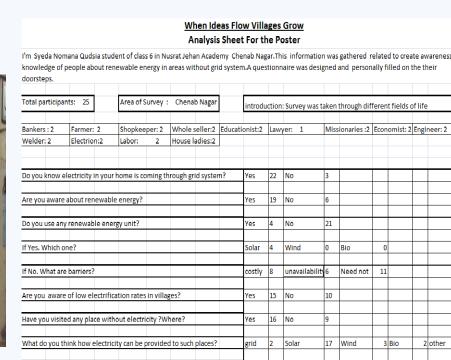












#### Creating Awareness

To increase awareness about the importance of off grid system for generating electricity we can take the following measures.1: We can arrange a vehicle mounted small working off grid unit and take it to different villages to demonstrate the people how does it work and what are its benefits? We can show its function running home appliances, TV, water pump, washing machine, computer, sewing machine, and grinders one by one as per area requirement .2: We can arrange a visit for some selected villagers to see already installed unit. As we know they are illiterate so awareness can't be given through news paper or flyers. Even newspaper can't reach in such remote areas. As there is no electricity there is no TV.3: We can request the NGOs or other departments to install the model units on public places like mosques and schools.

### Impact

Through data I got 3 categories

1: Using for stand by 2: Wish to install 3: Disagreed

People think that renewable energy is costly, not available round the clock, taking too much space, needs lots of concentrated attention for ware and tare, have no flexibility of load. Skilled workers for installing and maintaining are not available. According to them pay back time is too long. I discussed with my father who is an architect and builder and met engineers. I visited websites for information which I discussed with people during survey. I visited a field where a solar tube well was working, a small wind mill unit producing 80 watt and shops selling solar systems. I got brochures .After research I realized grid is not essential even in urban areas. The people of my locality are well aware about benefits although few are using renewable energy units as alternative.



#### Reflection

After researching I am feeling secure and very positive about our future as the sun will shine brightly, wind will blow and bio fuel will be there at every corner of the world till doomsday. With the passage of time 200 watt bulb was replaced by 40 watt tube light then by 20 watt energy saver which is now replaced by 2 watt LED light same is the case with other devices. I hope in future my generation will bring new nature friendly living styles and inventions for storing energies and devices with maximum efficiency and grow the villages.