

Multiple Benefits of Biogas

A Success Story Using Biogas for Various Needs in Home, and all kind of Framings Including Agricultural, Dairy, and Fisheries



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District Wise Map of Punjab (Pakistan)

Beneficiary's Profile

General Info*

Beneficiary	Walayat Ali
Age	45 Years
Occupation	Agriculture, Poultry, Dairy and Fish Farming
Village	Syed Wala
Tehsil	Nankana Sahib
District	Nankana Sahib
Province	Punjab, Pakistan



Biogas Plant Info*

Sr No.	Type	Size	Date of Construction	Plant I.D
Plant # 1	GGC	25m ³	10-11-2013	NKN-P000081
Plant # 2	GGC	20m ³	Under Construction	(Under Construction)

*: As on 08-04-2014

Pakistan Domestic Biogas Programme (PDBP) is working in 12 districts of Central Punjab since 2009 to provide the rural community with biogas through construction of GGC model biogas plants. The primary objective of the PDBP was to benefit rural domestic women with the biogas as a kitchen fuel to reduce wood cutting, soot pollution, and their hard efforts for collecting woods or making dung-cakes and its use to cook food under an unhygienic kitchen environment. But with the passage of time needs, demands and innovations added in the programme. The new uses and innovations were properly experimented and the lessons learnt brought additions in objectives and interventions and enriched the vision, mission and goal of the programme.

The visible addition in the programme such as use of biogas in Agricultural, Dairy and Fish Farming brought producing Electricity from biogas, running Peter Engines, and use of Bioslurry as an organic fertilizer in agricultural farms and as a feed in fish farms. The multiple uses have provided the users with an opportunity to holistic development in aspects of economic, social, environmental physical development and even supported them in practicing their ritual and religious activities with ease and comfort.

Thus PDBP has a variety of uses and users of biogas in the range of its programme. Apart of specific uses of biogas such as kitchen fueling, Tubewell running, electricity production, Bioslurry in agricultural farms and fish farms, a large number of beneficiaries is a multi user of biogas. They are using biogas to get all said benefits at the same time. Observing the user attitude it can be expected that the 100% of users wish to or can use biogas to get all said benefits but the only thing that matters is the size of the plant.

Walayat Ali from Village Syed Wala, Nankana Sahib, is a 45 years old farmer who is using biogas up to full potential. He is a successful and prospered farmer cultivating 124 acres of agricultural farms, having 18 acres of fish farms, 45 cattle dairy and a poultry farm. He is a responsible person having dependency of 30 people including his own family and servants. Although he was living in a good standard of life but was concerned about the shortage of electricity and gas, because this shortage hindered his entire farming and domestic chorus of his family and servants.



Walayat Ali Standing in his Dairy Farm

The irrigation cost was getting higher because of expensive diesel that was used to run the peter engine. The fish-feed and fertilizers for crops were also getting expensive day by day. And above all his family was suffering with smoke-induced diseases because of wood and dung-cakes burning.

As he was a responsible person for a big family, he started finding alternate solutions to mitigate all those issues. He thought to solve the issues one by one and gave priority to eliminate the smoke-induced diseases by providing an alternate fuel in the kitchen. He had heard about biogas and approached Rana Qadeer Ahmed Biogas Construction Company that was providing biogas plant construction services under PDBP. He shared problem with Rana Qadeer Ahmed who gave him orientation on the PDBP and advised one solution to all of

Walayat Ali's problems. Rana Qadeer actually advised him to construct a 25m³ biogas plant, which was the biggest in size that PDBP was constructing that time. Walayat Ali got surprised and excited to hear that all of his issues would be resolved through construction of a biogas plant. So he prompted constructing the plant and finally constructed a 25m³ biogas plant in October 2013 in the center of his house and agricultural farms. Since that day Walayat Ali, his entire family and servants are enjoying the various benefits of biogas plant. His servant daily feed the plant with animal dung that digests in the plant and produces biogas. Detailing the benefits of the biogas plant Walayat Ali says that he is very happy and thankful to PDBP for provision of such a benefiting thing to his family.

As kitchen fueling was the primary objective of constructing the biogas plant, Walayat Ali's family and servants who are using the biogas in their kitchen, say that now they are safe from smoke-induced diseases, unhygienic kitchen surrounding and soot in the air and on pots. The hardships of wood cutting and dung-cakes making have also vanished away. The females in the house are very comfortable in working in the kitchen. They save their time with using the ready-fuel available all the time. They spend the spare time with their children and complete the entire domestic chorus in time. The health of entire family has improved with elimination of soot that made them sick. The environment in the kitchen is now neat and clean. The pots are also neat and clean because there is no more black soot left on them. The gas produced in the kitchen is being used in 3 kitchens for around 30 people but that never finishes because the plant produces it on regular basis. The females feel themselves the luckiest one in the village having such comforting facility in their house.



Biogas Being Used in Kitchens of Walayat Ali

The second major use of biogas by Walayat Ali is, using biogas to run a 30 Horsepower Peter Engine for tubewell to irrigate his 124 acres land. Walayat Ali details that he is using the biogas instead of expensive diesel to run the peter engine. He runs the tubewell 6 hours a day, while it needs 18 liters of diesel for the six hours to run. That costs Rs. 2052/- a day. But using biogas in the engine reduces the cost up to 66% that saves Rs. 40,629/- a month.



Walayat Ali Using Biogas to run Peter Engine for Irrigation of Crops

The plant exhausts Bioslurry after production of biogas. This slurry is considered the best organic fertilizer for the crops. Walayat Ali uses this slurry in 4 acres of his cultivated land for vegetables. This way he saves Rs. 23,200/season, through reducing use of Urea and DAP the chemical fertilizers which are not only expensive but hazardous for arable land as well. Walayat Ali tells that the slurry-grown vegetables and crops are richer in nutrition and taste than those grown on chemical fertilizers.



Waheed (Walayat's Son) plucking the Bioslurry-grown Vegetable

Walayat Ali shares that he has experimented using biogas to run the electricity generator and will install a new generator near his dairy farms and home to produce electricity regularly. He has experimented using slurry as fish feed in his fish farms and got matchless results, so he is constructing a new biogas plant of 20m³ at his fish farm for the proper and regular use of Bioslurry as a fish feed. He believes that it would reduce the cost of fish feeds up to a visible amount that he uses to buy from the market.



A new 20m³ Biogas Plant under Construction at Walayat's Fish Farms

Walayat Ali says that the provision of biogas has changed his entire life. All members of his family and servants are happy and living a facilitated life. The family is healthier as they are using fresh and full of nutrition foods from their farms. His elder son Waheed is in 8th class and the younger Zain is studying in 2nd class. Walayat Ali says that the provision has benefited his life in all social, economic, and physical aspects. He appreciates BCC, PDBP and RSPN for their facilitation to the rural community. He encourages and motivates other farmer to have this opportunity too.



Walayat Ali Standing in his Farm with his Sons Waheed and Zain