

CHAPTER-VISOCIO-ECONOMIC IMPACT OF GOBARGAS ON RURAL HOUSEWIVES

Gobar gas plant has its own impact on the social life of rural housewives. Their hyginical and ^{cultural} attitudes have been moulded to a certain extent by the installation of gobar gas plants. This is visualised by the fact that the tendency among rural women to accept lavatory connection close to living house.

6.1 CONNECTION OF LAVATORY TO GOBAR GAS PLANT :

There are 36 respondents who have accepted the connection of lavatory to their gobar gas and this is not a small number. The number of respondents do not have lavatory connection with the gobar gas plant is 63 (63.63%). The reasons given by these respondents are listed in the table No. 26 given below.

TABLE No. 26REASONS FOR NOT HAVING CONNECTION OF
LAVATORY TO GOBAR GAS PLANT

<u>Sr.No.</u>	<u>Connection of Lavatory</u>	<u>Number of respondents</u>
1.	Due to resistence from elder member	34
2.	No septic tank	06
3.	Does not feel any need to connect the lavatory to the gobar gas plant	08
4.	It was not convenient to connect lavatory to gobar gas plant	06

TABLE No. 26 (Contd...)

Sr.No.	Connection of Lavatory	Number of Respondents
5.	Connection is costly.	08
6.	Ignorance about connection	01
7.	Subsidy amount did not received by factory. It is not built up	02
8.	Lavatory connected with gobar gas plant	36
Total :		99

Source : Information collected through personal interviews.

The information given in the above table No. 26 suggests that still today, the older generation womenfolk are not ready to accept the lavatory connection close to home. They are 34 (34.34%). The number of respondents who do not have septic tanks and hence not having the lavatory connected with home are 06 (6.06%) and 08 (8.08%) respondents do not feel the need to connect the lavatory to gobargas plant. They are having the traditional outlook about the lavatory connection. Due to shortage of space 06 (6.06%) respondents do not connect the lavatory to gobar gas plant. It was costly thing for 08 (8.08%) respondents and one respondent did not any idea about the connection. 02 respondents (2.02%) did not receive subsidy for lavatory installation.

The installation of gobar gas has been accepted by the respondents, but still due to older generation people and due to economic reasons the number of respondents having no lavatory connection to gobar gas plant is 63 (63.63%) seizable one.

The connection of lavatory is connected with the question utilization of organic wastes of humans. It is seen that 36 respondents (36.36%) feel that they are utilizing the organic wastes properly than before and 63 respondents (63.63%) feel that they do not have any opinion about it. They do not feel its importance and not mentally prepared for using the gas produced by organic wastes.

6.2 ADVANTAGE OF GOBAR GASPLANT :

The respondents were asked to list the advantages of gobar gas plant. Table No. 27 given below shows that they have listed 13 advantages of gobar gas plant.

TABLE No. 27
DISTRIBUTION OF ADOPTERS ACCORDING TO THE
ADVANTAGES OF GOBAR GAS PLANT

Sr. No.	Advantages of Gobar gas plant	Respon- dent	Percen- tage
1.	Smokless heat and clear fuel	99	100%
2.	Saves from drugergy of collection and staring of fuel	99	100%
3.	No carbon on utensils	99	100%
4.	No blackening of walls	99	100%
5.	Protect the eyes and throate	99	100%
6.	Provision of hygenic and sanitation condition	99	100%
7.	Provision of clean air	99	100%
8.	Reduces flies and mosquitoes	94	94.94%
9.	Enhancement of social prestige	99	100%

TABLE No. 27 (Contd..)

Sr. No.	Advantages of Gobar gas plant	Respon- dents	Percen- tage
10.	Increase in sociability and hospitality	99	100%
11.	Better quality of farm yard manure	99	100%
12.	Better utilisation of organic wastes	99	100%
13.	No bad ^{smoke} smale in cooking	99	100%

Source : Information collected from the Respondents.

The advantages are hygenically beneficial to housewives. The smokless and clear atmosphere in the kitchen encourages the working capacity of housewives. The utensils remain carben free and need less time and strength to clean them. There is no blackening of walls as it was in the past due to the use of traditional sources of fuel like dung cake and jungle wood. The protection of eyes and throte from dark smoke is done by the smokless and clear fuel produced from gobar gas plant. Apart from these hygenical benifits, the enhancement of social prestige of housewives and increase in their sociability and hospitality is further advantage of the gobar gas plant.

There are other advantages of the gobar gas in connection with rural housewives different roles and duties.

TABLE No. 28

HOUSEWIVES DUTIES AND OTHER ROLES PERFORMED BY HOUSEWIVES UNDER STUDY

	Housewives X		All house Members X		Educational Member Yelder X		Husband		Himself		Total	
	Adopture	Non-adopture	Adopture	Non-adopture	Adopture	Non-adopture	Adopture	Non-adopture	Adopture	Non-adopture	Adopture	Non-Total
	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
												14.
1. Who cook food in the house ?	99 (100%)	41 (100%)	-	-	-	-	-	-	-	-	99	41
2. Who make purchases for household requirements ?	99 (100%)	41 (100%)	-	-	-	-	-	-	-	-	99	41
3. Who fetches water for the household ?	99 (100%)	41 (100%)	-	-	-	-	-	-	-	-	99	41
4. Who washes clothes ?	99 (100%)	41 (100%)	-	-	-	-	-	-	-	-	99	41
5. Who cleans utensils in the house ?	99 (100%)	41 (100%)	-	-	-	-	-	-	-	-	99	41
6. Who sweeps and cleans the house ?	99 (100%)	41 (100%)	-	-	-	-	-	-	-	-	99	41
7. Who takes care of children ?	-	-	99 (100%)	41 (100%)	-	-	-	-	-	-	99	41
8. Who generally decision making about the expenditure on foods ?	99 (100%)	41 (100%)	-	-	-	-	-	-	-	-	99	41
9. Who helps children in their studies ?	-	-	-	-	60 (60.60%)	06 (14.63%)	-	-	39 (39.39%)	35 (85.36%)	99	41
10. Who takes care of sick persons in the family ?	-	-	99 (100%)	41 (100%)	-	-	-	-	-	-	99	41
11. Who decides about the expenditure on clothing ?	-	-	25 (25.25%)	-	40 (40.40%)	-	34 (34.34%)	36 (87.80%)	-	05 (12.19%)	99	41
12. Who decides about the expenditure on household necessities ?	-	-	32 (32.32%)	-	43 (43.43%)	-	24 (24.24%)	-	-	-	99	-

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
13. Who decides about the expenditure on marriage children and relatives ?	-	-	-	-	-	89 (89.89%)	02 (04.87%)	10 (10.10%)	39 (95.12%)	-	-	99	41	140
14. Who decides about the expenditure on education ?	02 (02.02%)	04 (09.75%)	-	-	-	50 (50.00%)	10 (24.39%)	27 (27.27%)	18 (43.90%)	20 (20.20%)	09 (21.95%)	99	41	140
15. Who decides about the expenditure on gifts and presents ?	10 (10.10%)	-	22 (22.22%)	-	-	40 (40.40%)	-	17 (17.17%)	-	20 (20.20%)	-	99	-	99
16. Who decides about the expenditure on major purchases and major capital investment ?	-	-	-	-	-	-	-	99 (100%)	41 (100%)	-	-	99	41	140
17. Who decides about the expenditure on visiting place and peoples ?	-	-	-	20 (20.20%)	-	44 (44.44%)	05 (12.19%)	35 (35.35%)	36 (87.80%)	-	-	99	41	140
18. Who decides about the expenditure on attending ceremonies and functions ?	-	-	-	99 (100%)	41 (100%)	-	-	-	-	-	-	99	41	140
19. Who decides about foodstuff to be purchased ?	75 (75.75%)	30 (73.17%)	-	-	-	14 (14.14%)	-	10 (10.10%)	11 (26.82%)	-	-	99	41	140
20. Who decides about clothing to be purchased ?	40 (40.40%)	-	10 (10.10%)	-	-	14 (14.14%)	06 (14.63%)	10 (10.10%)	30 (73.17%)	25 (25.25%)	05 (12.19%)	99	41	140
21. Who decides about which school the children should attend ?	-	05 (12.19%)	44 (44.44%)	-	-	28 (28.28%)	33 (80.48%)	27 (27.27%)	03 (07.31%)	-	-	99	41	140
22. Who generally decides about daughter's/son's marriages partner ?	-	05 (12.19%)	09 (09.09%)	30 (73.17%)	30 (60.60%)	06 (14.63%)	06 (14.63%)	30 (30.30%)	-	-	-	99	41	140

Source : Personal interviews with the respondents.

a) Rural Housewives and household roles :

The respondents group under study has revealed that a housewife is engaged in the household duties fully and she has to perform the farm duties also alongwith these.

Table No. 28 has been able to explain the different types of roles performed by housewives.

The cooking, cleaning and fetching water from well for the household consumption is the primary duty of these housewives. They wash the cloths and keep the house and animal yard clean. The daily marketing for the family is done by them.

To take care of the children is supposed to be her duty. In case of adopters 60 (60.60%) housewives and in case of non-adopters 06 (14.63%) housewives look after the children.

The adopters group show that more number of women take care of their children, while in case of non-adopters husbands have to look after them. The adoption of gohar gas has given more time to adopters group and the housewives from the non-adopters group are engaged more in cooking, cleaning and other household works. The number of husbands taking care of studies of their children from the adopters group is 39.39%, while the non-adopters group show that 85.36% husbands have to take care of their children's studies.

The care of sick persons is mainly the function of housewives in both the groups under study.

The housewives group under study has a little role in taking decisions concerned with family expenditure, purchase of cloths for family members, expenditure to be incurred on education, gifts to guests. The major purchases are done by husbands only. There is a very little say to a housewife in deciding places and peoples to be visited as family connections. Thus, it is seen that major economic decisions are either taken by all the family members or husbands but not solely by housewives.

The decisions regarding marriage of their sons and daughters are also not decided by her choice but the elders and educated members of the house play a prominent role in such decision.

Thus, it is seen that the average housewife is having her say only in certain cases and has the burden of work fully in cooking and other primarily important works.

b) Time spent on daily household duties :

The nature of household work decides the time consumed by it. There are many household works requiring much time and devotion if they are performed in a traditional manner.

The introduction of gohar gas plant has brought a noticable change in the time utilization pattern. The housewife who used to spend more time in routine work like cooking and cleaning of house and utensils have been able to save their time for these traditional works and have been able to spend more time on miscellaneous work.

Table No. 29 gives us a clear picture of the time utilization by housewives.

TABLE No. 29
DISTRIBUTION OF ADOPTERS ACCORDING TO THEIR AVERAGE
TIME SPENT ON DAILY HOUSEHOLD ACTIVITIES (BEFORE AND
AFTER INSTALLATION OF GOBAR GAS PLANT)

Sr. No.	Nature of Household activity	Average time spent (in hours)	Before installation (No. of respondents)	After installation (No. of respondents)
1.	2.	3.	4.	5.
1.	Cooking	Upto 1 hour	-	02
		1 to 2 hours	-	60
		2 to 3 hours	-	27
		3 to 4 hours	29	8
		4 to 5 hours	70	2
		Total :	99	99
2.	Cleaning of utensils	0 to 20 mts.	-	-
		10 to 20 mts.	-	09
		20 to 30 mts.	-	79
		30 to 40 mts.	20	10
		40 to 50 mts.	60	01
		50 mts add above	19	-
Total :	99	99		
3.	Cleaning of house	Upto 30mts.	34	64
		30 to 60 mts.	40	30
		60 mts. and above	25	05
Total	99	99		
4.	Washing of cloths	Upto 30 mts.	-	10
		30 to 50 mts.	63	79
		40 to 60 mts.	14	06
		60 mts. and above	12	04
Total :	99	99		



TABLE No. 29 (Contd....)

1.	2.	3.	4.	5.
5.	Attending the children	Upto 1 hour	02	-
		1 to 2 hours	06	20
		2 to 3 hours	70	55
		3 to 4 hours	11	24
		Total :	99	99
6.	Miscellaneous activities	Upto 2 hours	23	10
		2 to 3 hours	66	50
		3 hours and above	10	39
		Total	99	99

Source : Information collected through personal interviews.

The housewives have saved time in cooking activity as they get smokless and contineous gas as the source of fuel for cooking. The new form of fuel prevents utensils from blackness and can be cleaned with less time and efforts.

The mothers have been able to spend more time for their children. They are also able to spend time on knitting, weaving and tailoring due to the fact that they can save time in cooking etc. due to the improved nature of fuel used.

c) Change in cooking place :

The adopters have their gobar gas chullah in kitchen. The new type of connection with gobar gas required kitchen suitable for gas plates (chullah) and the traditional kitchen has to be replaced by the modern one.

The change in kitchen, a anew and airy place makes the housewife active in her roles. The smokless and dirty free kitchen makes the atmosphere healthy and happy.

d) Better alternative fuel :

The respondents who have adopted gobar gas seemed to be impressed with the usefulness and worth of gobar gas as a better alternative, a smokless, neat and clean, fuel. They are impressed by the advantages offered by this new type of fuel.

The readymade fuel has offered the freedom to housewives of simply turning and lighting a match whenever needed the fire. This type of fuel assures them sure fire without much trouble.

e) Saving of fuel :

The respondents group under study say that with the introduction of gobar gas plant, they saved their agricultural wastes previously used for fuel purposes. They have reduced expenses on kerosene and have no problem in getting ready fuel.

They have saved fuel and money by installing gobar gas plant in their courtyard.

f) Cleanliness of utensils and kitchen :

The housewives who have adopted gobar gas say that since they have started cooking with the use of gas there was no carbon on utensils. They can clean utensils easily and they have been relieved from the job of cleaning the utensils.

In the traditional form of fuel use due to the smoke and carbon there used to be the blackening of walls. The kitchen walls were dirty and black. It was not a pleasant kitchen. The installation of gobar

gas provided clean kitchen to house. The kitchen is without mud chullah, dung cakes, ash and flies due to the introduction of gobar gas plant.

g) Improvement in the health conditions :

The adoption of gobar gas created healthy environment and has improved housewives and childrens health conditions. Especially protection of eyes and throat from the smoke is a major gain. Throat trouble was a common complaint and the traditional fuel used to hamper the eyes due to heavy smoke and carbon.

Installation of gobar gas plant has improved hygenic and sanitation conditions. It could provide the clean air and it is seen that there has been a considerable reduction in flies and mosquitoes and consequent diseases.

Apart from these hygenical benifits the cleanliness brought after the installation of gobar gas has enhanced the social prestiage of the housewife. As she can serve the guest immediately with a cup of coffee or tea without any physical hazard there has been an increase in her sociability and hospitality. This is visualized by almost all respondents.

All the respondents owning gobar gas plant were found to be conspicuously proud in showing of their new found asset. They are happy to say that they have been out of the inconveniences caused due to the traditional type of fuel and the smokfull atmosphere.

6.3 AVAILABILITY OF IMPROVED FARM YARD MANURE :

Another important use of the gobar gas plant from the economic point of view is that the availability of improved farm yard manure for agricultural use. The quantity of farm yard made available by the gobar gas plants depends upon the size of the plant.

Table No. 30 given below gives the details about the quantity of farm yard manure made available by the gobar gas plants owned by the respondents.

TABLE No. 30

DO YOU THINK THAT THERE HAS BEEN AVAILABILITY OF IMPROVED QUALITY OF FARM YARD MANURE ?

Sr. No.	Size of yard manure	Respondents	Percentage
1.	100 yard	03	03.03
2.	140 yard	28	28.28
3.	150 yard	36	36.36
4.	180 yard	04	04.04
5.	210 yard	16	16.16
6.	240 yard	04	04.04
7.	280 yard	08	08.08
Total :		99	

Source : Information collected through personal interviews.



The number of respondents getting 140 to 150 farm yard manure is 64 (64.64%). This is because the majority of gobar gas plants are of a medium size. The number of respondents getting 210 farm yard manure is 16 (16.16%) and those getting more than it is 12 (12.12%). There are 03 respondents (3.03%) getting 100 yard farm manure and 04 are getting 180 farm yard manure.

The availability of farm yard manure of a superior quality has been possible due to the installation of gobar gas plants.

6.4 PROBLEMS IN THE ADOPTION OF GOBAR GAS PLANT :

There are some difficulties faced by our respondents during the installation of gobar gas plant. Table No. 31 given below gives the details about these problems.

TABLE No. 31
DISTRIBUTION OF RESPONDENTS ACCORDING TO
THE DIFFICULTIES DURING AND AFTER THE INSTALLATION
OF GOBAR GAS PLANT

Sr.No.	Difficulties during installation	No. of respondents	%
1.	Non-availability of trained masons	04	(4.04%)
2.	Lack of technical guidance from Government officials	01	(1.01%)
3.	Lack of co-operation from bahk staff for securing loan	02	(2.02%)
4.	Non-availability of cement	19	(19.19%)
5.	Weak pressure in winter	20	(20.20%)

TABLE No. 31 (Contd..)

Sr.No.	Difficulties during installation	No. of Respondents	%
6.	Frequent cleaning of supply pipes and water box	01	(1.01%)
7.	Leakage of gas and water from pipes	03	(3.03%)
8.	Lack of experience in filling the plant with dung and water in proper proportion	10	(10.10%)
9.	Improper structure of gobar gas plant	01	(1.01%)
Total :		99	

Source : Information collected through personal interviews.

Majority of our respondents did not face any difficulty during installation of gobar gas plant. The respondents faced the major problem was the non-availability of cement in 19 cases (19.19%) and weak pressure in winter (20 cases, 20.20%). The other problems faced by them are lack of co-operation from bank staff for securing loan, cleaning of supply pipes, leakage of gas and water pipes, and improper structure of gobar gas plant. These problems arose after installation. It shows that it is necessary to find out the ways and means to keep proper supply of the gas during the winter and its supply system needing lesser cleaning of pipes and water boxes.

Another problem faced initially by all the respondents was the feeling that they felt that since the gas is produced through dung and organic wastes it gives bad smell. They used the traditional mud chullah for making Roti (Jawar Roti) and were hesitant in using the gas for cooking.

However, in the later period they could get rid of this convention of bad smell and have now using gobar gas for all type of cooking for the family and guests.

NON-ADOPTERS :

The number of non-adopters of gobar gas under study is 41 households representing 10% of the total non-adopters of the village.

The reasons given by these respondents for not having been adopted gobar gas plant are listed in the table No. 32.

TABLE No. 32

DISTRIBUTION OF NON-ADOPTERS ACCORDING TO THE REASONS FOR NON-ADOPTION OF GOBAR GAS PLANT

Sr. No.	Reasons	Number	Percentage
I)	<u>Situational reasons :</u>		
	1. Not enough space for the installation of gobar gas plant in courtyard	12	29.26
	2. Situation of house inside the village	08	19.51
	3. Small hearth size	02	04.87
	4. Large family size	01	02.43
II)	<u>Economic reasons :</u>		
	1. Involves higher investment	20	48.78
	2. Not profitable as the farmers have enough crop waste for fuel	08	19.51
III)	<u>Educational reasons :</u>		
	1. Information regarding the installation is not available	01	02.43

TABLE No. 32 (Contd...)

Sr. No.	Reasons	Number	Percentage
IV)	<u>Psychological reasons :</u>		
1.	Gas incorporates bad smell to the chapaties and other meal preparations	22	53.65
2.	Creates unhygenic conditions	10	
3.	Not consistent with the cultural norms	12	29.26
4.	Poisonous, hence dangerous for health	03	7.31
Total :			

Source : Information collected through personal interviews.

a) Situational Reasons :

The situational reasons given by the respondents are that they have not enough space for the installation of gobar gas plant in courtyard. The internal structure of the village reveals that the house are closely connected with each other with common walls and hence very little space is left for installation of gobar gas plant. This is the case with 12 and 8 respondents respectively. There are two respondents who are not able to afford the instalation of gobar gas because they have small size of herd. The number of domesticated animals is considerably small and they are not able to provide sufficient quantity of dung required for the working of gobar gas. One respondent has given the reason that due to large family size he is not able to install gobar gas. But this reason could not convince the researcher.

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The respondents give multiple reasons for not having gohar gas plant installed. There are 20 respondents (48.78%) have shown their inability to invest in gohar gas plant ^{installation} due to the involvement of higher investment. The crop waste used for fuel is sufficient according to 08 (19.51%) respondents.

b) Educational Reasons :

One respondent has reported that he has not been able to receive the information about the gohar gas plant. The nature and amount of subsidy given by the Khadi Gramodyog and the Kuditre Sugar Co-operative. Lack of knowledge about the details of gohar gas plant is the reason for non-adoption.

c) Psychological Reasons :

There are 22 respondents who feel that cooking on gohar gas may give bad smell to food cooked on it. The chapatis and other meal preparations give bad smell.

There are 10 (24.39%) respondents mentally not prepared to accept gohar gas as a form of fuel. They are under the impression that gohar gas may create unhygienic conditions.

The number of respondents who feel that use of gohar gas as a fuel to be used in kitchen is against the norms and ways of cooking. Traditional fuel sources are the best suited fuel sources to Indian conditions.

Three respondents feel that gohar gas is dangerous to health.

Thus, these are the reasons given by the non-adopters for their not having gohar gas plants.



The economic reasons and the educational reason given by the respondents are convincing. The number of psychological explanations given by them is not acceptable one.

When required about the time spent by the non-adopters housewives on daily household activities, we get the information compiled in table No.33.

TABLE No. 33
DISTRIBUTION OF NON-ADAPTERS (HOUSEWIVES)
ACCORDING TO THEIR AVERAGE TIME SPENT
ON DAILY HOUSEHOLD ACTIVITIES

Sr. No.	Nature of household activities	Average time spent	No. and % of families	
			Families	Percentage
1.	Cooking	0 to 1 hour	04	09.75
		2 to 3 hours	10	24.40
		3 to 4 hours	18	43.90
		4 to 5 hours	-	-
		5 and above	09	21.95
		Total :	41	
2.	Cleaning of utensils	0 to 10 min.	-	-
		10 to 20 min.	08	19.51
		20 to 30 min.	20	48.78
		30 to 40 min.	06	14.64
		40 to 50 min.	03	07.31
		50 and above	04	09.75
		Total :	41	

TABLE No. 33 (Contd...)

Sr. No.	Nature of household activities	Average time spent	Number and % of families	
			Families	Percentage
3.	Cleaning of house	Upto 30 mts.	14	34.14
		30 to 60 mts.	10	24.40
		60 mts. and above	17	97.17
		Total :	41	
4.	Washing of clothes	Upto 30 mts.	04	09.75
		30 to 50 mts.	12	29.26
		40 to 60 mts.	20	48.78
		60 and above	05	12.19
		Total :	41	
5.	Attending the children	Upto 1 hour	24.	58.53
		1 to 2 hours	03	7.31
		2 to 3 hours	04	09.75
		3 to 4 hours	10	24.39
		Total :	41	
6.	Miscellaneous activities	Upto 2 hours	24	24.39
		2 to 3 hours	10	24.39
		3 hours and above	07	17.08
		Total :	41	

Source : Personal interviews with the respondents.

The housewives from the non-adopters group most of their day in cooking and other household activities. They are fully engaged with these activities and are bored by the routine work. They had a very little time to look after themselves. Their personalities are sophisticated within the walls of the kitchen and house.

When compared with their counterpart, adopters group we find that non-adopter group is at a loss in many respects. The time given for knitting, weaving, embroidery and tailoring is comparatively less and there are some young wives who inspite of their urge to learn such things are not able to do it due to the over burden of the household works.

FARM RELATED ACTIVITIES :

In the rural area, housewives are required to help in the farm related activities. They help by milking the cows and ^{she} buffaloes. Feeding of cattle and maintain the cattle shed clean is another activity performed by housewives. To collect cow dung and prepare dung cake, to collect firewood and sugarcane shoots and store this fuel for the season are other activities carried out by housewives.

Housewives from the gohar gas plant adopters group give more time to such farm related activities than the non-adopters group.

The group under study also reveals that at the time of sowing and harvesting seasons housewives have to help their husbands in the farm activities. These are of a seasonal nature.

Thus, we can say that those who have adopted gohar gas plants can devote more time even to farm related activities.