

KNOWLEDGE OF FARM WOMEN TOWARDS OPERATION AND MAINTENANCE OF BIOGAS PLANTS

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The concept of energy is most useful in the understanding of the physical world and at the same time the general rule or law developed for describing the role of energy as one of the most abstract ideas in the formulation of that understanding. Biogas energy is one of the important source of non conventional energy. It is a device or system for conventional of fermentable organic matter particularly cattle dung and human excreta in combustible gas and fully matured organic manure. Biogas plant provides energy and organic matter in the form of fuel gas and slurry. The slurry is the best organic manure for improving soil fertility. The programme for installation of biogas plant is taken up throughout the country. It has also been included in the 20 point economic oriented programme as one of the major items along with other renewable sources of energy. Accordingly in addition to the national project for biogas development (N P B D) the khadi and village. Industries commission has designed various types of gas plant to meet the requirement of farmers and assists the farmers through state Govt. Agencies in construction of plant in the rural areas by providing subsidy and free technical guidance.

Due to such motivation and strategy, as number of biogas plants have been installed in the village of Kirnapur block of balaghat district of Madhya Pradesh here by Krishi Vigyan Kendra, badgaon. It has been observed that the plant installed are not used to their maximum extent.

Earlier studies have highlighted the perform-

ance of farm women in various farm and home activities. The farm women in were performing a great contribution in agriculture and allied enterprises. Shah (1976) has stated women have to play the role as an individual citizen and member of society, homemaker and active participant in socio political and psychological environment. Saraswathi (1987) observed that with the consequent growth of industries, male labour replaced by female labour in agriculture.

Reddy (1988) in the field of agriculture women are engaged in application of manures, land preparation seed grading, sowing dibbling, plantation thinning, irrigation, fertilizer application, weeding, plant protection, harvesting threshing, shelling, heeling winnowing cleaning, storing grains, feeding the cattle and other household operations.

As above studies indicated that they equally shared the burden of work like sowing, weeding, animal care including milking, collecting of fuel wood, cow dung making and performing of home activities where major of the time was spent in and had the responsibility for maintenance and operation of biogas. But the level and extent of knowledge with regard to biogas plant and socioeconomic character were not studied earlier. This initiated to undertaken this study with following objectives.

(i) To know the extent of knowledge of farmwomen in relation to the operation and maintenance of biogas plant possessed by them.

(ii) To ascertain the association between

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the level of knowledge and socio economic characteristics the farm women.

METHODOLOGY

The present study was carried out in the Kirnapur block of balaghat district to Madhya Pradesh. 10 village were selected from kirnapur block purposively as there were ample numbers of biogas plant adopters. From these villages 120 farm women were selected on random basis and interviewed personally with the help of pretested structured schedule.

The information was tabulated and quantified into data form. Data were analysed statistically and persecuted measurement of knowledge level.

A schedule was developed to examine the level of knowledge in relation to the operation and maintenance of biogas plant by consulting relevant technical literature and also discussed about it with the officials those are engaged in installation and supposed to provide technical guidance to biogas plant holders.

As far as the age is concerned it was found that 62.50% of women were up to age of 35 years. With regard to education level it was interesting to note from the table that the respondents 55.83% were having primary education i.e. Till Vth standard 29.16% were having middle class education followed by lower percentage i.e. 19.16% of illiterate, 50% of the women who falls in the category of big farmers followed by 35.85% and 14.16% for small and marginal respectively based on the size of land holdings. 70.83% farm women possessed biogas plant which established before 5 years and 29.16% has possessed the biogas which was established above 5 years where as livestock possession is concerned 64.16% were having up to 6 animals and 35.83% were having above 6 animals.

Table 2. depicts knowledge level of farm

women in relation to the operation and maintenance it was that 50% of the farm women were having medium level of knowledge followed by 27.50% and 22.50% who were having high and low level of knowledge respectively.

Table 2. Knowledge level of farm women in relation to the operation and maintenance

S. No.	Knowledge level	No. of respondents (N=120)	Percent (%)
1.	Low	27	22.50
2.	Medium	60	50.00
3.	High	33	27.50

Table 3. Association between knowledge level and selected socio economic characteristic of farm women

S. No.	Selected Socio economic characteristic	D.F.	Chi square value	(X ²)
1.	Age	3	6.94	N.S.
2.	Education	4	11.76	**
3.	Period of gas plant possession	3	12.93	*
4.	Size of holding	4	12.15	**
5.	Livestock possession	3	8.34	**

Accordingly 20 item were finalized and retained in the schedule knowledge of the farm women was ascertained from these items. A score of 1 (one) was assigned to the "Known" response and "o" (Zero) for not known "response. Then the knowledge index (K.I.) was computed as

$$\text{knowledge index} = \frac{\text{Score obtained}}{\text{Maximum score}}$$

After finding the individual score they were categorized in three levels. Of knowledge VIZ., high medium and low on the basis of quartile range method.

Table 1 Distribution of farm women according the their selected socio economic characteristic

S.	Selected Socio economic haracteristic	No of respondent	Chi square Value (X^2)
1.	Age		
	(a) up to 35 years	75	62.50
	(b) Above 35 years	45	37.50
2.	Education		
	(a) Illiterate	23	19.16
	(b) up to primary	67	55.83
	(c) up to Middle	35	29.16
3.	Size of holding		
	(a) small (up to 1 hac.)	43	35.83
	(b) marginal (up to 2 hac.)	17	14.16
	(c) big (above 2 hac.)	60	50.00
4.	Period of gas plant possession		
	(a) below 5 years	85	70.83
	(b) above 5 years	35	29.16
5.	Live stock possession		
	(a) up to 6 animals	77	64.16
	(b) above 6 animals	43	35.84

The data presented in table-1 revealed the socio economic characteristic of farm women.

N.S. : Not significant

* : Significant at 0.01 level.

** : Significant at 0.05 level.

Table 3. Reveals that the age is not significant at both the level in relation to the association of knowledge level and socio economic characteristic of farm women. Education is significant at economic characteristic of farm women. Education is significant at 0.05 level where as the period of gas plant possession is highly significantly at 0.01 level. Similarly size of land holding and live stock possession are significant at 0.05 level. Hence, it can be conducted that the period of the plant possession has the closest association between with knowledge level but the period of gas plant possession has got the most significant relationship with the operation and maintenance of biogas plant. This indicates that as the farm women aquired the experienced with working of biogas plant they have more concerned with the operation and maintenance of the plant as compared to other socio economic conditions.

During survey is was also noticed that women accepted the importance of biogas plant for their own benefits as it provides fuel the women folks with clean and efficient in the kitchen.

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