

**Research Note :****FACTORS AFFECTING THE CONSTRAINTS IN ADOPTION BIOGAS PLANTS**Bharat Bhushan<sup>1</sup>, Joginder S. Malik<sup>2</sup> and Satpal Singh<sup>3</sup>

Energy is the key input for economic growth. It plays an important role in every aspect of human welfare. The economic development of any country is related to its total energy consumption and the standard of living is found to rise proportionately with increase in per capita consumption of energy. The shortage of fossil fuel being felt all over the world has awakened us to look for alternate source of energy. At this stage of energy crisis, there is strong need for exploiting alternate source of energy which would also minimize pollution and help in forest conservation. These efforts well also create employment opportunities especially in rural areas, where agricultural wastes have to be recycled (Kaur *et al.*-1998). Biogas is an efficient source of energy, which does not pollute the atmosphere. The biogas plants are being adopted slowly in our country as compared the requirement and potential (Rani and Devi-1992).

Various institutions and agencies have made their efforts to popularise the gobar gas plant for solving the problems of fuel as well as manure. In spite of these efforts, most of the farmers have not adopted gobar gas plant on account of several difficulties experienced by them. Little is known about the difficulties faced by the farmers in adoption of gobar gas plant (Patel *et al.* 1992). The farmers may faced these difficulties due to the sociopsychological factors which affecting of biogas plants. Hence, the study was conducted with the objective studying the factors affecting the adoption of biogas plants by the respondents.

**METHODOLOGY**

The study was conducted in Sambhar Lake

Panchayat Samiti of Jaipur District of Rajasthan. Seventy farmers were selected randomly as respondents for the investigation. A scale was developed by the investigator to measure the constraints in adoption of biogas plant by the respondents while the independent variables were measured with the help of already developed scales. The data were collected by the personal interview method that later on processed by correlation coefficient and the regression analysis.

**RESULTS AND DISCUSSION**

The association between the constraints of the respondents in adoption of biogas plant and their selected independent variables was tested with the help of zero order correlation coefficient ( $r$ ). The results have presented in Table 1.

**Table 1. Relationship of the selected independent variables with the constraints of respondents in adoption of biogas plant.**

S. No.	Independent Variables	Zero order Correlation Coefficient ( $r$ )
1.	Education	-0.3339**
2.	Size of Land holding	-0.2893*
3.	Social participation	-0.2598*
4.	Socio economic status	-0.0218
5.	Source of information utilized	-0.2818*
6.	Number of cattle	-0.0548
7.	Size of family	-0.0548
8.	Knowledge	-0.3173**

\*and\*\* significant at 5% and 1% respectively.

A critical examination of data presented in Table 1 revealed that the constraints of farmers in adoption of biogas plant and their education and knowledge were negatively and significantly associated at 1 per cent level of significance where

as, size of land holding, social participation, source of information utilized and number of cattle were negatively and significantly correlated at 5% level of significance. While the other variables of farmers in adoption of biogas plant.

**1. Education**—Education was negatively and significantly related with the constraints in adoption of biogas plant. It indicates that the farmers with higher education will face less number of constraints in adoption of biogas plant.

**2. Size of land holding**—The results shows that the size of land holding was found negatively and significantly associated with the constraints as perceived by the respondents in adoption of biogas plant. It means that the farmers with big size of land holding will have less constraint in adoption of biogas plant. It denoted that size of land holding appears to be an important factor as constraints in adoption of biogas plant.

**3. Social Participation**—The results reveal that the social participation was significantly and negatively associated with the constraints in adoption of biogas plants. This might be due to the fact that social participation increases number of contacts of different agencies, persons and institutions and these will help individuals to overcome the obstacles in adoption of biogas plant.

**4. Socio-economic status**—As revealed from the result that the socio-economic status was found to be non-significantly associated with the constraints in adoption of biogas plant. It means that the constraints were independent to this variable.

**5. Source of information utilized**—The result shows that the source of information utilized was significantly and negatively related with the constraints in adoption of biogas plants. It means that the farmers with more number of sources of information utilized have less prone to constraints.

**6. Number of Cattle**—The result indicated that number of cattle was significantly and negatively related with the constraints in adoption of biogas plant. It means that the farmers with more number of cattle will have less prone to constraints in adoption of biogas plant.

**7. Size of family**—The results shows that the family size was found to be non-significant with the constraints in adoption of biogas plant. With the result at hand, it can be inferred that family size was not a determining factor in influencing the constraints in adoption of biogas plant. This might be due to the fact that the number of members in the family be least bothered about the barriers to go for the acceptance of biogas plant.

**8. Knowledge**—The result indicates that knowledge was significantly and negatively associated with the constraints in adoption of biogas plant. It means that the farmers having higher knowledge have less prone to constraints. It shows that knowledge was an important factor as far as constraints in adoption of biogas plant.

The aforesaid results were in conformity with the findings of Gautam et. al. (1995).

## CONCLUSION

In was presumed in the beginning that the respondents were reluctant to adopt biogas plants because of certain constraints and the constraints may be related to socio-psychological characteristics of the respondents. This has come true in the research that the constraints were related significantly with education, size of land holding, social participation, source of information utilized, number of cattle and knowledge. This means that these six variables influenced the constraints of the respondents in adoption of biogas plant significantly. While the other variables like SES and size of family were not affecting the constraints adoption of biogas plant.

## REFERENCES

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