



**IMPACT OF BIOGAS TECHNOLOGY ON SOCIO-ECONOMIC  
EMPOWERMENT OF TRIBAL WOMEN**  
*(A Study undertaken in Navegaon Bandh of Gondia district in Maharashtra State)*

**Neetadevi K. Gupta**

P.G.T.D.Home Science, R.T.M.N.U.Nagpur  
Corresponding Email: nitagupta169@gmail.com

Communicated : 18.01.2023

Revision : 22.02.2023 & 07.03.2023  
Accepted : 29.03.2023

Published : 30.05.2023

**ABSTRACT:**

Tribal people constitute 8.6 percent of India's total population, about 104 million people according to the 2011 Census (68 million people according to the 1991 Census). Due to welfare programmes tribal communities made themselves conscious about their own existence. They have become more vibrant with new experience and are moving out of their isolation on to paths of development in terms of adoption of Biogas technology. The study was conducted in Navegaon Bandh of Block of Arjuni Morgaon in Gondia district of Maharashtra State. 30 women were selected by convenience sampling techniques. Data was gathered by the tool interview schedule through survey method and analyzed by percentages. Respondents had higher socio-economic, awareness and women empowerment through Biogas technology.

**Keywords :-** Socio-Economic Status, Tribal People, Biogas technology, Adoption of Innovation, Women Empowerment.

**INTRODUCTION :**

The term 'Socio-economic aspects' is often discussed in broad term as satisfaction of needs, feelings of well-being, good or bad working conditions, and other indicators. Such a conceptualization of it encompasses all the material aspects of human life, and may extend beyond to cover the physical and psychological dimensions. **(Biswas B. & Biswas G.: 2015)**

Women in tribal societies play vital role in their social, cultural economic and religious way of life and are considered as economic assets in their society. But they are still lagging far behind in the different walks of life like education, employment, good health and socio-economic empowerment.

For the empowerment of tribal women for accelerated socio-economic development of any community, active participation of women is essential. In a social set up like India their participation has to be ensured through tangible measures, taken at various levels, which result

in their empowerment in the real sense. Empowerment of women is one of the concepts that has developed in connection with improving their status. Empowerment includes higher literacy level, education, better health, care, equal ownership of productive resources, and increased participation in economic and commercial sectors, awareness of right and responsibilities, improved standard of living, self-esteem and self confidence. They have become more vibrant with new experience and are moving out of their isolation on to paths of development in terms of adoption of biogas technology. **(Bhukya R.:2015)**

**Adoption :** 'Adoption as a concept refers to some definable act of decision (conscious or sub conscious) on some one's part. The problem is locating such action and interpreting them. **(Eveland J.D.1979).**

Whether a tribal women will try a new practice quickly or at all is dependent upon many things. Some relate to the individual

herself some to the situation she is in and some to the nature of the practice itself.

**Adoption of Innovation :** Adoption of an innovation is an act which involves thought, decisions and action. In the process of adoption of innovation an individual passes mainly through five stages viz. awareness, interest, evaluation trial and adoption.

**Adoptional Behaviour :** The importance of tribal women's adoption of news home technology has long been of interest to agricultural extension and economists. Several parameters have been identified as influencing the adoption behaviour of women from qualitative and quantitative models for the exploration of the subject. Social scientists investigating women's adoption behaviour have accumulated considerable evidence showing that demographic variables technology, technology characteristics, information sources, knowledge, awareness, attitude and group influence affect adoption behaviour. **(Chaudhari M.C. & Panjabi : 2005)**

Technologies are promoted to increase yields and incomes, save time, improve food and nutritional, security, health status and even empower women. The technology adoption leads to Biogas technology even for those that are promoted for women.

**Adoption Of Technology :** Technology adoption has a very important role in human life where new ideas and techniques can be learned and used in our life. Women's participate in this process and adopt new ideas or techniques and can improve their economic and social status.

Technology adoption can be said as a process that begins with awareness of the techniques and progresses through a series of steps that end in appropriate and effective usage of the technology.

**Biogas Technology :** Biogas originates from biogenic material; it is a type of bio-fuel which primarily consists of methane and carbon dioxide. Biogas can be used as low-cost fuel for

heating, cooking and power generation. Biogas can also be compressed like natural gas, and we can also use it to run motor vehicles. Being a renewable source of energy, biogas qualifies for subsidies in some parts of the world. Biogas offers a highly cost-effective and decentralized energy product option at community and household levels. **( Khurshid,2009).**

Biogas technology is the collection of techniques, skills, methods and processes used in the production of goods and services or in the accomplishment of objectives, such as scientific investigation.

Human beings are addicted to technology. It plays an important role in every woman's life. Whether in the field of education, health and agriculture and communication technology it changes the reality of life, saves times, and saves labour and is eco-friendly.

Tribals in India have been introduced to Biogas technology. The present study investigated the socio-economic empowerment of tribal women who have adopted Biogas technology.

#### **Objectives of the Study :**

- 1) To find out the economic status of the respondents.
- 2) To find out the social status of the respondents.
- 3) To study the impact of technologies in improving the socio-economic status of the respondents.

#### **Need and Importance of the study :**

The basic need of the study was to find out the socio-economic empowerment of tribal women who have adopted home technology. The study primarily focused on adoptional factors that will help the policy makers to consider them while introducing home technology to the tribals. The conclusions drawn from the study can be of importance to policy makers in the government, NGO and university departments engaged in the field of tribal development.

**Hypothesis :**

Higher Socio-economic, awareness and women empowerment through Biogas technology.

**Limitations :**

- The researcher is not able to conduct the study in a large area due to paucity of funds and time.
- The result of the study may apply to area with similar characteristics.
- The study is limited to the selected village alone.

**REVIEW OF LITERATURE:**

The local employment generation inter state migration is checked thus resulted addition income generated. Moreover they had regular saving habit. it is noteworthy that due to above facts no environmental hazards develop by the tribes. After adopting the sericulture they need not go to money lenders or any middleman thus in result they self-respected and they recognized socially. They also released from the indebtedness.

**(Dewangan S.K. & Sahu K.R. :2011)**

The study shows that socio-economic factors significantly influence biogas technology adoption in Faisalabad, specifically, the probability of a household adopting biogas technology increases with in age of head of household, size of land, number of cattle owned and household head education. In this research study, age of household head was noted to have a significant positive relationship with biogas adoption. Household income proved to be a key factor in influencing a households decision to adopt biogas technology, it was also positively related to the adoption rate. The odd ratio of household head education tells us that as education increases adoption rate also increases, family size also found positively associated with the adoption of the biogas.(Sufdar I,et.al; 2013)

**METHODOLOGY :**

The present study was conducted in tribal village Navegaon Bandh of Arjuni Morgaon block

in Gondia district of Maharashtra state. 30 women from Navegaon Bandh were selected using convenience sampling technique. Survey method was used to collect data. Interview, schedule was the tool used to collect data, which was further analysed with the help of percentage method.

**RESULT :**

It is revealed from Table-1 that maximum (66.67%) respondents had farming as their occupation and obtained monthly income of Rs.4001/- to 6000/-. Maximum (66.67%) respondents had sufficient income to meet expenses and saved money.

As revealed in Table 2 the social condition of the respondents was analysed. Maximum (50%) respondents were members of Mahila Bachat Gat. Maximum (83.33%) respondents had favourable relation ship and interacted well with society members. Maximum (66.67%) respondents were consulted for social affairs.

It is revealed from table 3 that for 83.33% of respondents the technology is still being sustained. Maximum (66.67%) respondents recommended the technology to others. Maximum (83.33%) of respondents were willing for technology adoption. Maximum (50%) respondents received guidance or information from extension workers. Most of the respondents opined that there had increased confidence, awareness, education and attitude after using technology.

**CONCLUSION:**

To assess the socio economic status empowerment of the respondents in the study area, occupation and income levels have been considered. Maximum respondents were farmers by occupation, earned a monthly income of Rs.4001/- to 6000/- per month. Maximum respondents saved money and had sufficient income to meet expenses. Maximum respondents were members of Mahila Bachat Gat. Maximum respondents had favourable

relationship and interaction with society members. Maximum respondents consulted other society members. Maximum respondents are still using technology and they have recommended to others. Maximum respondents received guidance from extension workers as compared to Media, experts, neighbours and friends. Most of respondent's opined about technology that it increased their confidence, awareness, education and attitude, after using technology.

It can be inferred that higher socio-economic awareness and women empowerment is observed among respondents who have adopted biogas technology.

#### **SUGGESTIONS & RECOMMENDATIONS :**

1. Tribal people can be made aware about new innovations through group approach & mass approach.
2. Training centers for tribals should be opened in each villages which will help to increase own knowledge.
3. Development activities & community events participation should be encouraged by leaders and extension works.
4. Various education programs should be organized to prevent superstitions through NGOs and extension workers.
5. Bilingual textbook can create a bridge between technology and tribal community.
6. New innovation technology enhances self dependency in tribal people.
7. Tribal development studies can be a part of higher education curriculum.

#### **REFERENCES:**

Biswas B. & Biswas G., "Socio economic status of some selected tribes in West Bengal,

India," International Journal of Current Research, Vol.7, Issue 04, Pp.14292-14295, April 2015.

Bhukya R., "Empowerment of Tribal Women in India",. India Journal of Research, Vol.4, Issue-4, April 2015

Choudhari M.C. & Panjabi N.K., "Adoption behaviour of tribal and non-tribal farmers regarding improved social forestry practices", Journal of Rural India, Vol.XXXIX, No.3, Pp.140-141, July 2005

Dewangan S.K. & Sahu K.R., "Socio-economic Empowerment of tribal women through sericulture - a study of Lailonga Block of Raigarh district, Chhattisgarh, India", International Journal of Business & Management, Vol.-06, No.12 December-2011.

Eveland J.D., "Issues in using the concept of Adoption of Innovations", Journal of Technology Transfer, Volume 4(1), Pp.1-13, 1979

Khurshid M. : " Biogas Development in Rural Areas of Pakistan : A sustainable option for Domestic Energy", Science Vision, Vol.15, No.(2), Pp.57-61, 2009.

Sufdar I. : " Factors Leading to Adoption of Biogas Technology : A case study of District Faisalabad, Punjab,Pakistan." International Journal of Academic Research in Business & Social Sciences. Vol-3. No-11, Nov-2013.

Indian Tribal Culture ( [www.indiatourismecatalog.com](http://www.indiatourismecatalog.com) ).

**Table-1 reveals the economic levels of the respondents.**

<b>n=30</b>			
<b>Economic Condition</b>			
<b>1.</b>	<b>Occupation</b>	<b>Number</b>	<b>Percent</b>
	Tailoring and knitting	04	13.33%
	Fisheries	03	10.00%
	Farming	20	66.67%
	Gruhudhyog (making papad)	03	16.00%
<b>2.</b>	<b>Monthly income (Rs.)</b>		
	Less than 20000/-	02	6.67%
	2001 - 4000	04	13.33%
	4001 - 6000	20	66.67%
	6001 and above	04	13.33%
<b>3.</b>	<b>Saving of Money</b>		
	Save money	20	66.67%
	No Saving	10	33.33%
<b>4.</b>	<b>Sufficient income to meet expenses</b>		
	Sufficient	20	66.67%
	Not Sufficient	10	33.33%

**Table 2 reveals the social conditions of the respondents.**

<b>n=30</b>			
<b>1.</b>	<b>Various Social Activities</b>	<b>Number</b>	<b>Percent</b>
	Haldi Kumkum	10	33.33%
	Mahila Bachat Gat	15	50.00%
	Mahila Melava	02	6.67%
	Mahila Bhajan Mandal	03	10.00%
<b>2.</b>	<b>Relationship with Society members</b>		
	Favourable	25	83.33%
	Not Favourable	05	16.67%
<b>3.</b>	<b>Interaction with society members</b>		
	Interacts	25	83.33%
	Do not interact	05	16.67%
<b>4.</b>	<b>Consultation for social affairs</b>		
	Consults	20	66.67%
	Do not consults	10	33.33%

**Table 3 reveals the technology adoption and status improvement**

<b>n=30</b>			
<b>1.</b>	<b>Sustainability of Technology</b>	<b>Number</b>	<b>Percent</b>
	Still using	25	83.33%
	Not using	05	16.67%
<b>2.</b>	<b>Technology recommended to others</b>		
	Recommended	20	66.67%
	Not Recommended	10	33.33%
<b>3.</b>	<b>Willingness for Technology adoption</b>		
	Willing	25	83.33%
	Unwilling	05	16.67%
<b>4.</b>	<b>Sources of Information</b>		
	Media	05	16.67%
	Extension worker	15	50.005
	Neighbour and friends	05	16.67%
	Experts	05	16.67%
<b>5.</b>	<b>Opinion of Respondents after using technology*</b>	<b>Number</b>	
	Increase of confidence	20	
	Increase of awareness	20	
	Increase of Education	20	
	Increase of Attitude	20	

\* Multiple responses.