



THE ROLE OF WOMEN IN SUSTAINABLE ENERGY DEVELOPMENT

Vandana Dhawad

Associate Professor
Department of Home Science,
RTM, Nagpur University, Nagpur
Email ID: vdhawad@yahoo.com

ABSTRACT

Rural women are the major biomass gatherers, be it for fuel or feed. The time and energy that they spend for fuel collection has increased in the last decade or so. The women have to trudge long distances to collect basic necessities like fuel, fodder, water, building materials and needs for their households and cattle. Each year, the distance is increasing because of the fast depleting forests, commercialization of agriculture, excessive use of surface and ground water by agriculture and industry. The appropriate technology for women is needed not only to reduce their drudgery in household and other economic activities but, also, to improve sanitation and environmental conditions and raise health and nutritional level of the working women and children. For women, Biogas technology is one of the most appropriate options for meeting the growing energy needs of the rural women. Hence role of rural women is more important in sustainable energy development.

Keywords: Rural women, Appropriate Technology, Biogas, Sustainable energy.

INTRODUCTION

Women in the villages work every minute during their working hours. Census figures cannot reflect the stark reality of their hard routine life which start early in the morning right from fetching water from long distances, cooking, cleaning, washing, feeding children and then rushing off to work for 6-8 hours on back breaking job such as transplanting as wage labour.

For generations together rural women have toiled from dawn to dusk to maintain and run their households. The drudgery and hazardous tasks they perform at home, farm and field, have conventionally been considered the 'Shadow work'. Unfortunately, activities performed, by women are neither rewarded not recognized.

ROLE OF WOMEN IN ENERGY MANAGEMENT AT THE HOUSEHOLD LEVEL



Women need renewable energy to address their critical need for cooking. Women need cooking energy that is less labor-using, more convenient and safer. As important portion of women's economic contribution is unpaid, unrecognized and undervalued, resulting in less attention to technology development and to investment in improving women's work than men's work.

Over the last two decades are so many efforts have been made by the government of India to ameliorate the problems in the rural energy sector. These efforts programs for promoting renewable energy technologies like biogas, improved cook stoves and solar cookers. Lack of involvement of women at all stages in renewable energy project has been identified as one of the major causes of renewable energy limited sustainability.

ADVANTAGES OF BIOGAS TO THE RURAL WOMEN

Utilization of biogas reduces the consumption of commercial energy sources such as coal,

kerosene etc. which results in reduction of family fuel budget.

The fuel burns with a soot less flame, providing for smokeless cooking which does not make the home or vessels, dirty.

Cooking with biogas is much faster and more efficient than cooking with traditional fuels such as firewood, thus reducing the drudgery of rural women's lives and sparing them time for development activities.

Time is reduced in cooking, finding fuels, chopping wood, collecting weeds and crop stalks or buying coal from distance places results in overall improvement in the situation of women and children.

BARRIERS TO WOMEN'S PARTICIPATION IN ENERGY INTERVENTION PROGRAMMES

A number of factors from barriers to the effective participation of women in rural energy dissemination programs are as follows:

There are traditional decision making roles in the society, level of economic independence, educational constraints leading to



lack of access to information, skills and technical expertise and ideological barriers among extension workers.

PURPOSE OF THE STUDY

Without women's involvement renewable energy cannot be utilized fully and it would not be propagated properly. Women are the main users of household energy in developing and industrial countries; they influence or make many family purchases related to energy.

This paper shows that the role of women in biogas technology at the household level.

OBJECTIVE

i) To study the role of women in adoption of biogas technology at the household level.

METHODOLOGY

The present investigation was conducted with a view to study the impact of biogas technology on rural homemakers. The study was conducted in Wardha district of Maharashtra State. For this sample of 250 biogas plants were selected. Adopters from 32 villages of 8

talukas of Wardha district were purposively selected. The data was collected with the help of interview schedule.

RESULT & DISCUSSION

From Table no 1, it shows whether women folk are involved and taken into consideration in decision making during the installation of biogas plant at home. It was observed that 78% male members take whole sole decision for installation of plants. Whereas, 28% women folk also take decision. 39% other than family members of the family also show interest in adoption of this technology.

It is observed from above discussion that, the decision of the head of the family is important and he decides about the installation of gas plant. Followed by head, the other family members are also involved in taking decision. But housewives are not given importance in home or her decision is not taken into consideration.

For popularizing the biogas technology it is desired that



woman folk should also be the decision maker for adopting the technology and deciding appropriate size for biogas plant. But in the existing situation, decisions related to installation of biogas plant is taken by men except in a few cases women have been involved through village based institution in motivation.

In the rural areas, Indian women have traditionally shouldered the responsibility of managing the domestic energy requirements for their families. Fuel wood collection is carried out by women and occasionally by children.

In any government program, the role of women is restricted to that of beneficiaries while the more important aspects of planning and execution are handled by men.

From the **Table no.2**, it is noticed that only 21% women have the knowledge about installation. Actually they need to be aware of the type, quality and quantity of material used for construction. But the women are completely unfamiliar with the construction

related aspect such as material requirement, technique used etc.

17% women are interested in operation and maintenance of plant. As primary users, women should be familiar with the functioning of the biogas plant, the procedure for removing water from the pipe line, method of cleaning store components like knobs and burner etc. But except for operating the stove, they have incomplete information on all major aspects related to operation and maintenance.

Only 16% adopter homemakers know the technical knowledge. At least the homemakers should have a thorough knowledge of the technical aspects like functioning of a biogas plant and advantages of the technology but homemakers are generally inadequately informed due to lack of adequate training.

There are several constraints involving women in government programs and also traditional gender roles within the family, low level of economic independence of



women, educational constraints leading to lack of access to information, skills and technical expertise and prejudice among extension workers which prevent them from interacting with women.

RECOMMENDATION

The motivated beneficiaries and especially the homemakers are given proper training in basics of the technology, precautions taken during construction of biogas plants and measures to be taken for minor problem faced during operation.

CONCLUSION

Women are mostly affected by the energy scarcity and related

environmental degradation, economically, in time spent on subsistence activities, and in negative health impacts. Renewable energy holds great potential for improved quality of life for women because they ease the time and human energy needed to meet needs, while helping to improve indoor air quality. Women's role in energy is so important that we need women to be involved in energy utilization, energy saving, energy consumption and alternatives to energy resources related decision making.

Table No. 1- Decision for installation of plants

Decision Maker	Adopters (N=250)
1) Head of the Family	196 (78%)
2) Homemakers	71 (28%)
3) Other than Family Members	98 (39%)

**Table No. 2- Role of women in biogas program**

Role of Women	Adopters (N = 250)
1) Knowledge about installation	53 (21%)
2) Operation and maintenance	44 (17%)
3) Technical knowledge	40 (16%)

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