

Original Article

# Policy Focus on the Women's Empowerment: Uplifting their social & Economic Status by Eradicating Household Energy Crisis in Rural Areas

Aria Aman

Assistant Professor, (Ph.D. Economics) Department of Business Administration, Saudi Electronic University,  
K.S.A.

**Abstract** - Energy access plays a very significant role not only in uplifting rural development but also helps in providing employment and education to the rural poor. In the rural areas, households are majorly dependent on local biomass and kerosene; the energy that they are using is very limited to cooking purposes and lighting. In households, consumption of biomass and kerosene for cooking and lighting has been a cause of indoor pollution due to harmful emissions. Thus the insufficient supply of energy in the rural areas causes much hardship, health problems, social and economic backwardness of rural women. Therefore the access to adequate, clean, and convenient energy in rural areas is very crucial for the social and economic development of rural women and for the healthy environment of rural households.

**Keywords** - Energy, Rural household, Women, Economic Development

## I. INTRODUCTION

Energy is a very significant resource for economic growth and development. The availability and Biomass consumption in households for cooking has been a cause of severe indoor air pollution (Smith K R, 1987). Because major fuel types available in rural areas are only biomass and kerosene, which are used for cooking purposes and lighting their houses. Though kerosene is a cheap fuel, it is quite an expensive type of lighting option in India and also causing household pollution and health problems for rural women.

Biomass is the cheapest fuel for cooking by rural poor. Biomass fuels are collected by family, mainly from female labor. If labor time for biomass collection is priced at prevailing minimum wages (Mahadevia and Shukla, 1997), then biomass energy is the most high-cost cooking option in many situations. Because of vast unemployment, often the rural people become unaware of the value of their time, and they invest their plenty of time in accessibility of energy to all, determines the

overall growth of an economy. Today it is a big challenge for India that clean and affordable energy should reach rural areas because more than half the population resides in villages. Due to poverty, illiteracy, and unavailability of resources, their consumption of energy is very confined. Therefore agricultural system and rural industrialization patterns are still very obsolete and backward in this Globalized era.

Rural households in India are heavily dependent on local biomass for energy needs. Most of the households in these areas do not have availability clean fuels, and their energy needs are fulfilled by their own labor, fuelwood, and animal power. In the rural area, women suffer more in terms of severe health impact and lengthy as well as the unsafe, unproductive job of fuel collection. The crisis of household energy in rural areas has a very negative impact on women's lives. The unavailability of clean fuels for them is a big hindrance to their empowerment. Their entire day is spent in fuel collection activity and cooking. The burning of biomass as a fuel in their homes also badly impacts their health.

Gathering fuels, while the same labor used in fuel collection can be put in various self-developmental works, educating and nurturing their kids, which can benefit them in the long term. The usage of biomass as a fuel generates carbon emissions in households and surroundings in rural areas; consumption of biomass for fuel and over exploitation of other natural resources like forests, trees also degrades the environment due to the unavailability of adequate energy resources in rural areas.

## II. OBJECTIVE OF THE STUDY & METHODOLOGY

This paper mainly intended to analyze the crisis of household energy in rural areas and its impact on rural women and their empowerment. It examines the trend of household energy consumption and its resultant effect on the social and economic.



The backwardness of women in rural areas, the huge requirement for a clean and healthy environment, women's socio-economic development, and potentials for accessibility of clean fuels for rural households.

In the methodology part, as far as the data are concerned, the study uses only secondary data for analyzing the trend and effects of household energy consumption patterns. For the purpose of the study, NSSO 68<sup>th</sup> Round (July- 2011 to June 2012) data on "Energy Sources of Indian Households for Cooking and Lighting" have been obtained from the report of the Ministry of Statistics & Programme Implementation GOI. The aids of some studies have also been taken, which are related to this issue.

### III. PATTERN OF HOUSEHOLD ENERGY CONSUMPTION IN RURAL AREAS AND ITS IMPACT ON WOMEN'S SOCIO-ECONOMIC STATUS

In the rural areas, the daily jobs of women are limited to household chores. A very few women are involved in agricultural activity and caring for cattle. Rural women are majorly dependent on traditional fuels for cooking and lighting. Biofuels usage for cooking has been a primary characteristic of household energy consumption in India. The energy source used in a household has important consequences for the surrounding or environment, family's health, and for the living style of women. It is said that the energy crisis in the rural household is one of the major responsible factors behind the backwardness of rural women. As it is discussed above that their entire day is spent arranging fuel for cooking, lighting, and heating. In rural areas, most women can not think beyond their exhausting and unrewarding schedule. They unintentionally ignore their potential growth and trap themselves in the vicious circle of backwardness.

The tables below („see table 1 and 2“) represent the pattern of energy consumption in rural and urban areas. The tables show rural as well as urban household consumption trends, in which it is clear that the country has inequality in access to energy, and rural areas are still lag behind in this regard.

**Table 1. Distribution (in percentage) of Households Reporting Main Source of Energy Used for Cooking**

Penetration Rates of Cooking Fuel Types						
	Firewood & Chips	LPG	Dung cake	Kerosene	Other	No cooking arrangement
<b>Rural</b>	67%	15%	10%	1%	6%	1%
<b>Urban</b>	14%	68%	1%	6%	4%	7%

*Source: NSS 68<sup>th</sup> Round, Energy Sources of Indian Households for Cooking and Lighting, 2011-2012*

The above table („see table 1“) represents the types of cooking fuel used in rural areas and urban areas. The table shows that in the rural households firewood has been found the main source of fuel for cooking food, 67% of households in rural areas have reported about it. The other type of biomass energy fuel, dung cake, which is being used by rural households, is 10%, only 15% of rural households reported about Liquid Petroleum Gas (LPG) as cooking fuel. It is clear from the above table that biofuel is the predominant source of cooking in rural areas, and clean energy is very limited to only 15%. In urban areas, the primary cooking fuel is Liquid Petroleum Gas; a total of 68% of urban households reported this clean energy fuel for cooking purposes.

The above data („see table 1“) presents the picture of disparity in fuel consumption for cooking in both areas; while table 2 („see table 2“) displays the consumption trend of fuel for lighting and also shows a huge difference in access of energy in rural and urban areas.

**Table 2. Households in (percentage) in India Using Sources of Energy for Lighting purpose**

Area	Kerosene	Electricity	No Lighting Arrangement	Others
<b>Rural</b>	26.5%	72.7%	0%	0.8%
<b>Urban</b>	3.2%	96.1%	0%	0.7%

*Source: NSS 68<sup>th</sup> Round, Energy Sources of Indian Households for Cooking and Lighting, 2011-12*

This inequality in consumption pattern pushes the rural women in retrogressive condition because they collect biomass fuel from forests and other shrubby areas, which is very unsafe for them and also time taking. Fuel collecting activity kills their much time, and the rural women can not take advantage of their valuable time by investing in other productive work. The conventional method of cooking and use of kerosene lamps for lighting also badly impacts the health of the woman and her family. The huge consumption of biomass fuels in rural areas causes very detrimentally for the rural poor and the environment.

So it has been found that the use of unprocessed bio-fuels for cooking and lighting is interlinked with many other factors such as the health of the people, their socio-economic conditions, availability of other fuels, and environment of home and most importantly, education of women:

#### ***A. Dependency on biofuels in rural areas and women's effort for its collection***

As it has been discussed above that the use of biofuels consumption in rural areas for cooking has been found widely in India. In the rural areas, women's day starts with the fuelwood collection for the purpose of cooking. They also have to go outside to collect firewood in the winter season for heating purposes. Those households which have no availability of electricity, households works are often limited to daylight hours. Also, the effort and time spent in arranging fuel woods have been increasing because of the deterioration of forest areas.

In the rural areas, the fuelwood is mainly collected by the women and female children, which is also an unsafe activity for them as well as they get very little time for their development in terms of education, employment, etc.

Due to poverty and the unavailability of proper electricity, they are also unable to save their time by using home appliances like mixers, grinders, washing machines, refrigerators, etc. In their houses, poor lighting quality of kerosene lamps, women's and girls's quality time is also restricted to daylight. They are unable to manage and allocate their time to studies, entertainment, and other self-development activities according to their own interest.

Women are even totally unaware of the opportunity cost of their effort in this process. Therefore it can be considered that the crisis of energy harshly impacts women's lives in rural areas and negatively impacts their socio-economic condition.

#### ***B. Household energy crisis and low socio-economic condition of rural women***

The inconvenient and unsafe job of fuel collection as well as its consumption for household energy purposes is clearly and strongly associated with women's "slow social image and lack of financially rewarding effort. This lengthy fuel collection activity becomes a hindrance for them in taking education or employment. Longer time taken to complete these unhealthy and exhausting jobs means very little time for women to earn income or to execute other work for their welfare.

The crisis of household energy reveals that how all these necessary factors such as education, skill enhancement, awareness about social and economic upliftment affect women's socio-economic life. These elements are very significant for the development of the human being. Lack of all these skills is the major constraint in the empowerment of rural women because urban women comparatively save more their time, and they spend time on income-generating work, which improves a woman's place both educationally and economically.

#### ***C. Use of biofuels and their health impact on ruralwomen***

Various studies on the old type of stoves using biomass energy fuels have observed the health impact on women who have to face regular smoke while cooking. The continuous exposure to respirable suspended particles and carbon monoxide has been analyzed to have severe harmful effects on the lungs and eyes of anybody because of using such fuel. Other studies across many other developing nations have also observed that women who use biofuels in indoor kitchens suffer from chronic obstructive pulmonary diseases (Ostro, Aranda, and Eskeland 1995; Parikh, Laxmi, Karmakar and Dabruse 2003; Smith 1987, 1998; Smith and Mehta 2000; NFHS 1995).

Many hazardous pollutants, mainly carbon monoxide and tiny particles, nitrogen oxides, benzene, butadiene, formaldehyde, polyaromatic hydrocarbons, and other health-deteriorating chemicals, are caused by biofuels on an open fire or traditional stove. In rural areas for lighting purposes, kerosene is widely used; this occurs due to inadequate supply of electricity („see table 2"). The use of kerosene badly impacts the health and household environment as well as it is very inefficient and unsafe compared to electricity. Even the price of kerosene is sometimes 20 times higher per unit of light compared to electricity.

#### IV. CONCLUSION

Women empowerment is very crucial for economic development since in rural areas; women spent all their time doing household chores manually, collecting fuel for cooking and heating purpose. The energy crisis is the significant cause of all these hardships. And due to that women are not able to think about their growth and development as well as they can not give proper time to their kids' welfare. Therefore these unproductive daily chores are becoming an obstacle in the empowerment of rural women. Hence the women's time distribution has become a crucial challenge for their development.

In many developing nations, most of the tasks that are important for the survival of family but remain unpaid and peer pressure on women, these works starts from arranging fuel and managing household works manually as well as caring for household members. As noted earlier, the longer time taken to complete such a job means very little time for women to earn income or to do other constructive activities. Thus, insufficient access to clean fuels in the rural areas causes much hardship, health problems, and economic loss.

For the empowerment of women in rural areas, less tiring household chores, employment, knowledge, and access to information should have a certain impact on the healthy and better socio-economic place of women in society. In the rural area, to uplift women's condition, literacy and awareness about clean energy are very important for their easy and healthy life.

#### V. POLICY SUGGESTIONS FOR THE EMPOWERMENT OF RURAL WOMEN

Innovative policy focus for the penetration of clean energy in rural households is very crucial and much required. Improved energy practices will promote education, save the future of children and their mothers, and definitely will lift up their status.

In rural areas, the major hindrance in women's empowerment is illiteracy, unawareness, gender inequality, household energy crisis, improper healthcare, unemployment, and many more. These issues related to women are very chronic and still prevalent in a rural communities.

The government has started many programs in our country regard to women's issues. For instance, many policies for the eradication of poverty, enhancement of education and healthcare have been launched. For the reduction of the household energy crisis, the current government program Pradhan Mantri Ujjwala Yojana (PMUY) has been introduced on 1<sup>st</sup> May 2016 with the aim to

distribute 5 crore LPG connections in the name of women who come under Below Poverty Line (BPL).

The other scheme, **Pradhan Mantri Sahaj Bijli Har Ghar Yojana- Saubhagya**, has also been started on 25<sup>th</sup> Sept. 2017. This program aims to obtain adequate power for all to give electricity connection to each household across the country by 2019.

These schemes have been introduced for the removal of the energy crisis and will be very helpful in empowering women and their families. These ambitious plans must be functional and very efficacious for a better and improved life. For the effectiveness of this scheme, some constructive suggestions have been given below:

##### A. *Need to intensify PMUY and Saubhagya Scheme for the desired outcome*

The scheme PMUY has launched with the aim of upgrading women's life by providing them clean fuel in their kitchens so that it can remove indoor pollution and provide easy and healthy life to poor women. The Saubhagya Scheme also can become the substitute for harmful kerosene and wood fuel which are being used for lighting the houses and are very injurious for health as well as for the environment.

These are very appreciable initiatives made by the government and will be really very helpful for enhancing the lifestyle of poor women, but these programs need a proper and transparent implementation at every level for their desired success.

The awareness about these developmental programs for deserving women is also very imperative, as it has been found that rural and illiterate communities are not aware of the welfare programs of the government, which have been started for them. They are unable to take the benefits due to their ignorance about it. The identification of the deserving families for this scheme is very crucial so that the beneficiaries can take advantage of PMUY and Saubhagya.

Some studies on the performance of this scheme reveal that many beneficiaries have not used LPG as their primary fuel; women in rural areas still using cow dung as fuel which creates hazardous smoke in households. It is being found that beneficiaries did not refill their cylinders in many states. Women use LPG only on emergencies and special days.

### ***B. An immense Requirement of biomass conversion to biofuels in rural areas***

Fortunately, India has an abundance of natural resources, and it also has a great future for renewable energy. The country is also doing a very significant effort in the growth of renewable energy. Therefore more attention and focused action are needed to enhance these energy potentials in rural household energy to improve the lives of women, their elevated social status, progression of the rural economy, and sustainable environment. Some studies on this issue found that primarily in rural areas, cow dung cake as cooking fuel is still being used because of its abundance and cost-free nature. This source of cooking fuel generates a very heavy amount of smoke in the household and badly affects the health of women and children.

Therefore, the government should start some programs to train unemployed poor people in making or converting biofuels from biomass and manure. In this way, the biomass can be used as well as clean and cheap energy can be produced abundantly. This type of project will also be useful in the absorption of mass unemployment in rural areas.

### ***C. Literacy among rural women must be augmented for their overall development***

In rural areas, for the welfare of women and their families, literacy is very important. The higher literacy

rate among rural women is still very low. For the better socio-economic condition of women, education and other awareness programs related to clean and safe energy, a healthy environment, and women's healthcare must be strongly implemented for the overall growth and development of rural women.

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