



# Energy in the development strategy of Indian households—the missing half

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## ABSTRACT

There is a growing consensus that universalization of modern energy services is central to reducing major elements of poverty and hunger, to increase literacy and education, and to improve health care, employment opportunities, and lives of women and children. In India, as per 2011 census, over 700 million people lack access to modern energy services for lighting, cooking, water pumping and other productive purposes. Devoid of these services people, mostly women, are forced to spend significant amounts of their time and effort on subsistence activities like firewood collection, carrying these head load for miles, and then burning these hard earned fuels inefficiently in traditional chullas. These adversely affect the health and standard of living for women and act as a barrier to gender development (here 'gender' means women unless otherwise specified). Although the links between gender inequity, poverty, and energy deprivation have been studied by many, not many practical solutions to the above problems have emerged. The present paper explores the nexus among gender–energy–poverty, highlights areas of gender concern, and suggests actions. We analyze how women from rural areas and low income households are at the receiving ends of energy poverty. We then analyze the roles women as an important stakeholders in universalizing modern energy services. We show how women self-help groups can be a vital link in large-scale diffusion of energy-efficient and renewable technologies. The paper concludes with policy pointers for sustainable development and gender empowerment through energy solutions.

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## 1. Introduction

Energy drives all economies, both developed and developing ones. The need for energy is more pronounced in developing countries as they, because of low per capita energy use, tend to have low life expectancy, high infant mortality and low literacy [1,2]. It is not just about 'quantum' of energy alone; the 'quality' of energy service also affects the standard of living. The poor households not only has a very

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few energy needs, but also rely on lower quality fuels such as animal dung, agricultural waste and fuel wood. Reliance on these fuels limits the amount of service that can be obtained and affects gender adversely [3,4].<sup>2</sup> Developing countries not only show low level of development, but also high degree of inequality among men and women.

Use of modern energy services and gender empowerment are complementary to each other. Energy activities influence the status of women and in turn get influenced by them. Access to clean energy services improves women's social, economic and political status, reducing the time and effort involved in household chores including the drudgery of collecting wood, providing better health and educational conditions, expanding income-generating opportunities, and easing their participation in public affairs [6]. At the same time, greater sensitivity to gender issues increases the effectiveness of energy programmes and policies, as well as other types of development activities that involve energy use, by ensuring that the needs and concerns of both men and women are taken into account.

In the context of gender and energy, household energy has high importance. In India, households account for 40% of direct energy use (both commercial and non-commercial energy) and influence 70% of the total energy use (considering the energy required for goods and services consumed by households) [7]. However, the importance of energy consumption in household sector goes beyond statistics. The pattern of household energy consumption represents the stage of economic development of the family and the state of the women welfare. All household-related activities are women-centric. Energy-related activities in households are no exception. Typically women get involved in biomass collection, cooking, and other household chores. Hence, the energy situation in homes affects more than their male counterpart. Because of their socially determined roles, women are the first and foremost victims of energy services obtained from low-quality fuel and inefficient end-use technology. Greater access to modern energy services can provide significant social, economic and psychological benefits, especially for women and girls in developing countries, who are the primary providers and users of traditional fuels such as wood, dung and charcoal [8]. As the economy develops, energy consumption increases with increased use of energy appliances induced by changing lifestyles. Simultaneously, households shift to efficient technologies. Income, education, occupation and location play an important role in fuel/technology shifts. The shift towards modern energy services which are more user-friendly leads to improvement of the household in social ladder, particularly for the women of the family.

Gender issues have come to the forefront sectors like agriculture, forestry, and water. However, energy sector has been slow in acknowledging the links between gender, energy, and development. Policy-makers have largely ignored the role women play in traditional energy systems. There is a lack of gender concern in national-level energy policies. The 11th five-year plan (2007–2012) proposed to invest over \$100 billion in energy sector, including coal, oil, hydropower and other renewables and nuclear—but less than 2% of this were proposed to go towards alleviating the drudgery suffered by women and children [9]. Hence, it is important to contextualize household energy consumption patterns with respect to gender concerns in order to formulate policies for promotion of sustainable gender empowerment through energy solutions.

This paper aims to study the issue by analyzing household energy consumption and the gender roles. The next section highlights the importance of women in the society in general,

and in the context of energy in particular. The following section analyses the trends in household energy use in India and what it means to women. It looks into the availability and affordability of modern energy services among various sections of the society in urban and rural households. Next, the scheme to universalize basic energy services with specific emphasis on the roles of women is examined. The paper concludes with sustainable energy security strategy which would achieve gender empowerment as an important byproduct.

## 2. Gender matters

There is a positive relationship between gender empowerment and development. Societies which have emphasized female health care and where there is a higher participation of women in education and workforce have evidenced higher economic growth and development [10]. Developed countries have also shown reduced gender inequality and improved status of women which brings about greater macro-economic stability, whereas women's relative lack of opportunities in developing and least developed countries inhibits economic growth [11].

Gender inequality manifests as hierarchical genders relations, with men being superior to women, regarding them as inferior and less valuable solely by virtue of their sex. Gender hierarchy is manifested in family relationships, inheritance laws and customs; valuations of women's work and its general invisibility; and the power to make decisions in society, the family, work place, religious and other cultural institutions [12]. For generations, women have been denied access to resources of their own and thereby tend to be regarded as economic dependents. Societies have been characterized by marked preference for male children and discrimination against daughters from the early years of life. Gender inequalities in education, excess levels of female to male mortality and higher numbers of men to women in the overall population than is considered 'standard' is common in many societies [13]. This is apparent in the relative opportunities available to women and girls for development, education, health and nutrition. Such hierarchy is generally accepted by both genders, and it is not normally questioned within its cultural context.

Lagerlöf [14] believes that gender equality contributed significantly to the economic development of Europe over the past 2000 years. Gender differences in these countries can be traced back to cultural and religious roots.<sup>3</sup> It is important that earnings and resource ownership is essential to make economic choices which allow women to move forward in time. That is why progressive thinkers advised external employment for women.

The importance of women as key drivers of development in environment and energy needs to get the attention it deserves [15]. Women suffer the daily drudgery of a 'un-mechanized' life, spending the bulk of each day performing basic manual tasks, including hauling fuel wood and heavy containers of water, often whilst caring for small children. Reduced drudgery for women and increased access to nonpolluting energy for lighting, cooking, and other household and productive purposes can have dramatic effect on women's education, literacy, nutrition, health, economic opportunities and involvement in community activities [8]. Gender-sensitive energy policies not only bring in equity and

<sup>2</sup> Gender can mean either man or woman. Gender is defined in social context and its manifestations and implications differ across societies and cultures [5]. However, in this paper, gender refers to female.

<sup>3</sup> The spread of Christianity might be the main reason for gender development in the western world. Unlike the Hindu society, the early Christians improved the status of widows allowing them to keep her husband's estate and extended women's rights to inherit and hold property. Christian women also got married at a late age unlike in Hindu society where child marriages and Sati Sahagmana (wherein a recently widowed woman immolates herself on her husband's funeral pyre) were common till 19<sup>th</sup> century.

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