

A Study on Fuel Consumption Pattern of Commercial Fuels of Rural and Urban in Kangra District (H. P.)

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Abstract: Energy has been termed as the fuel of economic progress. Man has to spend energy in one form or the other to meet the basic needs of life. It is prime factor for gaining all physical and non- tangible assets for human well being. It plays an important role in the all round development of a country. The requirements of household energy in India are met from commercial sources like coal, oil, electricity and gas as well as non-commercial energy sources like fuel wood, agricultural, forest waste, animal dung and human resources. About 668 million or around (70%) of the Indians in 6.4 lakh villages live in rural areas and continue to use animal dung, agricultural waste and fuel wood as fuel for cooking. The thermal energy efficiency of these traditional sources is very low, that is 15 per cent. Seventy five per cent of rural household depend on firewood for cooking and 9 per cent each on, dung cakes and L.P.G respectively as against 22 per cent of urban household using firewood for cooking, a another 10 per cent on kerosene and about 57 per cent on L.P.G. In the present study various types of fuels used by the respondent's cent percent respondents from the rural areas used gas kerosene on the fuels per month. In urban area, cent per cent respondents used gas, charcoal and kerosene used very few.

Key words: Energy, Thermal efficiency, Fuel

INTRODUCTION

Energy has been termed as the fuel of economic progress. Man has to spend energy in one form or the other to meet the basic needs of life. It is prime factor for gaining all physical and non-tangible assets for human well being. It plays an important role in the all round development of a country. In fact, energy is the very basis of life; insufficiency of it brings economic stagnation by lowering optimum productivity. In fact, energy is the very basis of life; insufficiency of it brings economic stagnation by lowering optimum productivity. Energy Sufficiency or energy security, therefore, is the most talked about topic everywhere, starting from each and every street and lane to the country highest institution the parliament and among the academicians, intellectuals, bureaucrats, executives and politicians. There is no denying the fact that access to a steady supply of sufficient and clean

energy is critical for the all round development of everyone, irrespective of their social and or economic status and geographic location. However, to have an effective approach in addressing the issue one needs to differentiate between the energy security of rural and urban areas, because energy dynamics of both the areas are quite different. Energy security perhaps is more important for the rural people because they are very vulnerable, marginalized and lack access to most of the basic resources. Majority of rural households depend on traditional fuels like fuel wood to meet most of their energy requirements, supplemented by small amounts of kerosene and electricity for lighting. (Cecelski *et al.* 1979) About 668 million or around (70%) of the Indians in 6.4 lakh villages live in rural areas and continue to use animal dung, agricultural waste and fuel wood as fuel for cooking. The thermal energy efficiency of these traditional

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sources is very low 15 per cent. Seventy five per cent of rural households depend on firewood for cooking and 9 per cent each on, dung-cake and LPG respectively as against 22 per cent of urban households using firewood for cooking, another 10 per cent on kerosene and about 57 per cent on LPG. In developing countries, energy demand will grow close to 60 per cent as five- sixths of the world population strives to improve their living standards. In developing economics, energy demand will remain essentially flat. Growing electricity demand will remain the biggest driver of energy needs, with electricity generation accounting for 40 per cent of global energy use by 2040. In 2040, global energy demand will be about 30 per cent higher as compared to 2010 as economic output more than doubles and prosperity expands across a world whose population will grow to nearly nine billion people. When the need to conserve in our house is considered then the focus should be mainly on heating and cooling processes. These are the major uses of energy. Electronic appliances on the whole use a small amount of energy, and are not a major part of energy conservation initiatives. The use of kerosene for cooking is very limited in the poorer sections of rural areas -and it is also used for lighting purpose. More than 90 per cent of the households consume kerosene for one end use or the other. Kerosene is a superior form of fuel compared to fuel wood or agricultural waste and hence with an increase in the level of income. Their preference for cooking fuel shifts from fuel wood (or any other inferior fuel) to kerosene. On the other hand, in the urban areas, there is wide variety of fuels available and consumed by the household sector. The fuels available in the urban areas range from coke, fuel wood to L.P.G and electricity. The problem of appropriate utilization of energy, efficient energy management, proper conservation of energy and wise selection of alternate energy sources is important. Energy use pattern and energy resources are important for estimating future requirement and in the designing of a new strategy for energy use.

METHODOLOGY

The present study was conducted in rural and urban areas of Kangra District of Himachal Pradesh. The

rural areas consisted of four villages namely Banuri, Matehar, Maniyara, Pahra two municipal council is Palampur and Nagrota Bagwan were selected from the urban areas. Two -stage random sampling technique was adopted to select a sample of wards, blocks and ultimate respondents for achieving the objective of present investigation. A complete list of all village and municipal wards were obtained from the blocks and municipal council area .Out of two blocks four villages namely Maniyara, phara, banuri, Mathear were selected .Out of two municipal council area the wards namely janglat and vidyration from Palampur and govt sen sec school, Diwan bag from Nagrota bagwan council were selected. Out of thirteen development blocks, two blocks namely - Bhawarna and panchrukhi were selected for the study. A complete list of families residing independently in each of the selected wards was prepared with the help of proportional allocation method. Sixty respondents each were selected from urban and rural area. Thus, a total of hundred and twenty respondents constituted the total sample size for the study.

RESULT AND DISCUSSION

Socio-economic profile

Table 1
Distribution of respondents according to their personal characteristics

Socio-personal characteristics	Respondent Category		
	Rural (n=60)	Urban(n=60)	Total (N=120)
Age (years)			
20-30	14(23.33)	7(11.66)	21(17.50)
31-40	26(43.33)	32(53.33)	58(48.33)
41 and above	20(33.33)	21(35.00)	41(34.16)
Mean	37.0167	35.7667	36.3917
SD	7.481	9.2009	1.5282
Total	60(100)	60(100)	120(100)

The data given in Table 4.1 shows that maximum number of rural respondents (43.33%) belonged to the age group of 31-40 years corresponding to 53.33 per cent urban respondents. Minimum respondents in both rural and urban

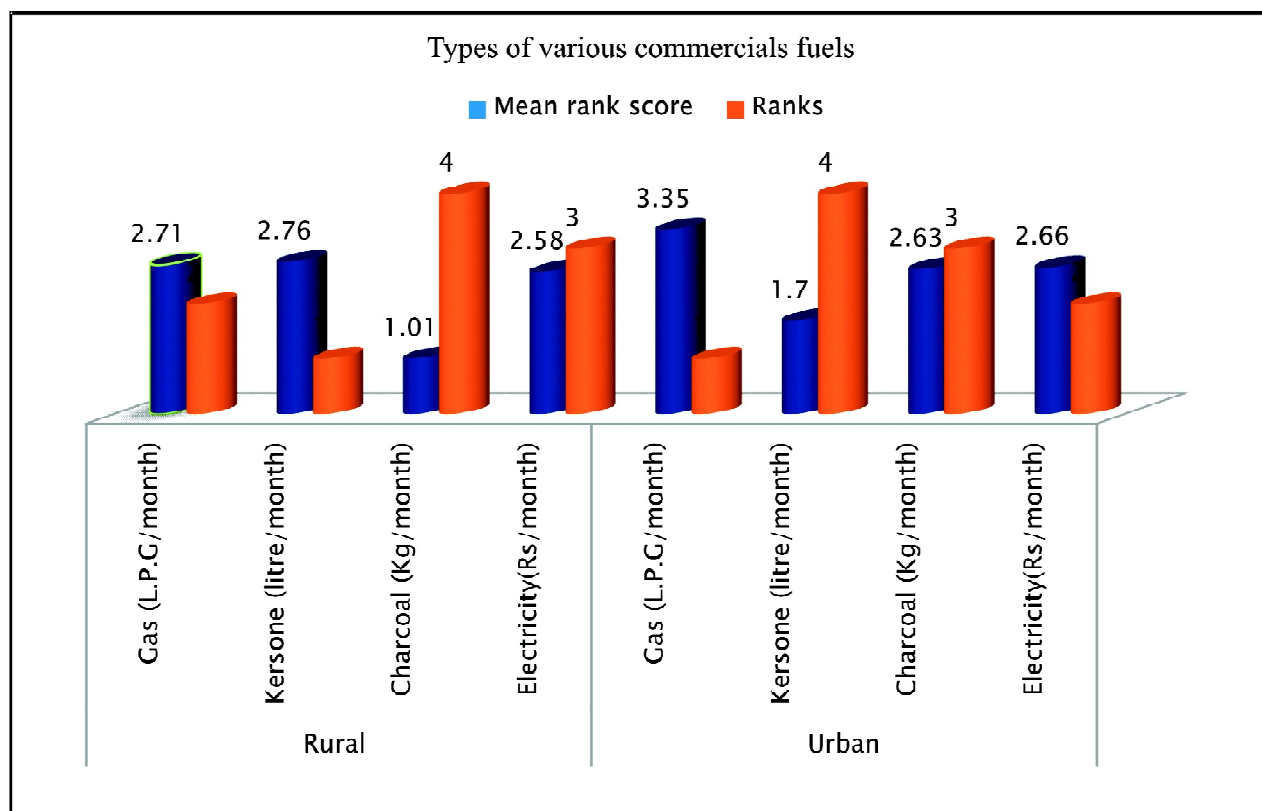


Figure 1: Distribution of respondents according to ranking of various commercial fuels.

areas is 23.33 per cent and 11.66 per cent belonged to the age group 20-30 years, respectively. Almost similar per cent age of respondents from both rural (33.33%) and urban categories (35.00%) belonged to the age group of 41 and above years. The average age of rural respondents was 37.01 years and that of urban respondents was 35.76% years.

Fig. 1 elucidates that the most preferred commercial fuel among rural households was kerosene with mean rank score 2.76 and was ranked 1st followed by gas with mean rank score 2.71 and was ranked 2nd. Electricity with mean rank score 2.58 was ranked 3rd followed by charcoal with mean rank scores 1.01 was ranked 4th. Amongst urban household gas was given 1st rank with mean rank score 3.35 followed by electricity with mean rank score 2.66 and was ranked 2nd. Charcoal was ranked 3rd with mean rank score of 2.63. The least preference in urban households was given to kerosene with mean rank score.

These findings are in congruence with Neena *et al.* (2011) who conducted a study on rural farm

household's energy consumption pattern in district Kangra of Himachal Pradesh. The results of the study showed that families mostly used kerosene followed by electricity. Few families used L.P.G and the consumption was 0.35 kg/month

CONCLUSION

Amongst commercial fuels, majority of urban respondents used L.P.G, Electricity and petrol more than the rural respondents who were mainly using Kerosene; charcoal along with L.P.G. Majority of rural and urban respondents belonged to the age group 31-41 years and had average small family size of 2 members. Different income groups can also be studied for household energy consumption pattern. Similar study can be conducted on large sample in different parts of Himachal Pradesh.

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