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Energy Consumption Differentials in Andaman Nicobar Islands in India: Evidence of Nsso Data

Economics

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ABSTRACT

Energy is plays an important role in all aspects of daily sustenance of human beings as well as economy as a whole. Energy demand of the different sectors of Indian economy is met by different sources of energy. In rural areas, 89 percent of the total sample households those belongs to self-employed in agriculture using firewood as the primary source of energy for cooking and heating purpose, followed by agricultural labourer for cooking and heating purposes. Among household types, the usage of electricity in urban areas was higher as compared with those in rural areas as the primary source of energy for lighting purpose of their houses. The overall observation from the table that the majority of the rural households used kerosene as the principal source for lighting while in urban areas, the majority the households depends on electricity as their primary source of energy for lighting purpose in Andaman and Nicobar Islands.

Introduction

Energy is an important source of human activity. Energy sources are generated from various natural resources like water, sunlight, wind etc. energy is on essential input of all productive economic activity, the process of industrialization, economic development, modernization of agriculture, population growth, and rise in the human standard of living has created a burgeoning demand for energy in India.

In India, the energy consumption patterns in rural areas have been largely towards using firewood and other traditional biomass fuels such as chips, charcoal and dung cake. The demand for energy particularly in rural India consists mainly of energy for cooking and energy for lighting. More than 60 per cent of Indian households depend on traditional sources of energy for meeting their cooking and heating needs, but in modern day's households using LPG cooking purpose and electricity for lighting purpose in our country. With this background the present paper aims to examine various types of energy consumption differentials across Andaman and Nicobar Islands by household type and social groups in India.

The household sector is one of the major consumers of energy in India. In the overall national energy budget it account for about 50 percent of the total energy consumption though its share in commercial come to only 12 percent. In India, about 75 percent of the total population lives in villages. People in rural areas need energy for lighting, cooking and water supply. Since the study is also concerned with rural households, the demand for the people who are in the study area is also mainly for lighting and cooking.

Methods and materials

The NSSO 61stround data on energy on Indian households for cooking and lighting in India has been used by the researcher of this research to carry out energy consumption differentials of across social groups as well as households types in Andaman and Nicobar Islands. The National Sample Survey Organization (NSSO) conducts socio-economic surveys covering various subjects on regular basis. A part of the NSSO 61st round during the period July 2004-2005, the household consumer expenditure survey conducted on large scale basis. The survey covered totally 627 households in Andaman and Nicobar Islands. The data was collected from a sample of 268 rural and 359 urban households. For discussion the simple statistical tools such as percentage and averages are used to find out the differentials in usages of the primary energy sources among the household's type and social groups both rural and urban areas of Andaman and Nicobar Islands for cooking and lighting purpose.

Results and discussion

The analytical paper is discusses about the primary source of energy used by different types of households and social groups for cooking and lighting purposes of their daily livelihood sustenance.

Table 1: Primary source of energy for cooking by HHs type

Category of HHs	Rural			Category of HHs	Urban		
	Firewood & chips	LPG	Kerosene		Firewood & chips	LPG	Kerosene
Self-employed in Non-Agriculture	34.0	29.0	37.0	Self employed	5.9	55.2	30.1
Agricultural labour	75.9	1.8	22.3	Regular wage / salary earning	4.2	75.2	16.7
Other labour	59.2	3.7	32.0	Casual labour	4.0	6.0	71.1
Self-employed in agriculture	89.0	6.0	5.0	Others	0.6	44.9	30.7
Others	22.3	54.4	8.1				
Total	28.04	94.9	10.44	Total	14.7	18.13	14.86

Source: Computed from NSSO data

Table 1 shows that energy used by rural and urban households in Andaman and Nicobar Islands for cooking purposes. Among category of households, the self-employed in agriculture was stood the first for using firewood as the primary source of energy for cooking and heating purpose, followed by agricultural labourer placed as second who has been using firewood as the primary source for their household energy needs in the rural packets of Andaman and Nicobar Islands. The 'others' categories of households in the rural areas have also been using firewood but not at the levels of the above mentioned category of households for their daily needs.

About 54.4 percent of the 'others' category households used LPG as primary source for cooking, followed by 29 percent of self employed in non-agriculture was using as primary source for cooking in the rural areas than that of remaining category of households for cooking purposes in the rural packets of Andaman and Nicobar Islands.

Whereas in urban areas, majority of them were not using firewood as the primary sources for cooking and heating purpose as compared with those in rural areas. In the case of LPG, vast majority of the regular wage and salary earning households used for the cooking purposes followed by self-employed in non-agricultural activities in the urban pockets of Andaman and Nicobar Islands.

Kerosene is also playing a cultural role for the energy needs of the rural and urban population in the Andaman and Nicobar Islands. The usage of kerosene in urban areas was higher as compared with those in rural areas as the primary source of energy for their daily livelihood sustenance.

Table 2: Primary source of energy for cooking by each social group

Social group	Rural			Social group	Urban		
	Firewood	LPG	Kerosene		Firewood	LPG	Kerosene
ST	Nil			ST	Nil	41.0	38.2
SC	Nil			SC	Nil		
OBC	32.8	16.8	50.4	OBC	Nil		
Others	57.1	19.8	17.9	Others	Nil	59.5	28.0
Total	89.9	36.6	68.3	Total	44	100	66.2

Source: computed from NSSO data

Table 2 reveals that energy used by different social groups both rural and urban in Andaman and Nicobar Islands for cooking purposes. Among social groups, the 'others' was stood the first for using firewood as the primary source of energy for cooking and heating purpose, followed 'OBC' placed as second who has been using firewood as the primary source for their household energy needs in the rural pockets of Andaman and Nicobar Islands.

In the case of LPG, majority of the 'others' category households have used LPG as the primary source of energy followed by OBC category in the rural areas in Andaman and Nicobar Islands. While in urban areas, the vast majority of the 'others' community was using LPG as the primary source for cooking and heating purpose followed by Scheduled Tribe for the same purpose. .

Regarding kerosene in rural areas, again the 'others' category households were using higher level of kerosene for the energy needs followed by MBC in the rural areas. Whereas in urban areas, the same social group have also registered the higher amount of kerosene user for their daily livelihood sustenance in general and the energy needs in particular.

Table 3, Primary source of energy for lighting by HHs type

Household type	Rural		Household type	Urban	
	Kerosene	Electricity		Kerosene	Electricity
Self-employed in non-agriculture	7.9	92.1	Self- employment	0	100.0
Agricultural labour	44.7	55.3	Regular wage / salary earning	0.1	99.9
Other labour	26.6	73.4	Casual labour	4.1	95.9
Self-employed in agriculture	19.9	80.1	Others	0.6	99.4
Others	3.1	96.9			
Total	10.22	39.78	Total	4.8	39.52

Source: computed from NSSO data

Table 3 indicates that out of 1000 HHs, 44.7 percent of the households who belong to agricultural labourer has used kerosene as the principal source for lighting purpose followed by 26.6 per cent of the 'others' category household depends on kerosene for lighting purpose in the rural Andaman. About 96.9 percent of the 'others' category households and 92.1 percent of the self-employment in non-agriculture were using electricity as the principal source for lighting purpose. But in urban Andaman, the majority of the household in all categories have been using electricity as the major as well as the principal source for lighting purpose and few of them were depending on kerosene as the principal source for lighting purpose. The usage of electricity in urban areas was higher as compared with those in rural areas as the primary source of energy for lighting purpose of their houses.

Table 4 Primary source of energy for lighting by each social group

Social group	Rural		Social group	Urban	
	Kerosene	Electricity		Kerosene	Electricity
ST	Nil	Nil	ST	Nil	1000
SC	Nil	Nil	SC	Nil	Nil
OBC	14.4	85.6	OBC	Nil	Nil
Others	18.5	81.5	Others	0.7	99.3
Total	32.9	16.71	Total	0.7	19.93

Source: computed from NSSO data

Table 4 shows that the energy used by different social groups both rural and urban areas of Andaman Nicobar Islands for lighting purpose. In rural pockets of Andaman, the 'others' social group stood the first for using kerosene as the primary source for lighting purpose, followed OBC placed as second who has been using kerosene as the primary source for their household energy needs in general and lighting purpose in particular. The overall observation from the table that the majority of the rural households used kerosene as the principal source while in urban areas, the majority the households depends on electricity as the primary source of energy for lighting purpose.

Conclusion:

The use of energy is an inseparable part of human existence. A majority of Indian population mostly depends on the energy resources particularly firewood and charcoal, dung cake, kerosene and agricultural wastes are mostly used for cooking and heating purpose. Firewood is collected from forest or common property resources because there is no cost for collecting firewood.

Sudhakara Reddy and Balachandra (2002) pointed out that the main forces that have an impact on energy demand are population growth and economic development. Other than population growth and economic development, the major factor that influences energy demand is the efficiency of energy utilization. Most of the Indian rural and urban households not only used from modern energy sources but also they still use the traditional energy sources especially firewood and chips for their daily survival. This result indicated that the countries met by shortage of fuel wood and diminishing forest.

Chandra Kanta Sharma (1991) pointed out that careful shifts to hydropower will help not only to reduce environmental pollution, but the practice will also decrease the need to import commercial fuels, thereby saving hard-earned foreign currency for other development activities that may lead to sustained economic growth. Inevitably there will be strong socio- cultural objections to changing

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land use patterns in the various ways, but as emphasized at the outset, there is no known way of generating energy without environmental impact. Wage workers demonstrate a lower reliance on and consumption of wood fuel. On the other hand, they are more reliant on commercial fuels of the groups actively engaged in small- holder agriculture; surplus farmers have the smallest average landholding and fuel wood and paraffin consumption levels.

Though the study was for a short duration, it enables to gain an understanding of what are the primary factors that are responsible for utilization of electricity in rural and urban areas. It will also help to determine their expenditures and identify the number of households with electricity connection in rural villages and urban areas. This study also shows status of electricity consumption between rural and urban areas in Andaman Nicobar Islands.

In total, the use of energy for cooking was differing from households to households in rural areas; the use of kerosene is relatively high in the category of 'agricultural labour' and the use of electricity is relatively high in the category 'others' households and more or less equally common among other types of rural households. In urban Andaman Nicobar Islands, compared with electricity, in households using kerosene was very low for lighting purpose.

Most of the Andaman Nicobar Islands in rural areas 'agricultural labour' households still use firewood and chips for cooking purpose and LPG were highly used by 'others' category households' for the same purpose. In urban areas, the use of firewood and chips was highest for 'casual labour' and the use of LPG was higher by regular wage / salary earning households.

References

1. Chandra Kanta Sharma (1991), "Energy and Environment in Nepal", Ambio, Vol. 20, No.3/4, pp. 120-123.
2. NSSO 61st Round, Energy Source of Indian Households for Cooking and Lighting-2004-2005, Report No.511/61/1.0/4, Ministry of Statistics and Programme Implementation, Government of India, 2007.
3. Sudhakara Reddy and Balachandra (2002), "A Sustainable Energy Strategy for India-Revisited", Economic and Political Weekly, Vol.39 No.52. pp.5264-5273.