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**THE USE OF FUELWOOD AS DOMESTIC ENERGY :
A CASE STUDY IN A KHASI VILLAGE OF MEGHALAYA**

The use of wood as domestic energy may be ascribed to be as old as the humanity itself. Long before the advent of human civilization the Neanderthals first made fire out of wood scraps and used it in their caves to burn meat and to protect themselves from wild animals. The intimacy of the primitive people with forest resources can be traced back to the stone age when early men discovered the knowledge of fire making out of a trifling forest element which developed into further usages of burning forest grassland for growing crops for their food. The ancient practice of burning forest for jhum cultivation is still in vogue among the tribal people. Today burning of wood is the largest source of energy derived from a solid fuel biomass which is globally used for heating, cooking, smelting, running steam engine, turbines and many other uses. The availability of fuelwood for cooking is among the most important concerns of Indian households (NSSO 2007) affecting the daily life of more than 100 million rural households, mostly poor who struggle to meet their energy needs on a daily basis, for eg. For travelling long distances to collect dead wood and illicitly cutting trees and shrubs. The plight of rural women is even worse since along with the collection of firewood they have to carry out burdensome household chores. The problem of fuelwood availability deserves special attention whether for solving global issues like climate change or national issues like poverty alleviation. In our country there was an upsurge of interest in the 70's to bring rural energy as the main focus in poverty alleviation programmes but very soon this interest was shifted to renewable energy which hardly mattered to the rural poor, The primary focus of rural energy programmes in the 70's was on cooking which brought initial success in improving the efficiency of fuelwood stoves in making them less smoky but later the success of this dissemination drive was only partially successful. According to Parikh *et al.* (1999:539-44) improved cook stoves penetrated only 15 percent of Indian homes in 1980's and 1992. There was also little concern of the strong gender bias against women in this shift of priorities because by and large in the actual rural households it is the women who had to carry the burden of handling the arduous tasks of collecting fuelwood

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as well as cooking in an unhealthy environment. Economic advancement and liberalization in recent years has not reduced people's dependence on forest. Besides use for fire, the wood remains a basic raw material for construction of roads, bridges, buildings, railway sleepers, household furniture and utensils. Fuel wood remains a dominant energy source for over two billion people world wide. Fuel wood can be used in various forms like fire-wood, charcoal, chips, pellets and saw-dust. In India, according to "Fuel wood Report" of M.S.Swaminathan Research Foundation, 70 percent Indians use fire wood as their household energy. Swaminathan Committee report (1982) said that during 1975-76 the consumption of fuel wood, agricultural waste and animal dung was 133, 41 and 73 metric-tones respectively. During initial period of civilization when human interference on environment was the least, technology was virtually unknown and no industry polluted air or water, the forest played its fullest role on the life and culture of people who lived simple life in complete unison with nature. Today although the growing economic development and scientific advancement has afforded a number of alternative sources of energy like electricity, natural oil and gas, solar energy, coal, bio-gas, wind mill etc. a large section of people in India, especially those living in the rural areas are deprived of the benefit of these energy sources and continue to use the conventional fuel wood for their daily energy need.

Fuelwood Consumption Surveys

The National sample Survey Organization(NSSO) reveals some interesting facts about consumption of fuelwood in both rural and urban areas of India. According to the NSSO (2007) report only 1 percent of rural households in India have preferred to shift away from the use of fuelwood and chips as sources of energy for cooking since 1999-2000. This might be attributed to slow economic development in rural areas and non-availability of alternative energy sources. For the urban households, the NSSO (2007) reports that LPG(57 Percent) was the most important source of domestic energy followed by fuelwood and chips (22 percent) kerosene (10 percent) and others (11 percent).

NSSO (2007) also reports that cultural preferences (or compulsion) was strongly prevalent in the use of fuelwood and chips for domestic energy among the rural communities. The percentage points for different groups in the rural areas were as follows: Scheduled Tribes(ST) 90 percent, Scheduled Caste(SC) 77 percent, Other Backward Classes(OBC) 74 percent and Others 68percent. It may be noted that most of the tribal populated is concentrated around the forested regions in small hamlets who collect firewood for subsistence.

Forest and Tribes

While in India the use of fuel wood for domestic energy is still in vogue in the rural areas, it is rampant among the tribal people who have culturally

a closer link with forests. The socio-cultural link of forest and tribes is deeply embedded in the so called 'aranya sanskriti' or 'forest culture' in India. (Sinha where forest has been exemplified as the natural abode of saints who find peace and solace amongst the woods. Forest as a resource has a rich cultural bio-diversity linked symbiotically with humans. Being dependent on nature not only for deriving intangible but tangible benefits that impinge upon their livelihood needs, traditional societies always had a sense of collective rather than individual ownership of natural resources around them. Such a value system had in the past ensured sustainable management of natural resources that was passed on from one generation to another. However today with the increase in population and pressure of development, coupled with individualistic and market oriented approach has led to serious implications on unsustainable management of natural resources. It is in this context that cultural dimensions linked with livelihood needs of rural communities become significant. The inevitable co-relation between the nature and tribal people through the ages has made them an important component of the forest ecosystem, in which they maintain multiple relationship within their habitat (Shangpliang, 2010: 2). They are dependent on forest not only for their daily subsistence but more importantly they have a strong cultural and religious link with various elements of forest. As per the 1991 census, out of the total India's tribal population of 67.76 million, 60% of them were in close cultural link with the forest and some 30% of them are in the vicinity of the forest.

In this paper an attempt has been made to focus on the socio-cultural link of the Khasis with various elements of forest and to make an authentic assessment of the Khasi usage of fuel wood as an indispensable source of energy in their domestic life. This study assumes special significance on two counts – (1) this will throw light on the cultural aspect of Khasi relationship with forest and (2) it will enable us to comprehend the extent to which human interference is reflected on the environmental degradation of this region. The continuance of using fuel wood as a basic source of energy has necessarily led to the environmental degradation in India in recent times. The increasing realization of the multiple benefits of forests to mankind, and their dependence on the forest resources, has created global concern for the protection and preservation the forest resources. It has motivated humankind to formulate appropriate strategies and policies at various levels from global down to the local. Man's hegemony over the nature to satisfy his greed for power and wealth led to disturb the basic environmental situation.

For the purpose of the present study I have taken Mawsynram, a typical Khasi village, as a sample village. The Khasis of Meghalaya, like many other tribal communities of the North East live in profound communion with nature. Nature is the pivot around which their social, cultural and religious life revolves. "A Khasi lives with nature and the nature lives with him" is the resounding assertion of H.O. Mawrie, a Khasi writer¹ (Mawrie, 1981: 23). The

forest, which is an essential component of the nature, has ever been kind and generous to the Khasis to provide every thing they need for their livelihood. Forest gives them fuel energy, food, fodder, water, shelter, medicine and many other things. They build their huts out of timber, bamboo and thatch ; carry out Jhum cultivation in the forest ; store grains in bamboo baskets and cook their food with firewood. Their agricultural implements, fishing and hunting tools, household utensils and instruments are all fabricated from plant materials. “ The earth is honoured and idolized as *Meiramew* which literally means ‘mother earth’, *Meiramew*, being combination of land, forest, rivers and streams ; they do not divide these elements as separate entities.” (Shangpliang, 2010 : 29) The supernatural connotations of forest have occupied an important place in Khasi literature, Khasi legends and folktales, and the life and culture of the people as a whole. This status of spiritual sanctum-sanctorum accorded upon the forest finds true expression in their customary practice of preserving ‘Sacred groves’ by the Khasis till to this day which they call “*khlaw Kyntang*”. While the Khasis do not deify nature as god, they believe in the existence of ‘Spirits’ that hover around the pristine natural surroundings. These spirits, they believe, preside over the sacred groves which is held with great awe and reverence and a Khasi would spare no pains to appease these spirits, because they are looked upon as powerful influences in nature (Shangpliang, 2010, p 39). Thus the strong bond that exists between the Khasis and the environment leads one to believe that the forest which is the vital component of environment is the center of Khasi socio-economic and cultural life.

The Khasis traditionally use fuel wood as a source of domestic energy for cooking, heating and warming themselves during winter. They go to nearby forest and collect fire wood which is plentiful and free of cost. They bring fire wood home and stake them in their court yard to be used throughout the year. This practice of the Khasis has come down to them from generations which has passed for their cultural heritage, so much so, that the modern advancement in science and technology and availability of alternative energy sources have not changed their habit of using fuel wood. The hearths and ovens they light in the morning would continue to burn until their evening meal is dispatched. If there is nothing to cook or boil during day time, a kettle full of water is invariably there on the oven for a ready glass of warm water. A house-hold without a living ember is considered a bad omen in Khasi society.

The forest is their natural store-house and an inexhaustible source of energy. As per an estimate, more than 90 percent of the energy consumed by rural community comes from the trees, twigs and branches. Kerosene oil, in rural areas, is a scarce commodity, electricity is inadequate while LPG gas is alien to villagers. Other non-conventional sources of energy like bio-gas, solar energy, wind and water energy are absolutely unknown in that part of the world. They have, therefore, traditionally and perpetually depended on the forest for their house-hold requirement of energy. It must be noted that the

khasis not only use fuel wood for their domestic consumption but also sell them out for earning money. They sell fire wood both in the form of solid biomass as well as processed charcoal. The chopping of twigs and branches and collecting of fire wood is normally done by the women and children as part of their sports and pastime, while the act of cutting and splitting of logs and making charcoal is carried out by the males. It is a normal practice of the women folk of the village to meet together in a group of five or six and go to the forest for collecting fire wood once in a week on every Friday. Traditionally the sixth day of the week, ie, Friday is set aside by the Khasis for collecting fire wood. For this reason Friday is called as “Sngi thohdieng” which means - wood cutting day in Khasi vocabulary.

Case study at village Mawsynram

The Village Mawsynram is situated at a distance of 58 Km from Shillong, the capital of Meghalaya and is linked by a black-topped road that leads to Balat, the southern border with Bangladesh. Mawsynram has become a place of tourist destination by dint of its being the world’s rainiest place, beating Cherrapunjee with an average rainfall of 12,934mm.² (Statistical Handbook Meghalaya,1992 :19) Besides this there is a natural cave locally called “Mawjymbuin” which according to Hindus, is a place of worship for Lord Siva and attracts large number of visitors of all faith and religion. It has a big market which sits every fourth day of the week where forest and agricultural produces are brought for sale from the neighbouring border villages. It is a commercial centre from where border produces like lime-stone, coal, tezpata, potato etc. are exported to Shillong and out of the state. Fruits like orange, banana, pine apple are grown in plenty in the border areas which are sold across the border through border hat at Balat. Betel nut and betel vine (pan leave) are produced throughout the year, both in fresh and processed forms and supplied in Shillong.

Infrastructure

Mawsynram is a Head Quarter of the Mawsynram Community Development Block consisting of a population of about 54 thousand people, located in the East Khasi Hills district. The Mawsynram village consists of two parts – the Dongrum and the Dongneng and has a total population of 1546 (male 771+feamle 775) of which 95 per cent consist of schedule tribe. (Census 2011). Rate of literacy is 93.93% and 82 per cent of them belong to Christianity. It has a Police Station, one 100 beded hospital, one PWD Divisional and two Sub-Divisional offices, one Inspection Bunglow. There are a few Primary schools (including English medium), one Government M.E.School and one Higher Secondary school.

Mawsynram presents a picturesque landscape with lush green hills and valleys which attracts many tourists. The sacred groves and the forests

which symbolize Khasi socio-cultural trait still exist in their pristine glory. These forests are preserved and protected for generations by the village Durbar zealously guarding against people from entering into and taking away anything from them. Because of religious connotation attributed to it no one dare to enter into the forest and cut a branch of the tree or eat any fruit. This unique system of preserving sacred groves reflects on the indigenous knowledge of the ancient Khasi forebears for their art of forest conservation and management of the environment. These sacred groves are the veritable botanical greenhouses which support valuable medicinal plants and many other botanical species that have long been extinct elsewhere and have been classified as endangered species. In Khasi religion “the nature (Forest) as such, is seen as the habitat of God and therefore its influence on men and the rest of creation, is seen as God’s action itself.”³(Shangpliang, 2010: 27) Nature becomes not only the foundation of man’s religion or his relationship with divine power but also she becomes the enforcer of divine laws, the regulation of human behaviour.” (Mawrie 2001: 17) Therefore, religious ceremonies and traditional Khasi dance festivals are performed every year invoking the blessings of God whom they call the *Nongbuh–Nongthaw*, the creator and protector. A number of ancient stone monoliths and concrete monuments that are standing on the bare hill tops in the outskirts of Mawsynram remind the new generation of the faith and tradition that their fore-fathers lived by.

Forest resource of Mawsynram

Mawsynram has nearly 800 hectares of forest cover out of its total land area of 2000 hectares. This constitutes 40 percent of the village geographical area as against the State’s 41.87 percent. The topographical feature of the village being mostly undulated and full of crags and gorges the scope for agricultural operation is very limited. Only 12.5 percent of the village land is utilized for agriculture, the rest being either forest, fallow land or reserved for other uses or deep gorges being unsuitable for cultivation. Sixty per cent of the people are engaged in business like PWD contracts, traders and shop keepers while ten per cent are office goers. By the expression ‘forest’ we include here the village forest maintained by the village authority, the sacred grove, protected by traditional heads, and the Ri-Raid forest land that belongs to the community and Ri-Kynti forest land belonging to Marbaniang and Farmanja clans. It is this Ri-Raid forest lying wide open around the hills and valleys with degenerated forests, jungles, shrubs and grass where from the village people collect fire wood for their home consumption of fuel energy. It is also the land where people practice shifting cultivation. In Mawsynram there are no Government or District Council reserved forest. The quality of forest, except for the village protected forests, is not of good standard. Forest in the Ri-Raid land is almost entirely degenerated due to rapid shifting cultivation, fuel wood cutting and wanton burning by villagers. The sacred groves to a certain extent have maintained good vegetation and are so far of a

better quality. This is primarily because of strong regulatory mechanism that is still in force at village Durbar level. The trees grown in the sacred groves are mostly pine, dieng rai, poma and other endemic species including some of the rare and endangered species which are of great botanical and medicinal values. Maintaining protected forests was the practice followed by Mawsynram since time immemorial. The British found luxuriant growth of green forests in the Khasi villages kept as a matter of traditional practice. According to Assam District Gazetteers, in the year 1915 Mawsynram had one and a half miles of protected forest. (Assam District Gazetteers (Supplementary to Vol.X) Khasi and Jaintia Hills, Garo Hills and Lushai Hills, 1915: 2-3).

The Ri-Kynti forest land in Mawsynram belongs to two particular clans – Marbaniang and Farmanja and comprises approximately two hundred hectares. The forest is being used for minor timbers and fire wood purposes by the owner themselves. Some portions of the land belonging to private individuals are being utilized for extracting mineral products like coal and lime-stone which are exported to Bangladesh. The mining operation has greatly destroyed the forest of these private lands. The coal, although locally produced from the mines and exported outside the state, is not used for domestic energy in Mawsynram and for that matter in the whole Khasi Hills except in Shillong by some westernized Khasis for heating purpose. This is, perhaps, because of the usage of coal for domestic energy is not in the Khasi tradition.

People and their occupation

Mawsynram is a tribal village inhabited by 80 percent Khasi population. The total population of this village is 1546 according to 2011 census. The demography of a village and the occupational distribution of its people have a direct bearing upon the environment and the pattern of resource use of that village. For, the larger the population of a particular place, the higher is the pressure on the available land and natural resources and faster is the environmental exploitation of the place. Mawsynram village consists of two parts – Dongrum and Dongneng with the population of 1337 and 209 respectively (2011 census). Table 1 gives us the facts about the number and sex composition of Mawsynram population.

The occupational pattern of the village, on the other hand, has its multiple role to play in the determination of the nature and extent of the consumption of existing resources of a given village. There are total 494 number of total working population out of 1546 population in the village. In Table 2 furnished below we find that the people engaged in trade and business constitute 60 percent of the total number of working population and those in the government and public services are 10 percent of the total working population of Mawsynram. These two categories of the people composed of 70 percent population are, by and large, less dependent on natural resources for their livelihood and hence they put up minimum pressure on the environment.

On the other hand, people engaged in agriculture, animal husbandry and industry are the most potential predators of natural resources, who directly interfere with the environment for their livelihood. Looking from this point of view we find that these three groups i.e, agriculture, animal husbandry and industry whom we may call pressure groups constitute only 22 percent ($17+0+5=22$) in Mawsynram village. On the other hand, the population engaged in trade and business and services whom we may call lesser-pressure group constitute more than two-thirds of the total population. Table 2, therefore, represents a comparatively satisfactory situation with lesser degree of human pressure on the existing land, forest and other natural resources of the village. Because of the undulated topography of the land the people carry out age old practice of slash and burn agriculture which causes extensive damages to both forest and the surface soil. During olden days the jhum cycle or the intervening fallow period between two cropping periods, was long ranging from 50 to 60 years. Now it has been reduced to 3-5 years in Meghalaya due to want of sufficient jhum land. This is alarmingly short for the recovery of the soil fertility level. It may, however, be noted that in respect of consumption of fuel wood for domestic energy all categories of population stand on the same footing. In case of those who are engaged in bakery, lime making and charcoal making industries the use of fuel wood would be much higher than other categories which we shall deal with separately.

The use of fuel wood in Mawsynram

As in other Khasi villages, the people of Mawsynram use fuel wood for cooking, heating and other industrial purposes like bakery, lime kiln and charcoal making. Kerosene oil not being available in the village they never use kerosene stove. Electricity, though available, the people prefer to use it mostly for lighting purpose as its supply is erratic and the cost is high. In recent times, some house-holds who are rich enough to invest in LPG cylinder and stove have started to use LPG gas for cooking but its supply is not regular and hence they use fuel wood also as alternative source. Other non-conventional sources of energy such as solar energy, bio-gas, wind mill etc. are not known to the people of this village. Therefore the majority or almost all the house-holds of the village depend on their age old traditional system of burning fuel wood for their domestic purposes which is cheap, easily available and dependable. With a view to find out the extent of people's dependency on fuel wood as a means of cooking and heating energy and to determine the intensity of forest exploitation a survey was conducted at village Mawsynram. Fifty numbers of sample house-holds were selected at random and each head of the family was asked about the type of domestic energy he used. The survey revealed that 70 percent of the house-holds used fuel wood for their energy need while 20 percent of them have started using LPG gas in recent times but they used fuel wood also as an alternative source of energy. Charcoal is used by 4 percent people for heating purpose only while electricity is used by 6

percent for other than lighting purpose, such as room heating, clothe ironing etc. All house-holds used electricity for house lighting while charcoal is used for warming up themselves during cold season. The following Table No. 3 shows the pattern of rural energy use in this village.

It is the usual practice of the people of Mawsynram to collect their fire wood during the winter season of the year beginning from January to March and to store them in the back-yard of their houses to be used for the whole year. It is a common sight to see women and children carrying bundles of fire wood on their backs at the end of the day's work in the forest cutting and collecting timbers. Some families who cannot send their members to the forest, use to buy fire wood from others. It is estimated that approximately every average sized house-hold (of five members) must have a provision of at least three *Thups* (stake) of fire wood to be used for one year. *Thup* (stake) is a local name given to a stake of fire wood measuring 8 feet in length, 3feet in breadth and 4 feet in height and weighing approximately 10 quintals when dried. The prevailing market value of fire wood at Mawsynram is Rs. 4000.00 per (*thup stake*).

Besides the above domestic use of fire wood there are two bakeries in the village which consume considerable quantity of fuel wood every day. There are also several Government offices, like Block office, PWD offices, Police station, hospital, hotels and shops which also use fuel wood in the form of solid bio-mass and charcoal for cooking and heating purposes. Table 3 provides us with an approximate quantity of fuel wood requirement of the village per year.

Table 3 shows that the total annual requirement of fuel wood for all the households of Mawsynram village is 828 thups (stakes) and taking together all the agencies the total requirement of fuel wood stands at 1028 *Thups* (stakes) or 10280 quintals per annum. From the above total annual requirement of the village we can easily make an idea as to how many numbers of average sized trees would be felled or how much area of forest would be denuded in order to obtain 10280 quintals of fire wood every year. Understandably, the total area of forest land presently at the disposal of Mawsynram village would not be sufficient to produce that much of fuel wood per year. It may be mentioned here that charcoal is not made out of the forest of Mawsynram nor any fire-wood is exported to any other place from Mawsynram forest.

From the data shown above it is clearly seen that Mawsynram is now grossly in deficit of its fuel wood requirement and, therefore, in the immediate need of alternative source of energy generation. The Ri-Raid forest which is the only land open to the public for collecting fire wood has become totally degenerated through constant harvesting by the villagers. It is reported that the rich section of the village people buy their requirement of fuel wood from nearby villages like Mawrapat and Plangwanbroi, located 10-15 Kms away,

while poor families have to content themselves with the wood scraps they manage to gather from residual shrubs and bushes around the crags and gorges.

The above study of Mawsynram scenario helps us to make out the magnitude of environmental problem that the state of Meghalaya as a whole must have been confronted with, since the vast majority of population of the state being tribal, their basic needs and the manner of fulfilling them would be much the same. According to the report published by the Government of Meghalaya Forest and Environment Department in 2005 – “the forest areas of Meghalaya has reduced from 69.06% to 63.06 over the last 15 years”(State of Environment Report, 2005, Forest and Environment Department Meghalaya). According to Government of Meghalaya report the out turn in respect of forest produce during the period between 1979-80 to 1999-2000, has shown an increasing trend in the stat The production of fuel wood which was reported as 1,284.700 metric tones during 1979-80 to 1981-82 is continually in the increasing trend and recorded 3,475.700 metric tones during 1997-98 to 1999-2000, showing an increase of over 170 %. (Meghalaya Socio-economic Review, 2003). The production of bamboo, which is also used as fuel bio-mass, was only 1,82000 numbers during the period of 1979-80 to 1981-82 increased many folds by recording 4,154000 and 5,682000 in number during 1994-95 to 1996- 97 and 1997-98 to 1999-2000 respectively(Meghalaya Socio-economic Review, 2003). The waste of industrial wood is used for fuel energy in the form of wood scraps and wood dust. As regards industrial wood, as per Government of Meghalaya report, the production of 47.929 m3 in 1979-80 to 1981-82 dropped down between 1982-83 up to 1990-91. The production of industrial wood gained momentum from 1991-92 onwards with a record production of 513.713 m3 during 1994-95 to 1996-97. The production, however, slightly decreased after 1996-97 due to imposition of ban by Supreme Court order in 1996.

Presuming that the demand for domestic energy in villages will continue to grow as time passes with the increase in population, economic development and growth of infrastructure the ecological problem of Meghalaya would be extremely colossal. To contain this situation government must come forward with appropriate natural resource management programme for sustainable energy development. The issue of optimum resource utilization has to be speedily addressed first from the point of view of biomass requirement of the rural people who have no access to other means.

The National Forest Policy, 1988 emphasizes that the people living in the forest vicinity shall have the first right to forest produce and to its management. In order to operationalise this concept the Government of India introduced National Afforestation Programme (NAP) during the 10th Plan period on the basis of 100 % Central funding. The programme aims at eliciting people’s participation right from planning to the implementation stage through

two tier decentralized set up of Forest Development Agency (FDA) and Joint Forest Management Committee (JFMC). This programme is primarily intended to take up degenerated village forests for afforestation of minor timber plants, quick growing fuel wood plants with active co-operation of the village, to meet the immediate need of the rural poor. Recently the Government of India under the Ministry of Petroleum and Natural Gas has introduced a new scheme of distributing cooking gas to every household under “Pradhan Mantri Ujjwala Yojana” programme which was inaugurated in May 2016. Under this scheme gas connections would be distributed to registered women beneficiaries from BPL households. The scheme aims to shift women in rural households from unhygienic and unhealthy cooking conditions to a safe and healthy cooking with gas facilities.

In Meghalaya the Forest and Environment Department started this programme since 2003 and till date it has covered 285 villages and has brought 3930 hectares of community owned degraded forests under the programme (National Afforestation Programme etc.). While this is a welcome effort of the government towards the augmentation of energy resource of the rural people, it will also be imperative on the part of the government to launch other programmes to popularize adoption of non-conventional renewable energy resources among the rural people which will go a long way to reduce the pressure on the forest resources and at the same time ease out the problem of power shortage in the country. There is a good prospect for introduction of wind mill energy supply scheme in Meghalaya, it being hilly region. Generation of hydro-electricity through small projects also can be taken up by Government since there are numerous small perennial rivers and streams around the hills. Recently the Government of India has taken up scheme of supplying cooking gas to each household to relieve them from energy problem but this programme has a serious disadvantage in respect of reaching gas cylinders into the interior villages where there are no road communication in the hilly regions. Moreover, LPG being a non-renewable energy it suffers from inherent problem of limitation.

Table I
The male and female population of Mawsynram 2011(census)

Sl. No	Vill. Part	Male	Female	Total
1.	Dongrum	668	669	1337
2	Dongneng	103	106	209
	Total population	771	775	1546

Table 2
Occupational distribution of Mawsynram population
Total number of working population 494

Sl. No.	Occupation	No. of Adult	Percentage
1.	Agriculture	84	17
2	Trade and Business	296	60.00
3	Service	49	10.00
4	Industry	25	5.00
5	Others	40	8.00
	Total No. of working population	494	100.00

Table 3
Energy use pattern in Mawsynram village

Sl.No.	Types of energy	No. of respondents	Percentage
1/	Fuel wood	35	70
2.	Char coal	2	4
3.	LPG Gas	10	20
4.	Coal	0	0
5.	Kerosene	0	0
6	Electricity	3	6
7.	Solar/ bio gas	0	0
	Total sample household	50	100

NB. Charcoal mentioned at serial No.2 above is purchased from other villages.

Table 4
Annual consumption of fuel wood at Mawsynram

Sl.No.	Agencies using Fuel wood	Number of agencies	Rate of fuel wood consumption per year	Total annual consumption
1.	House holds	276	3 Thups (stake)	828 Thups
2.	Bakeries	2	40 Thups (stak)	80 Thups
3.	Govt. Offices	6	10 Thups (stake)	60 Thups
4.	Hotels/tea shops	10	6 Thup (stake)	60 Thups
	Total	294		1028 Thups

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