

Energy and Poverty

Report of the Study on the Role of Energy in Poverty Alleviation

Energy Forum

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Study Team

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Moneragala District Survey Team

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3. Mr. R.M. Ariyasena	Weliyaya
4. Mr. M.M. Bandara	Dombagahawela
5. Mr. U.G. Priyantha Jayalal	Hulandawa South
6. Mr. T.U. Dinesh Priyantha	Post 40
7. Mr. R.M. Rupasinghe	Walasella
8. Ms. Premalatha Ratnayaka	Wadagahakivla
9. Mr. Somasiri Fernando	Maduraoya
10. Mr. Sarath Kumara	Muthukandiya
11. Ms. J.M. Guanawathi	Kurudugahawatta

Batticaloa District Survey Team

Name	Village
Ms. K.M. Moomina	Ottamawadi-3
Ms. A.L. Refeeka	Meerawetei
Mr. T. Kalaivanan	Kiran
Mr. A.L.M. Sathath	Waharei
Mr. K. Vinayagamoorthy	Kalavankeni
Ms. A.B.Noorjahan	Redeethenna
Ms. M. I. Shabeena	Ottamawadi-2
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Report of the Study on the Role of Energy in Poverty Alleviation Energy Forum

1. Introduction

This study on the relationship between energy and poverty alleviation, focusing specifically on the perspectives and requirements of the rural poor, employed two major methods. First, a series of participatory workshops identified and clarified rural energy requirements, opportunities, and economic conditions of rural households. Second, using information collected from the workshops, a short survey was conducted among 400 households.

The study was conducted in two districts: Monaragala (220 households) and Batticaloa (220 households). These districts were chosen because they have poor socio-economic living conditions, among the lowest electrification rates on the island, and over time, the Energy Forum has developed strong working relationships in these areas. The research examined three types of households: 1) rural grid-connected households, 2) off-grid households using locally generated electricity (i.e., solar-home systems, village hydro), and 3) off-grid households without electricity using kerosene and other fuel sources. In the process, the Energy Forum consulted its partners among energy-sector decision makers and promoters. This report is based on the results of the study.

2. Objective of the Research

This study compared income levels between three groups: grid-connected households, off-grid households using decentralized renewable energy technology, and off-grid households without decentralized energy technology in order to ascertain the role of energy/electrification in poverty alleviation in rural areas.

This research project was designed so that the most important analysis of findings would be conducted within the workshops themselves. Energy Forum collated these findings and used them to shed light on the two following research questions: what is the relationship between electrification and income generation and how can electrification / energy be used to alleviate poverty?

3. Background: Sri Lanka's Energy Scene

Sri Lanka's national energy crisis has attracted both national and international attention. Unfortunately this coverage focuses almost solely on the Ceylon Electricity Board's electricity generation capacity deficiency. Attention centers around its affect on the national economy and the inconvenience caused to those affected, namely households, commercial businesses, and industry with grid access. Regrettably, discussions of the "national energy crisis" say little about those without grid access, currently a full 40% of households (which is about 2 million homes). The CEB has made steady progress in extending grid access; whereas in 1986 only 25% of households were electrified, today 60% have grid access. The Ministry of Power and Energy has committed to 75% electrification by the year 2010. Nevertheless, assuming the CEB's plan is perfectly implemented, it would still leave 1.5-2 million households without grid electricity.

Despite continual progress in extending the grid, it is clear that grid access will remain a crucial factor differentiating citizens for decades to come. Over 1.5 million rural people must rely on low-quality energy sources such as kerosene for lighting, car batteries for television and radio, and fuel wood for cooking due to lack of grid access. Associated with low-quality energy sources are economic disadvantage, health and safety risks, excessive labour burdens, and general inconvenience. While the correlation between electrification and quality of life is widely agreed upon, there have been surprisingly few studies investigating this relationship in detail, and fewer focusing specifically on the perspectives and requirements of rural, non-electrified people.

There were two basic motivations for this study: First, there is no database or baseline information available about the connections between electrification and poverty, what that relationship looks like, or how it plays out in specific contexts. National energy decision makers, however, assume a close relationship between energy and poverty. This study will be a first step towards accumulating a set of empirical data on energy and poverty in Sri Lanka, paving the way for better linkages between energy research, poverty research, and poverty alleviation. Second, the methodology used for gathering information in this study is innovative and relevant. Employing the experiences and perspectives of rural community members in the actual analysis of data will give the project a unique standing of the grassroots situation, and it will stimulate community members to take a more active role in addressing energy/poverty issues. Beyond merely raising awareness, this research attempts to stimulate engagement with the problem under investigation. Thus, the research methodology itself is expected to make a contribution to the local communities.

4. Methodology

The research had five main phases:

- A first round of participatory workshops in each district introduced the concept of the study and the study goals. Community leaders were consulted in the researched communities to help develop a representative sample based on gender, family makeup, and primary income source. To allow for effective participatory workshops, the total number of participants was kept to 30 or fewer. Workshop participants attended all three workshops, as the information gathered and discussed was cumulative. The first round of workshops identified local energy requirements, skills, and resources available to address the requirements, local economic conditions, and how energy impacts economic conditions. Findings from the workshop were used to assemble a draft survey. This workshop solicited participants' perspectives on the relationship between energy and economic conditions and the potential role energy technologies can play in poverty alleviation. The workshop also helped workshop participants learn ways to turn vague questions about their living environments into researchable questions suitable for a survey.
- A second round of participatory workshops in each district reviewed and refined the draft survey and discussed methodological issues in executing the survey in local villages. A team leader within the Energy Forum managed the execution of the survey in each region. This workshop was intended to build capacities among

participants around research design, sampling techniques, and survey distribution and collection.

- After completing the second round of workshops, the Energy Forum finalized the survey, which was then distributed to 220 households in each of the two areas (total 440). The team leader of Energy Forum was responsible to distribute, follow up on, and collect the surveys, with the assistance of selected workshop participants. The survey was extended the data-gathering reach of the workshops as well as provided an opportunity for workshop participants to participate in, a systematic data-gathering exercise. Therefore, beyond information collecting, the survey process also helped to build the capacities of workshop participants, albeit in a relatively specific way (i.e., energy). The survey supplemented the qualitative data gathered in the workshops with quantitative data which was often more effective in policy making arenas. Findings from the survey was categorized and summarized for the final round of workshops.

- A third and final workshop was held in each district to review the survey findings and begin analyzing their significance and meaning. The workshop was concluded with a consideration of how the survey findings can be used to develop a viable “rural energy plan” for poverty alleviation. Workshop participants are not in a position to draft a comprehensive local energy plan; however they were encouraged to think about how the information gathered might be usefully applied to policy making aimed at meeting their particular needs.

- The final phase of the project entailed the Energy Forum's analysis of the overall project. This report is the outcome of the final phase of the project. The report is an "Energy and Poverty" report targeted to the relevant policy and research communities. A summarized version of this will be presented as an informational brochure that will share the research project process and findings with participants and the communities studied. This brochure is written in Sinhala and Tamil and includes key elements of the full "Energy and Poverty" report.

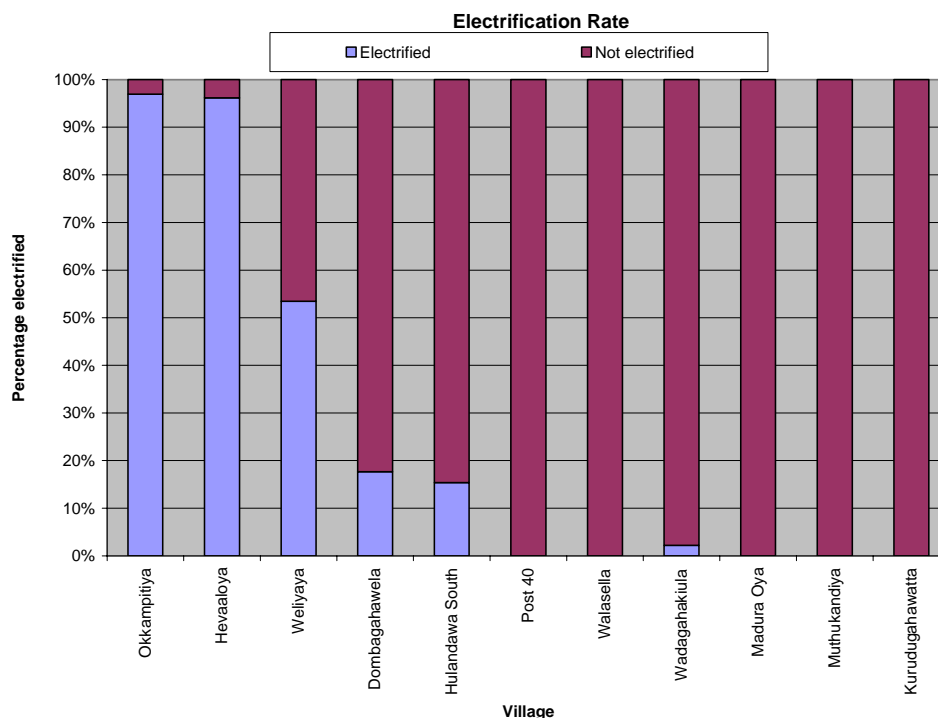
5. Survey Analysis

5.1 Monaragala District Analysis

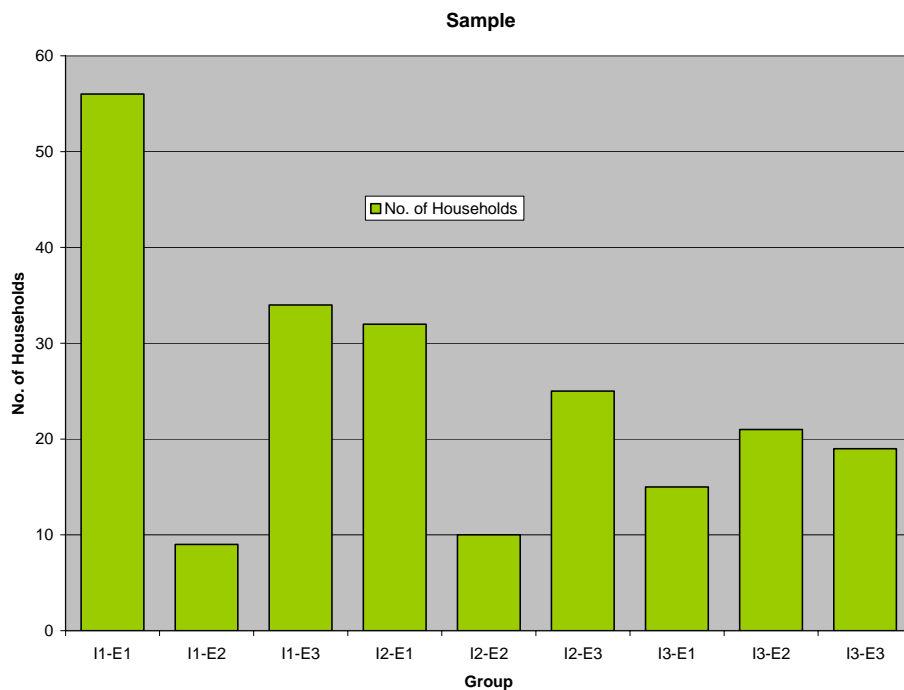
Participants for the workshop were selected covering all geographical areas and income groups in the district.

11 villages with the following characteristics were surveyed:

Village	DS Division	GN Division	Electricity
Okkampitiya	Buttala	Ulugala	Grid
Hevelwala	Bibile	Hevelwala	Grid
Waliyaya	Moneragala	Waliyaya	Grid
Dombagahawela	Siyambalanduwa	Dombagahawela	Grid
Hulandawa South	Moneragala	Hulandawa South	Grid
Post 40	Siyambalanduwa	Kimbulegala	Renewables (DE)
Walasella	Badalkumbura	Karadagama	Renewables (DE)
Wadakahakivla	Badalkumbura	Karadagama	No
Madura-oya	Bibile	Kanawegalla	No
Muthukandiya	Siyambalanduwa	Muthukandiya	No
Kurundugahawatta	Siyambalanduwa	Buddama	No

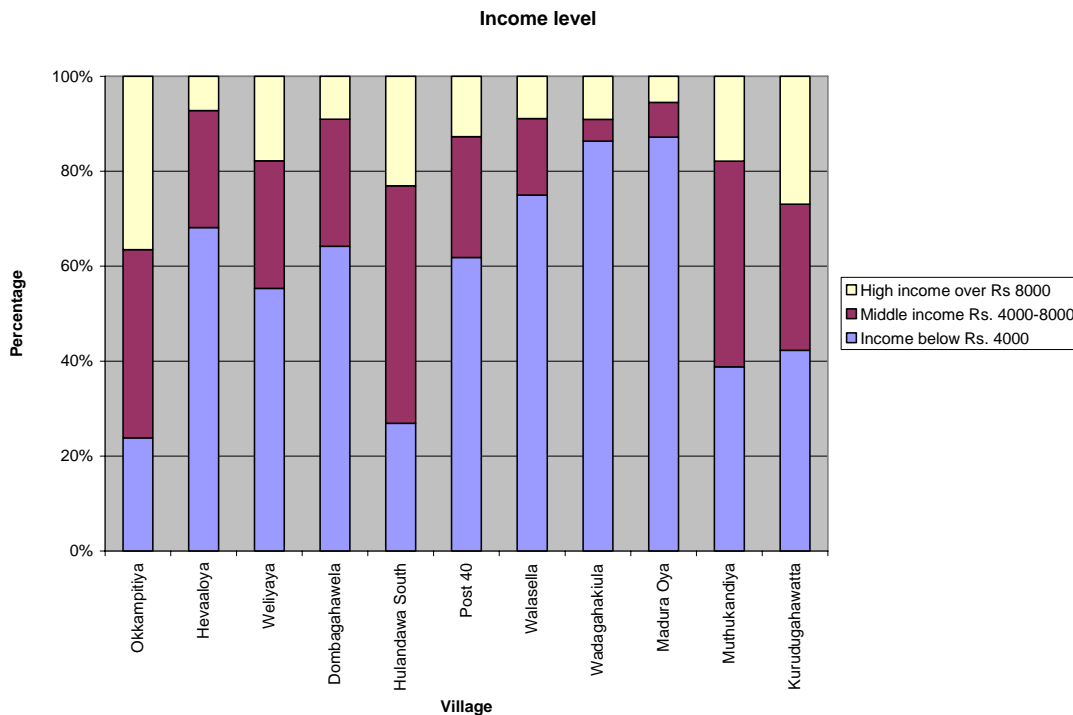


The graph below shows the distribution of households surveyed in the Monaragala District by income level and energy access. This distribution adequately reflects the on-the-ground situation in Monaragala. For example, the I1-E1 (Low income without grid) category is quite high, as families with a low income are unable to afford decentralized technology (DE), whereas I3-E2 (high income with DE) high-income group can afford to purchase decentralized technology (DE).

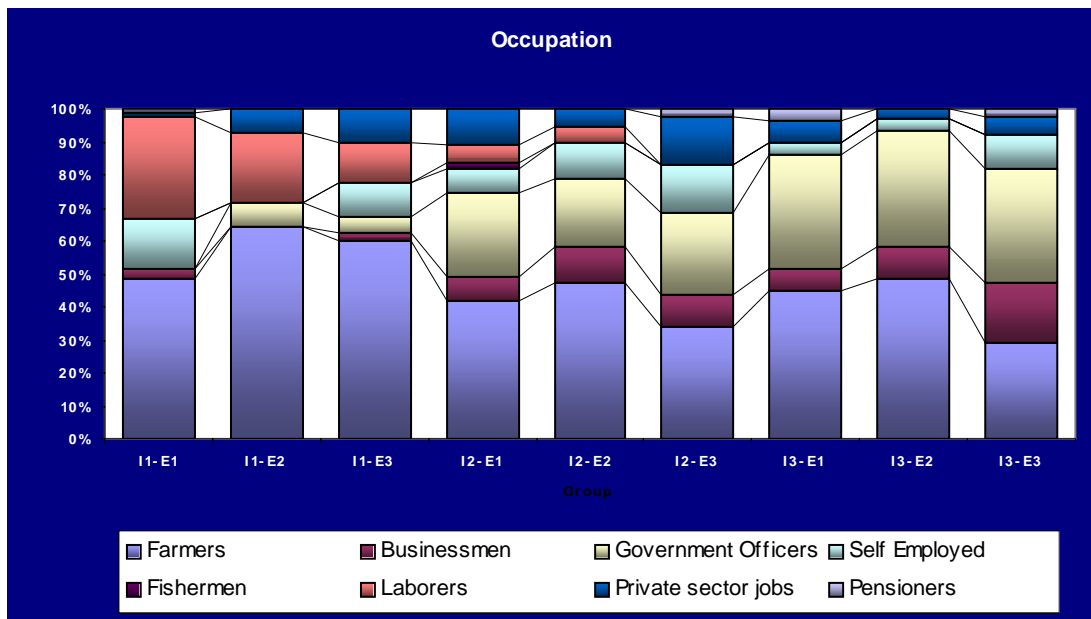


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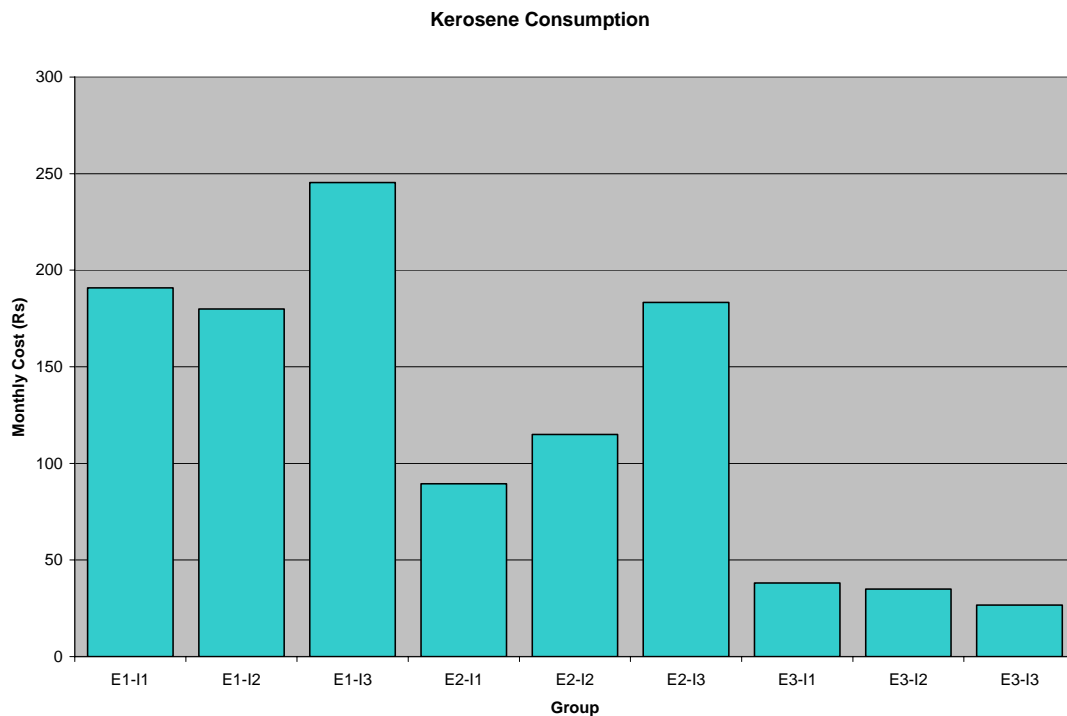
- I1- Low Income - Monthly income less than SLRs. 4,000,
- I2- Middle Income - Monthly income between SLRs. 4,000 and SLRs. 8,000,
- I3- High Income - Monthly income higher than SLRs. 8,000,
- E1- Households that do not have access to national electricity grid,
- E2- Households that have access to off-grid energy technologies (DE),
- E3- Households that have access to national electricity grid



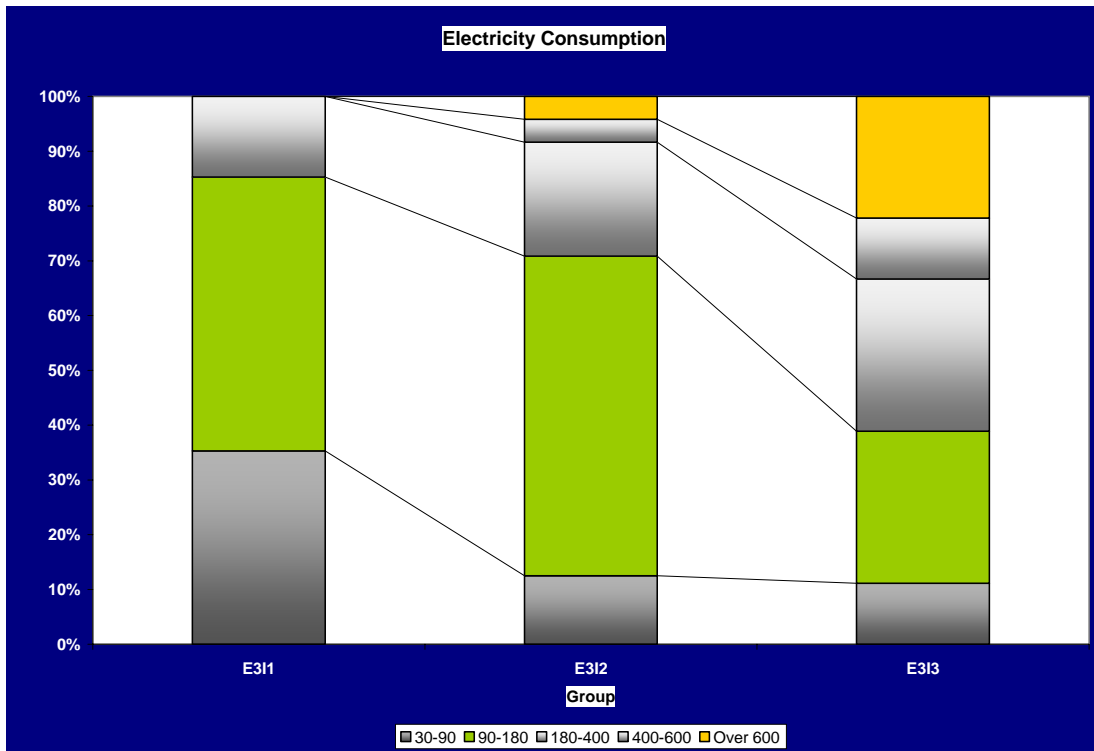
The above graph indicates that regardless of grid-connected electricity, off-grid renewable energy technology or off grid / no technology that the vast majority of the population in each village has a monthly income of less than Rs. 8000.



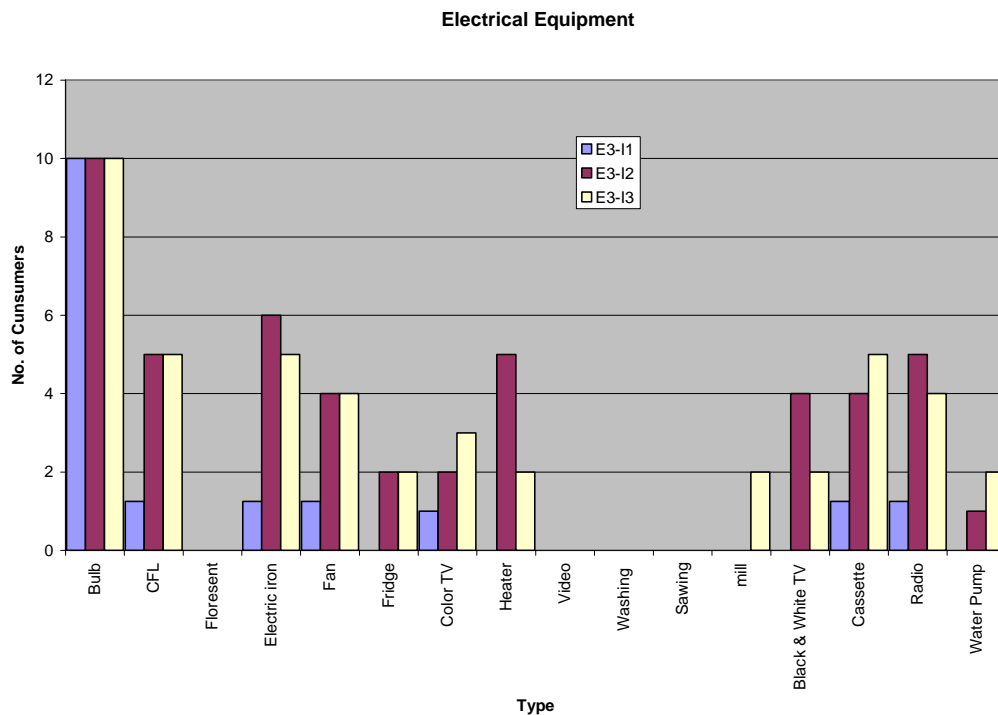
The above graph shows that the high-income group shifts from agriculture to other sectors.



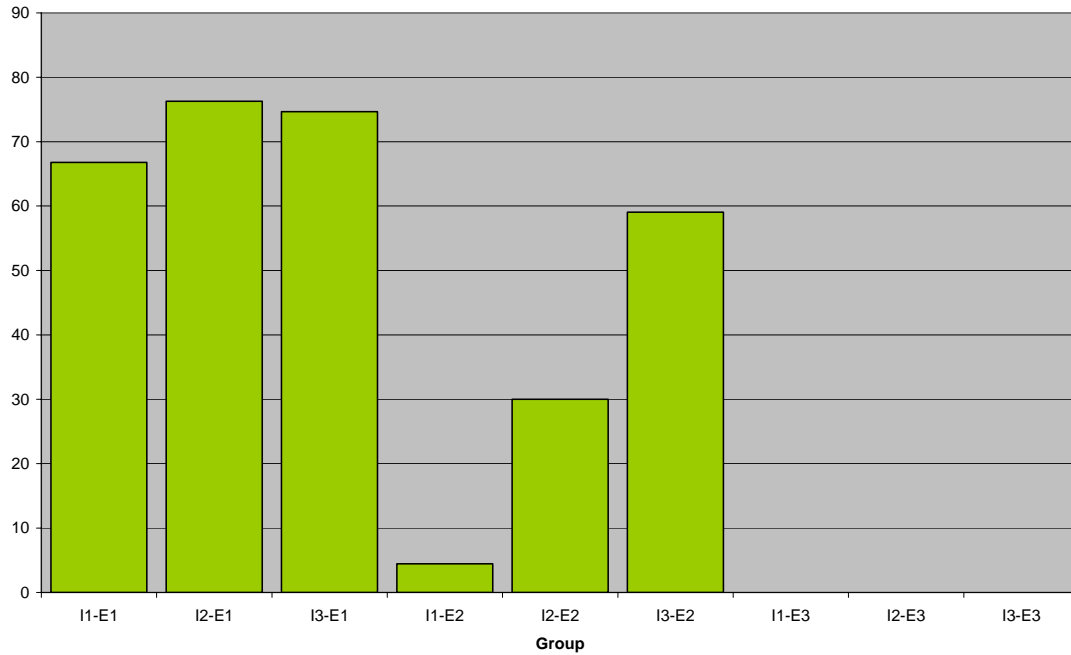
Electrified households (E3) too are using kerosene as a back-up energy source during power cuts and to fuel cooking stoves. In the E2 category (off-grid/renewable energy technology), households are using kerosene as they are unsatisfied with the capacity of their systems and want to supplement domestic lighting (DE).



The information above is only for E3 category showing that richer households consume more electricity. This may be due to the fact that they own more electrical appliances (see graph below). Electricity is used primarily for domestic lighting (100%) followed by television watching (60% of households). The low-income group is using incandescent bulbs, while the higher-income groups are using CFL. Clothes irons are also used periodically. It is important to note that with the exception of mill all of these appliances are for domestic purposes, not for income-generation purposes.

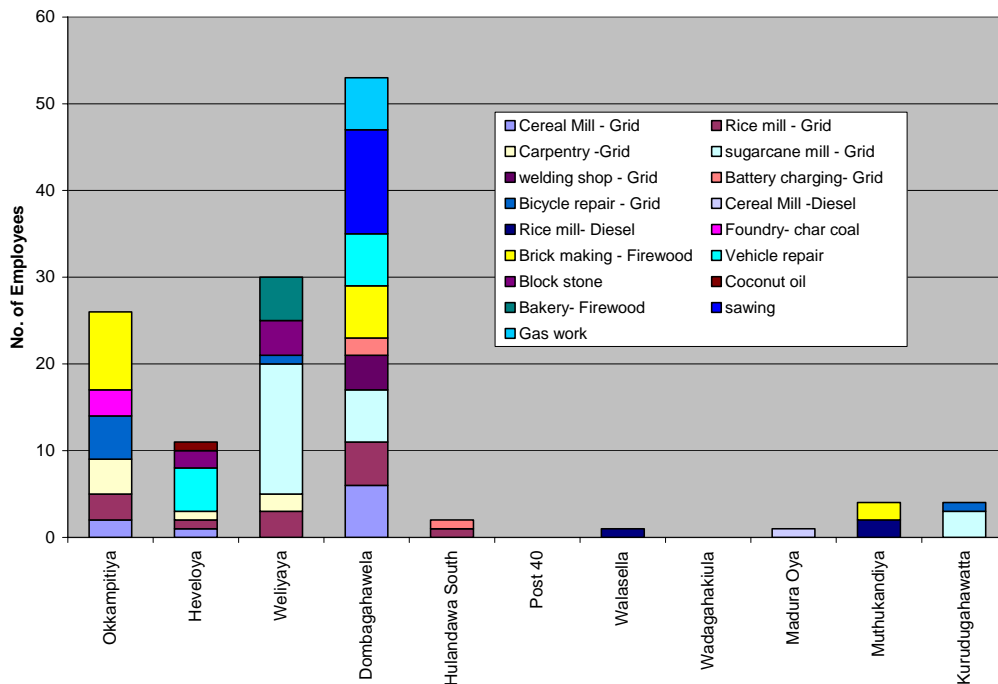


Electricity Need - Household level

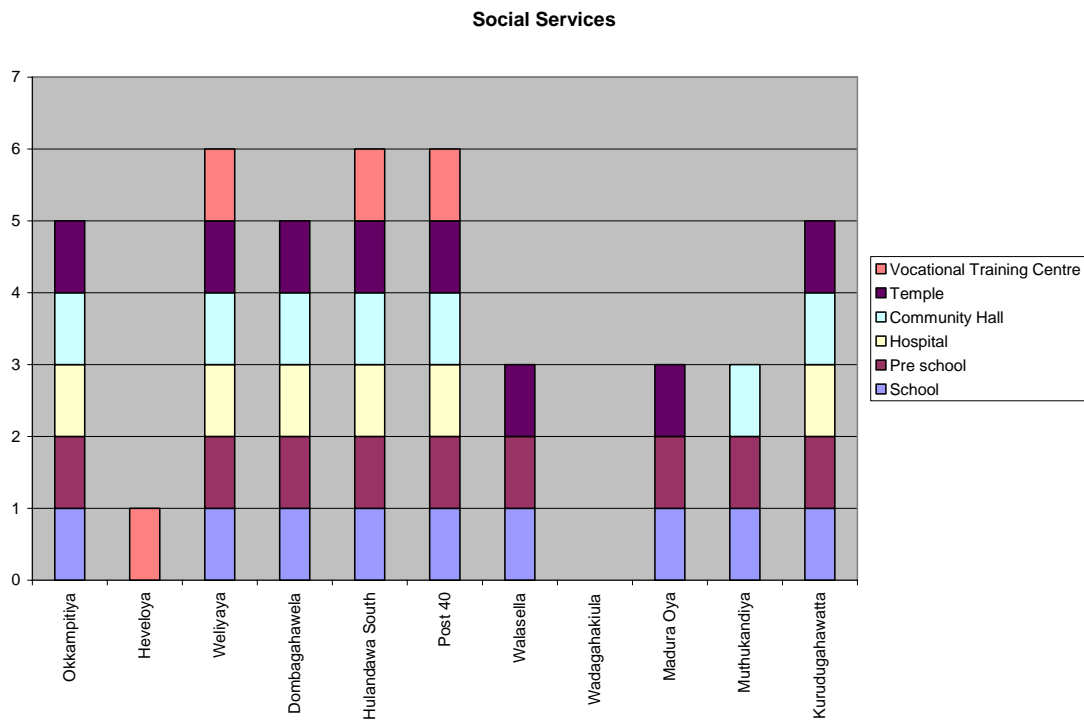


The graph above indicates the perception amongst households as to whether or not they want to have grid-connected electricity. The off-grid community feels they can uplift their living conditions with the availability of electricity. The lower income is satisfied with the available energy services whereas the higher income groups are willing to have more electricity.

Industries

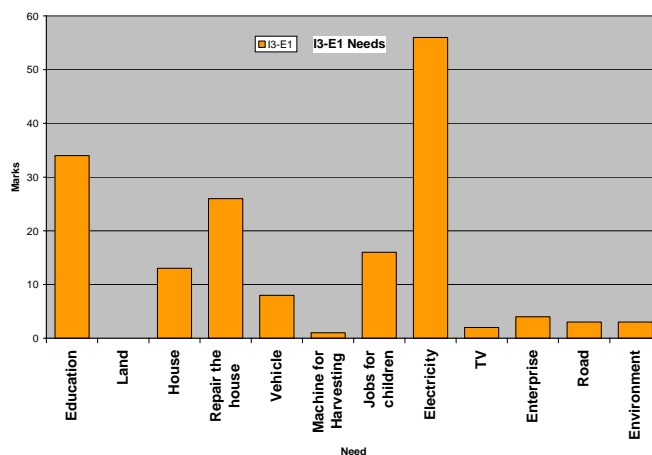
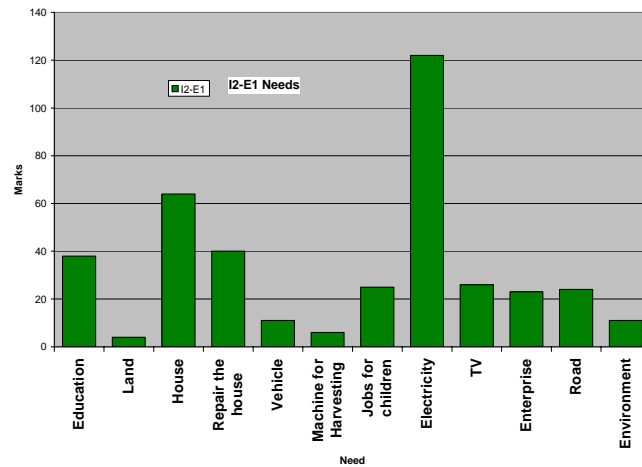
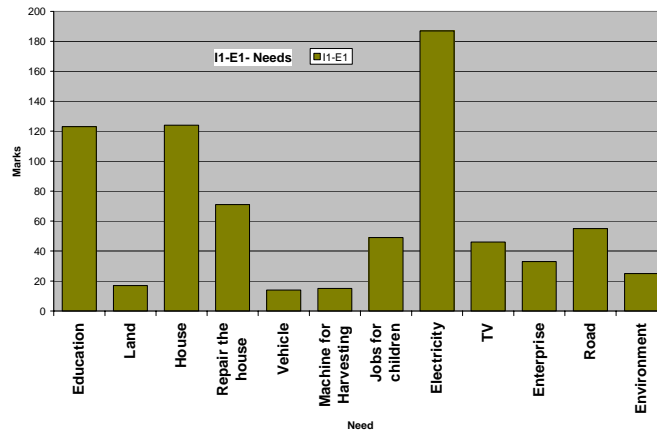


In electrified villages, there is a greater range of industries available than in un-electrified villages, however, that does not translate into higher income generation in electrified villages than in un-electrified villages.



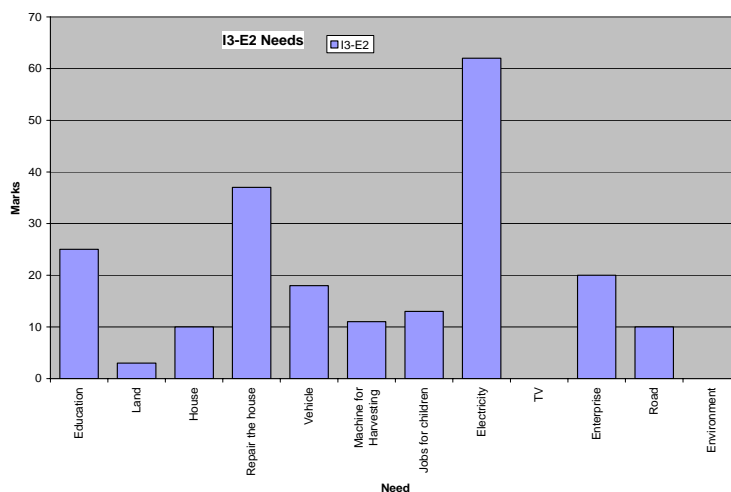
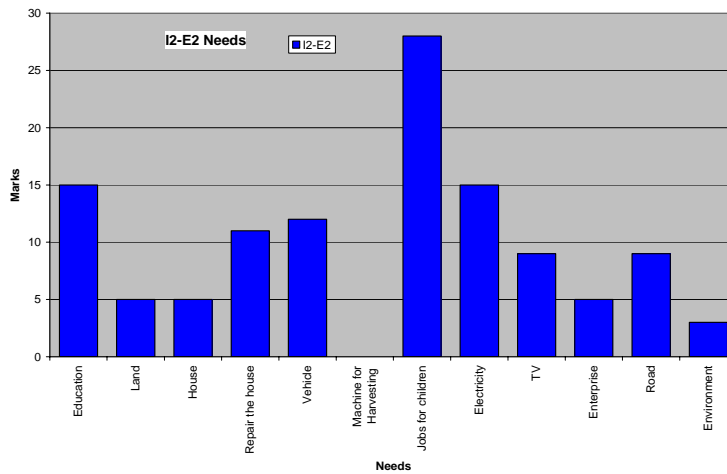
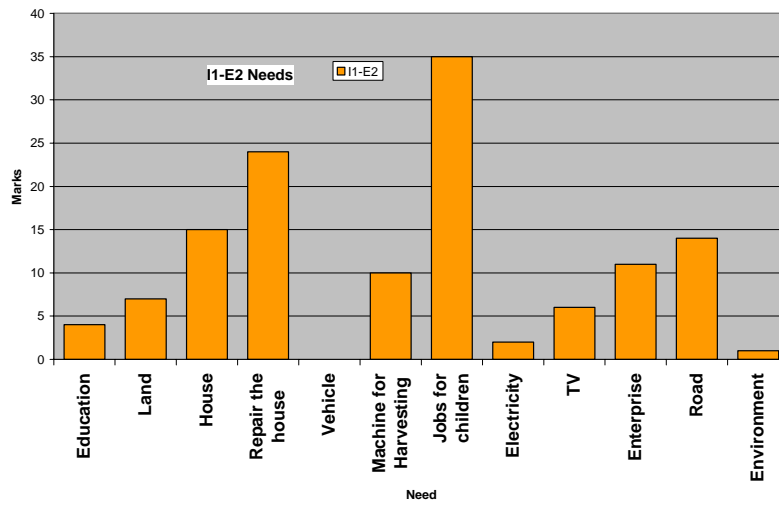
The number of social institutions in the grid-connected villages is high. There is a connection between electrification and vocational training opportunities. Though there is a vocational Training Center in the off-grid village -Post 40 it only has English classes and handicrafts.

Household level needs assessment – Off-grid energy group



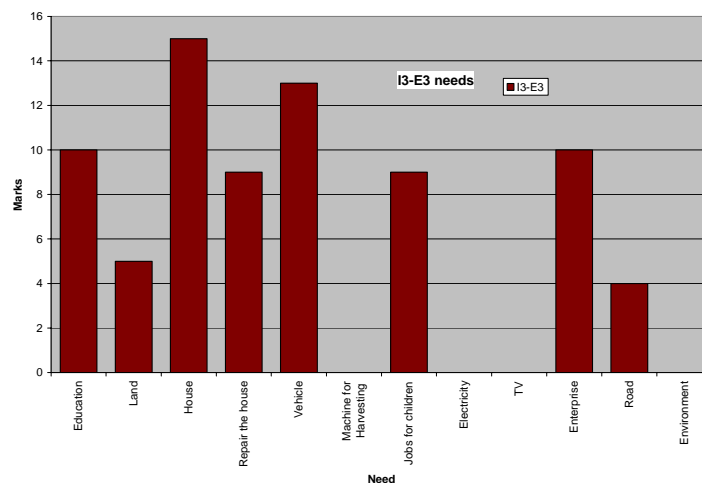
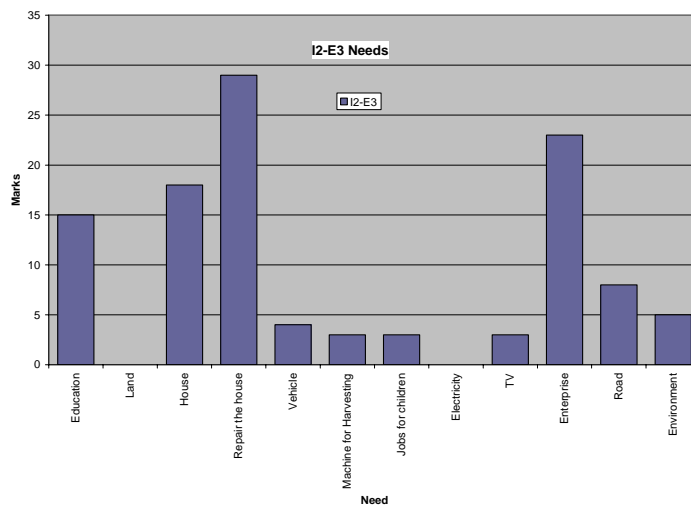
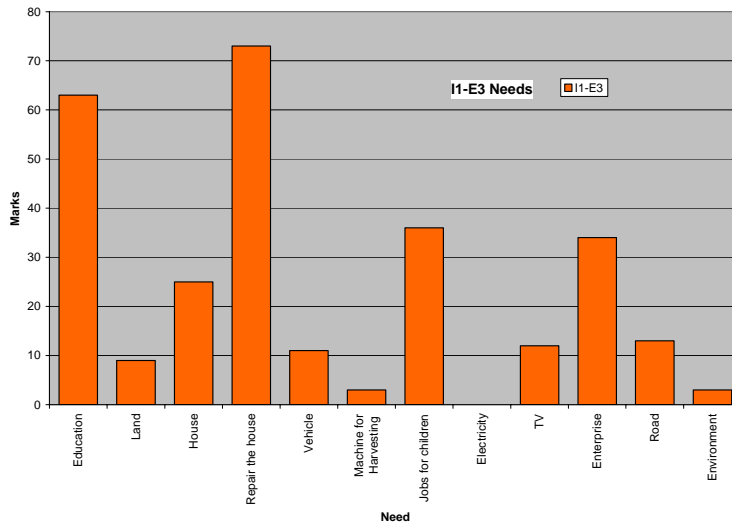
Off-grid energy community irrespective of their income level prefers to get grid electricity and it is their first priority. The next in line is having a better shelter for their family.

Household level needs assessment – Decentralized energy group



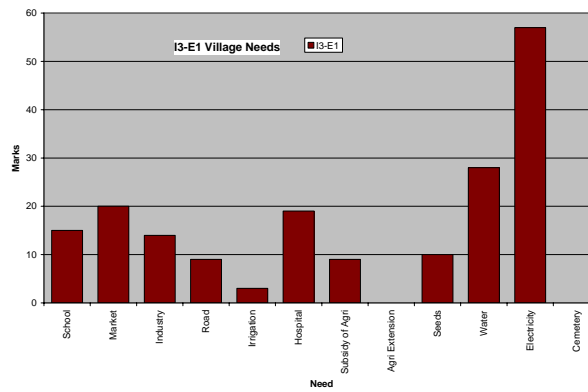
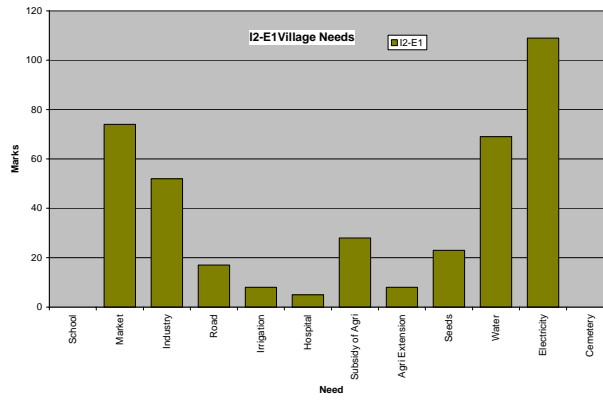
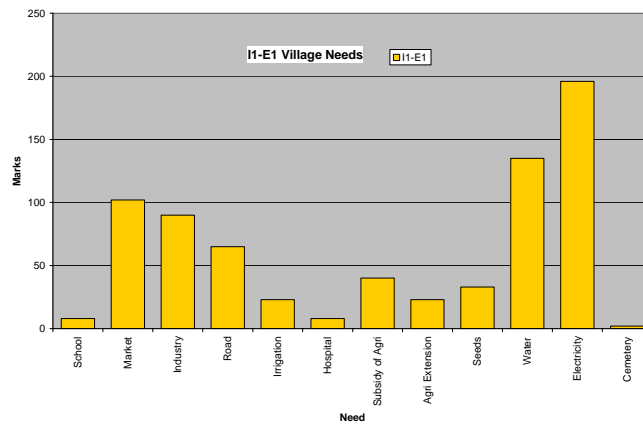
These graphs show that the lower income group consuming decentralized energy technologies are satisfied with the energy services available to them. With the increase in income level there is a tendency towards consuming more electricity. The lower income group is keen on having better shelter for their families and the middle-income group is keen on seeking better income opportunities for their children.

Household level needs assessment – Grid connected group



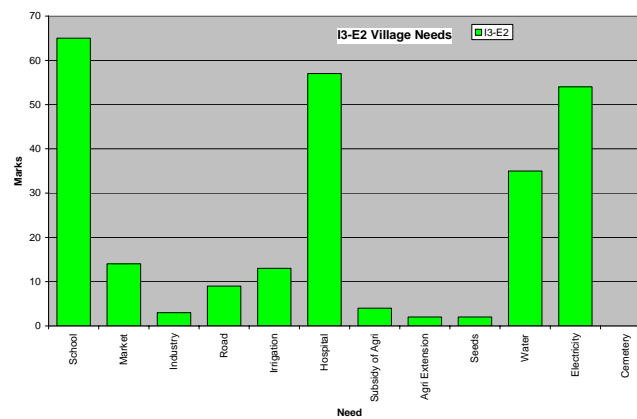
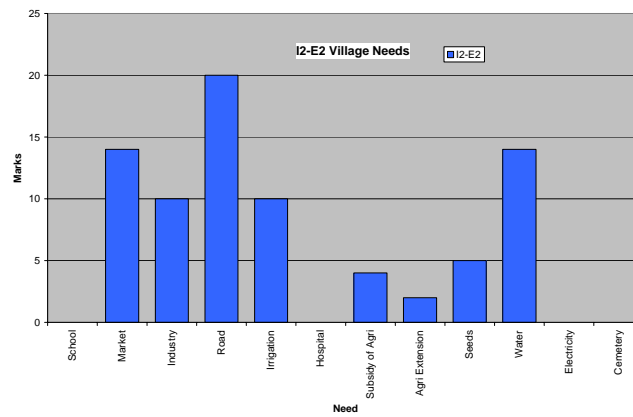
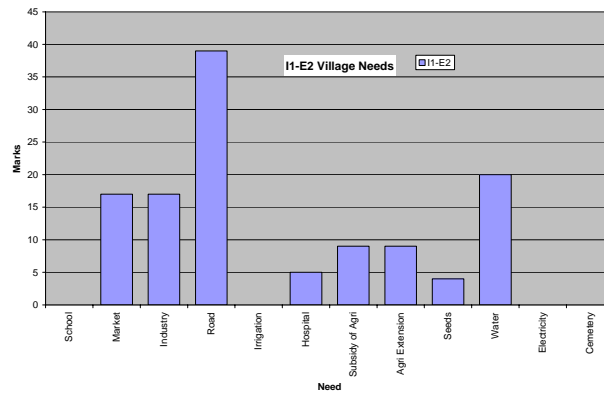
The basic requirement of the grid-connected people is to have better housing. The lower income group is also keen on providing better education for their children. The middle-income group is seeking better income generating opportunities and the higher income group is keen on purchasing a vehicle.

Village level needs assessment – Off-grid group



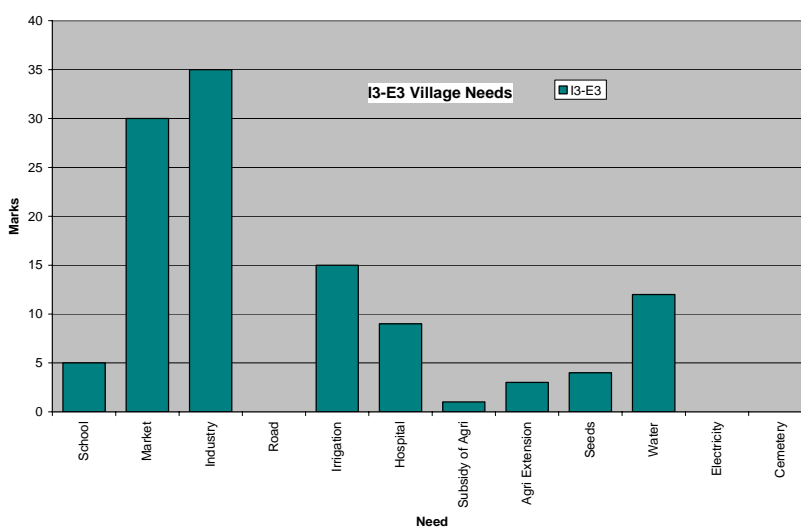
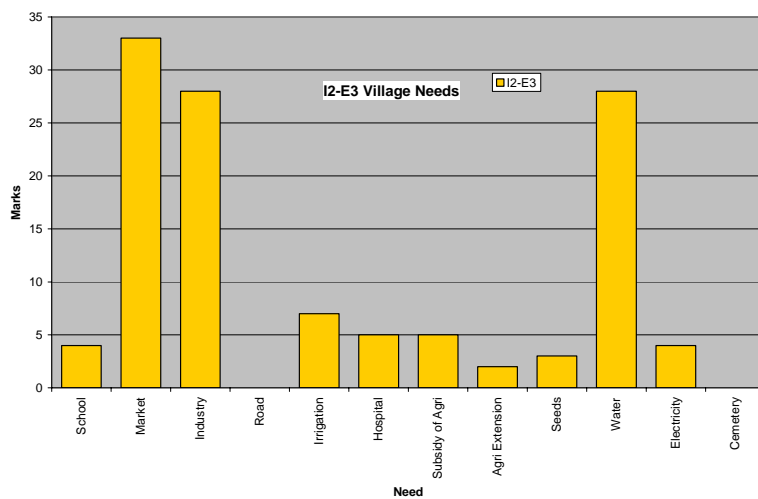
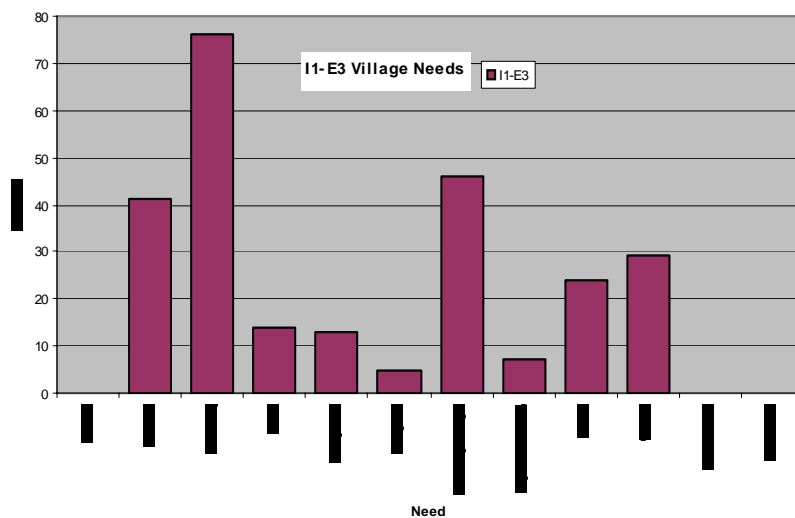
The key village level need of the off-grid group is electricity.

Village level needs assessment – Decentralized energy group



The priorities of the decentralized energy group differ with income level and facilities available in the selected villages. Low and middle income groups are keen on improving the road access and the higher income group concentrates on schooling health and electricity services.

Village level needs assessment – Grid connected group



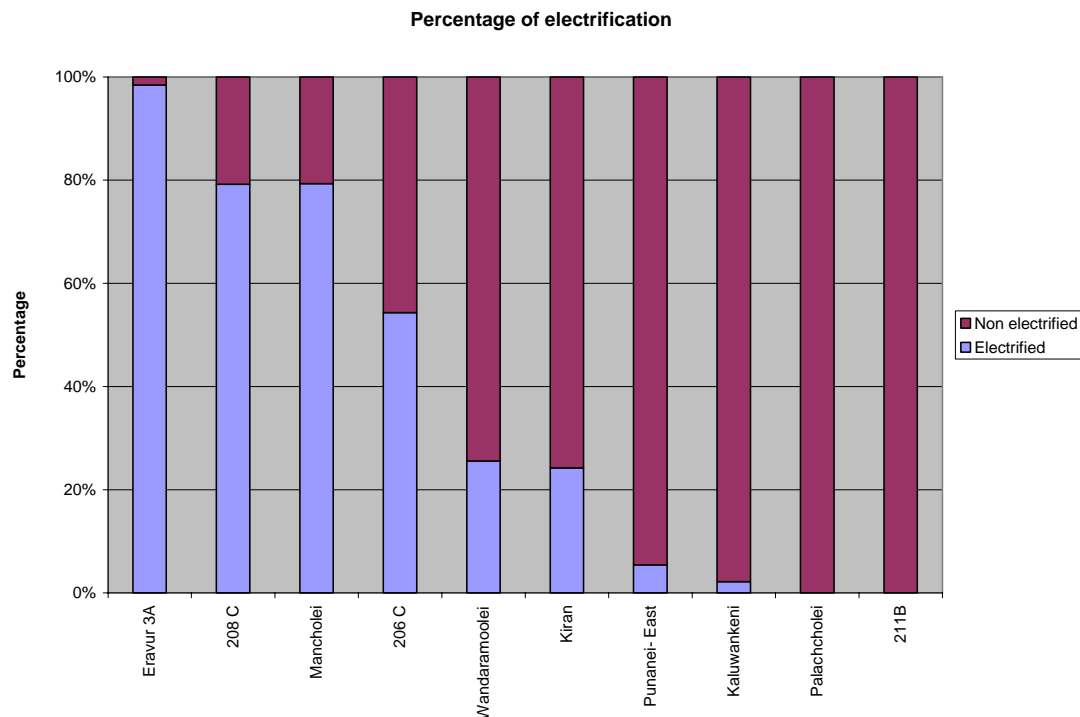
Priority of the grid connected community is more opportunities for industries and market for agricultural products.

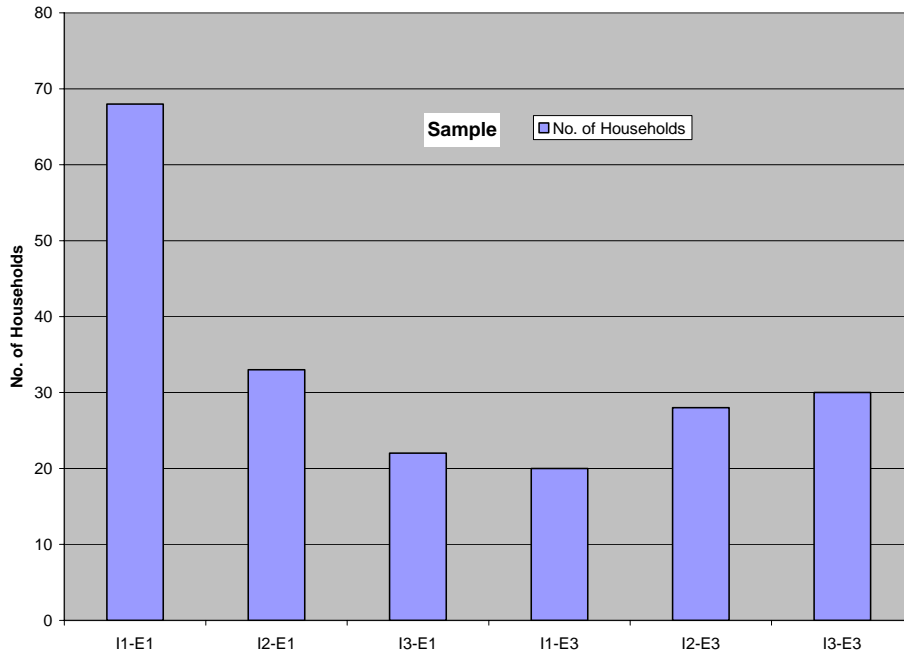
5.2 Batticaloa District Analysis

Participants for the workshop were selected covering all geographical areas and income groups.

For the survey the following 11 villages were selected. There were no off-grid renewable energy technologies used. At the time of the survey, companies were not promoting solar technology in the area. Promotional campaign was done in 2003 by the Energy Forum. At present there are approximately 200 solar-home systems installed in Batticaloa District.

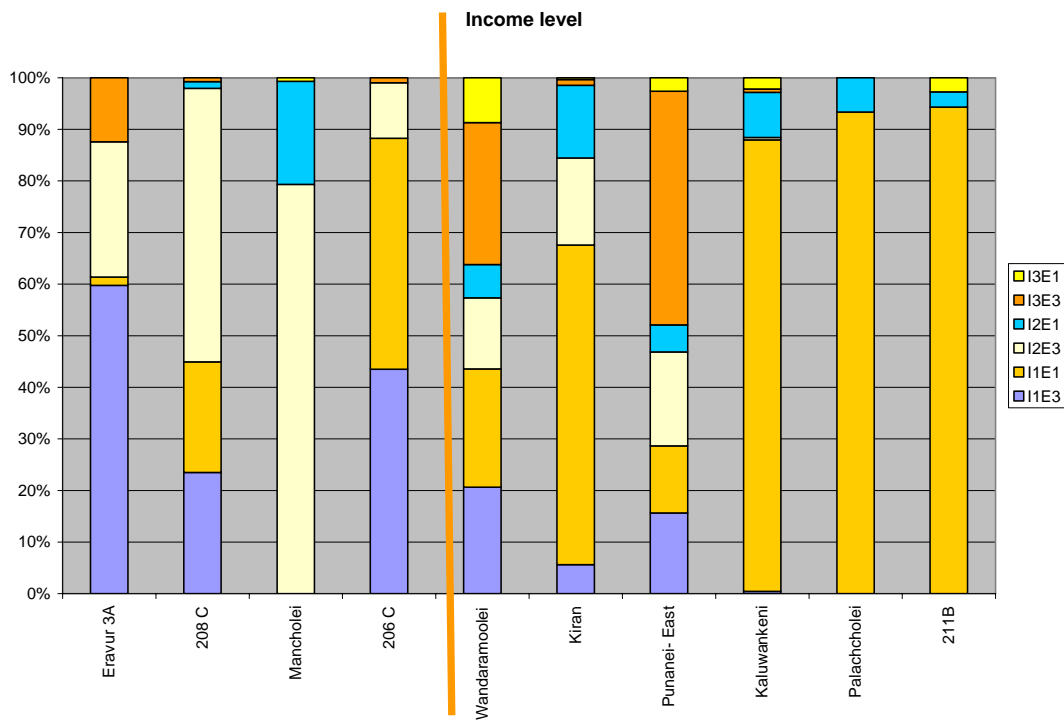
Village	DS Division	GN Division	Electricity
Eravur 3A	Eravur Town	Eravur 3A	Yes
Ottamawadi	Koralei Pathru South	208 C	Yes
Paduriya Nagar			Yes
Meerawetei	K.P. Ottamawadi	Mancholei	
Piraindurai Chenei	Koralei Pathru- Central	206 C	Yes
Wandaramoolei	Eravur- Pathru	Wandaramoolei	No
Kiran	Koralei Pathru	Kiran	No
	Koralei Pathu Central		No
Redeethenna	Walachchaneai	Punaneai- East	
Kaluwankeni	Chenkadali	Kaluwankeni	No
Palachcholei	Eravur Pathu- Chenkadali	Palachcholei	No
Henimadu	K.P. North	211B	No

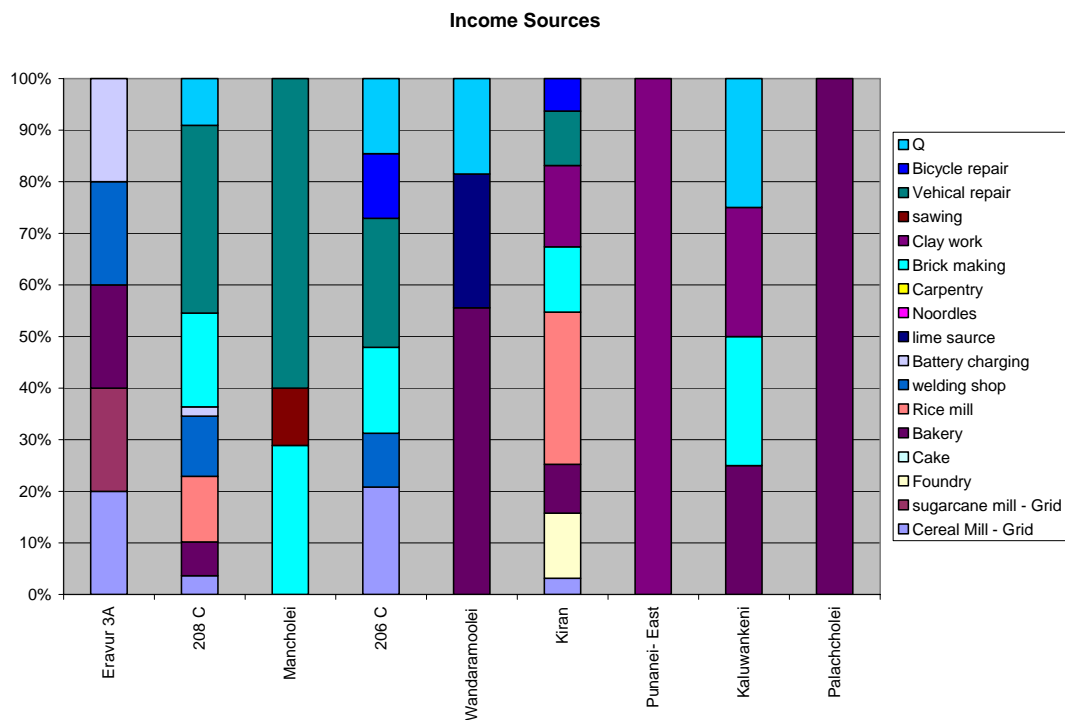
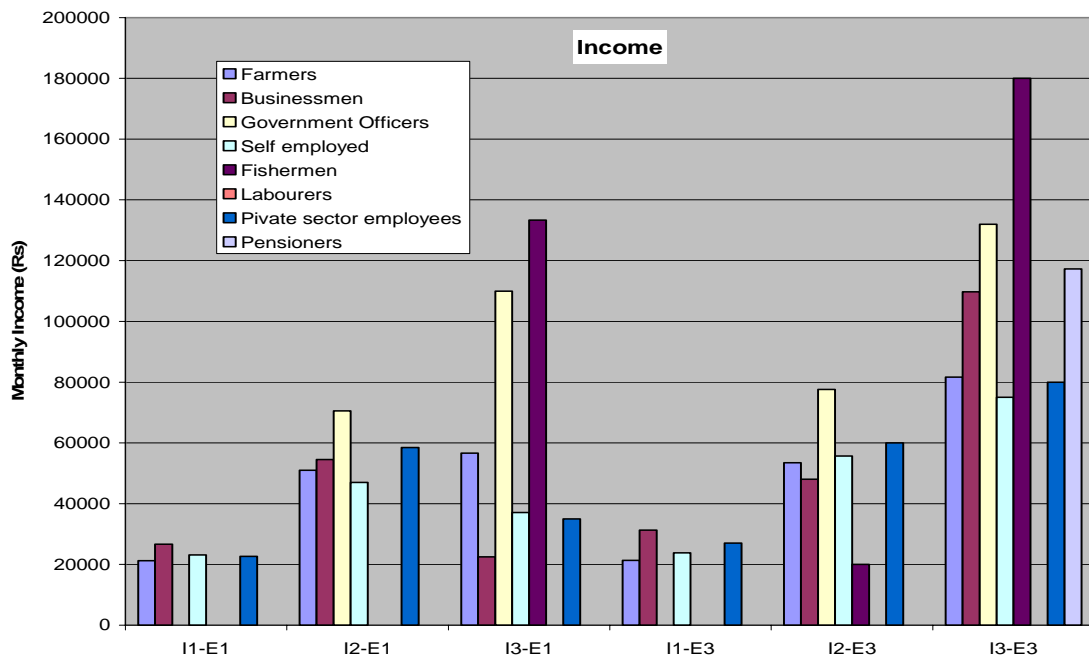




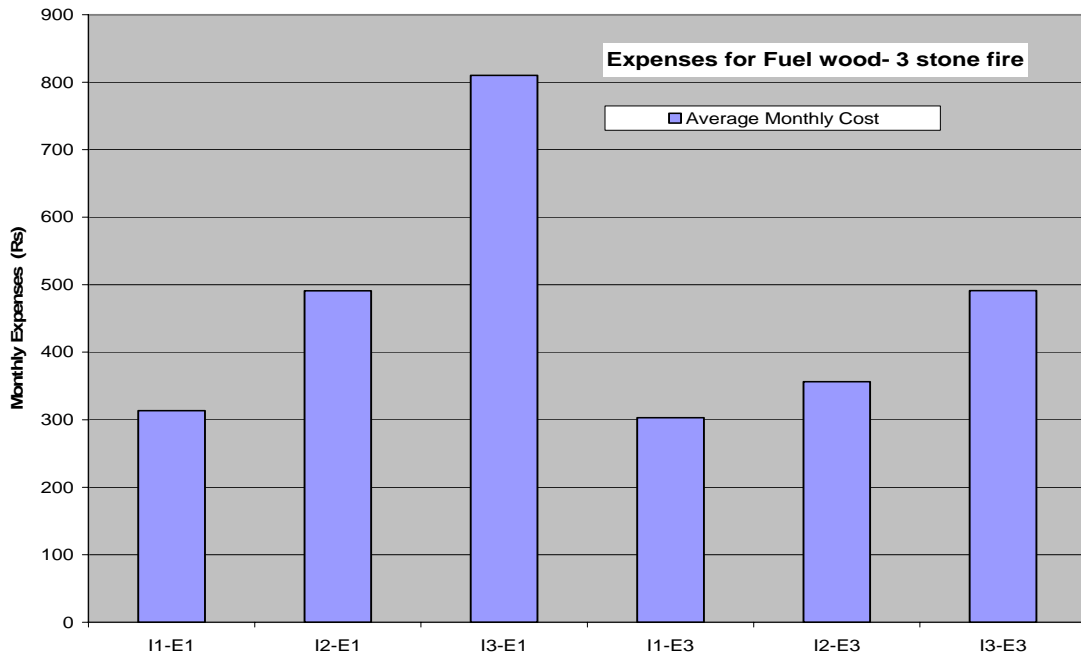
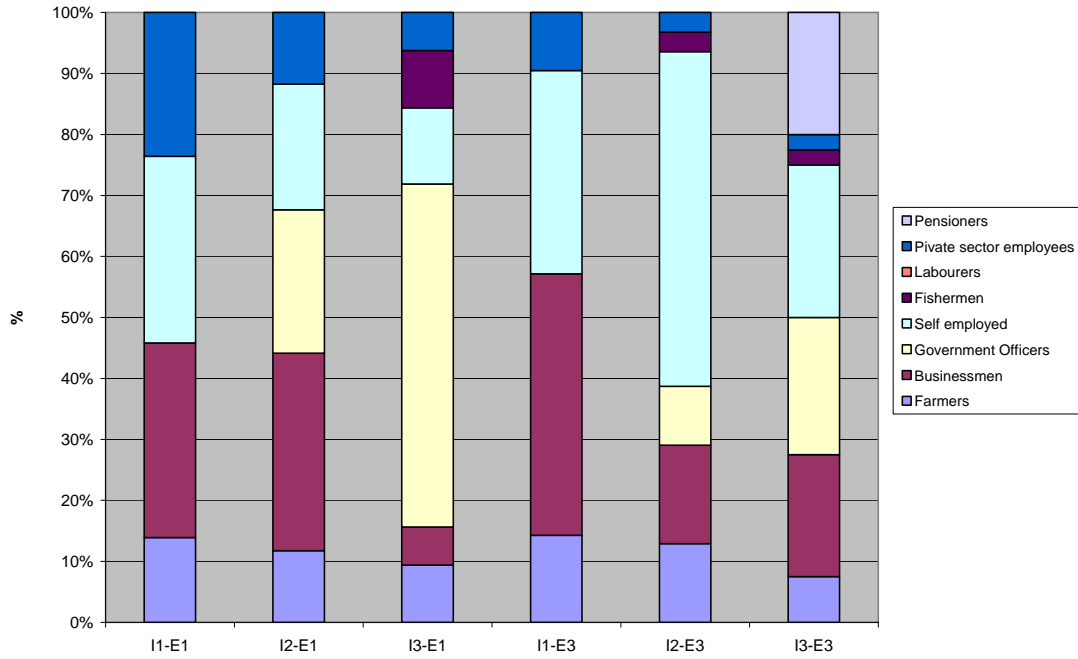
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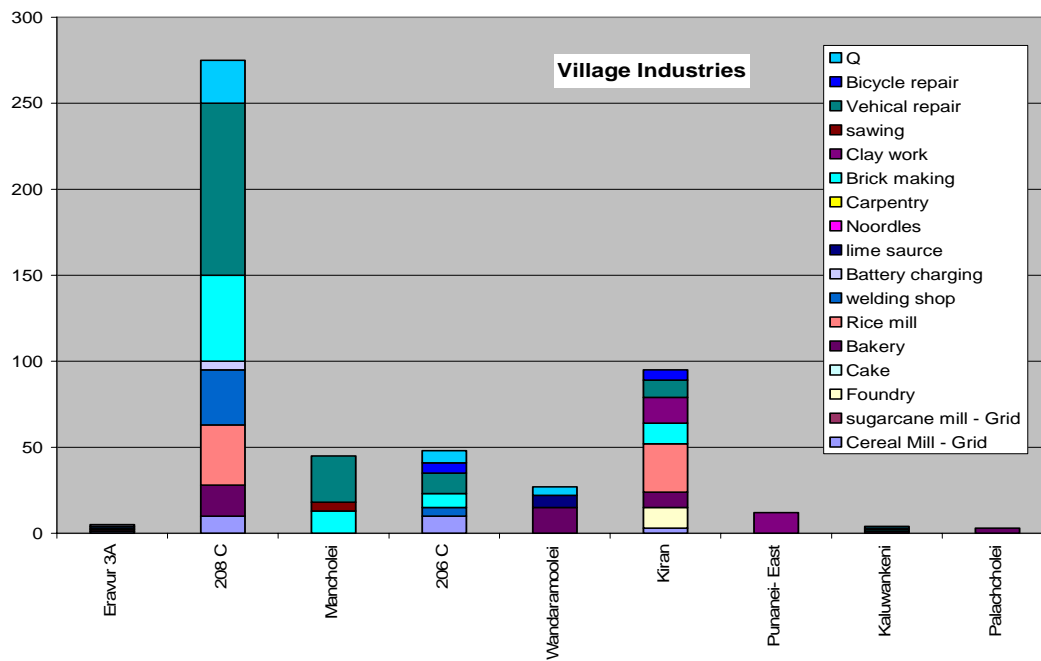
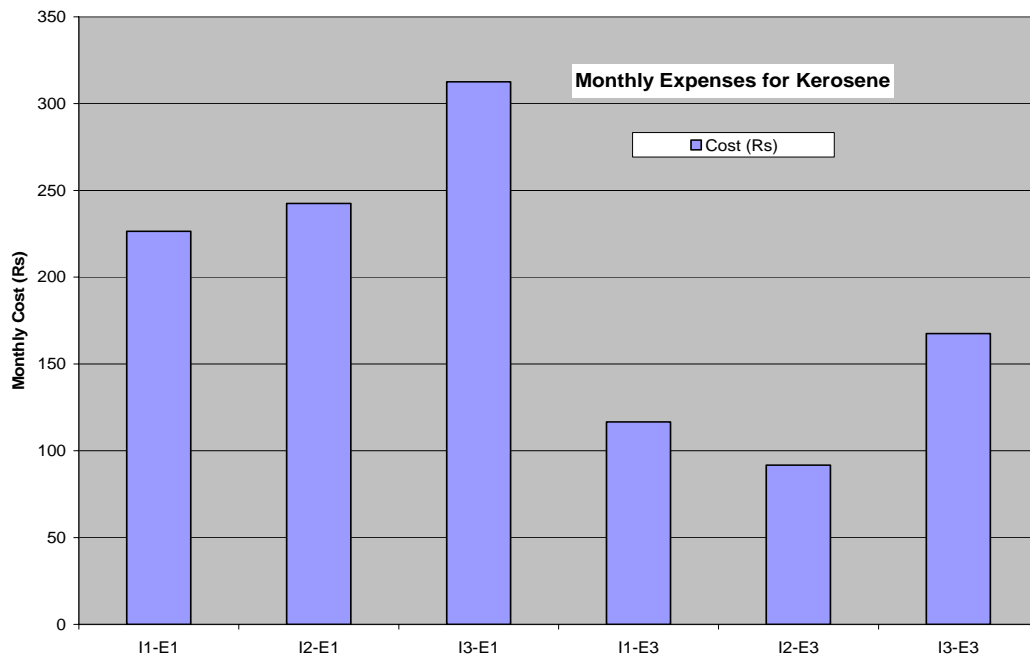
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- E1- Households that do not have access to national electricity grid,
- E3- Households that have access to national electricity grid

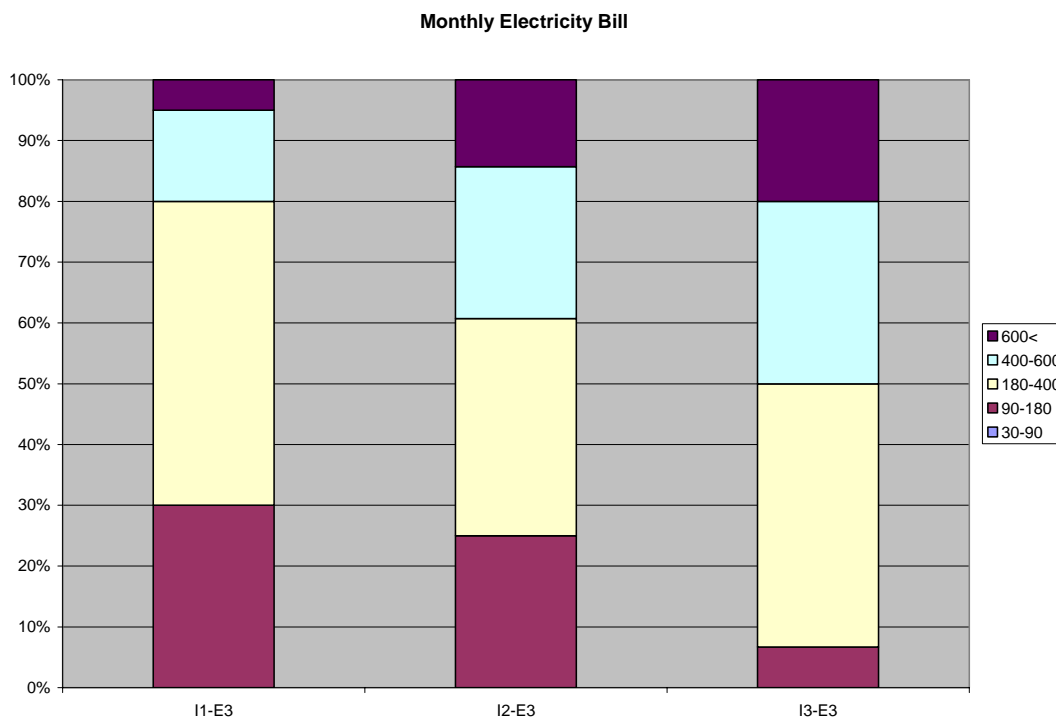
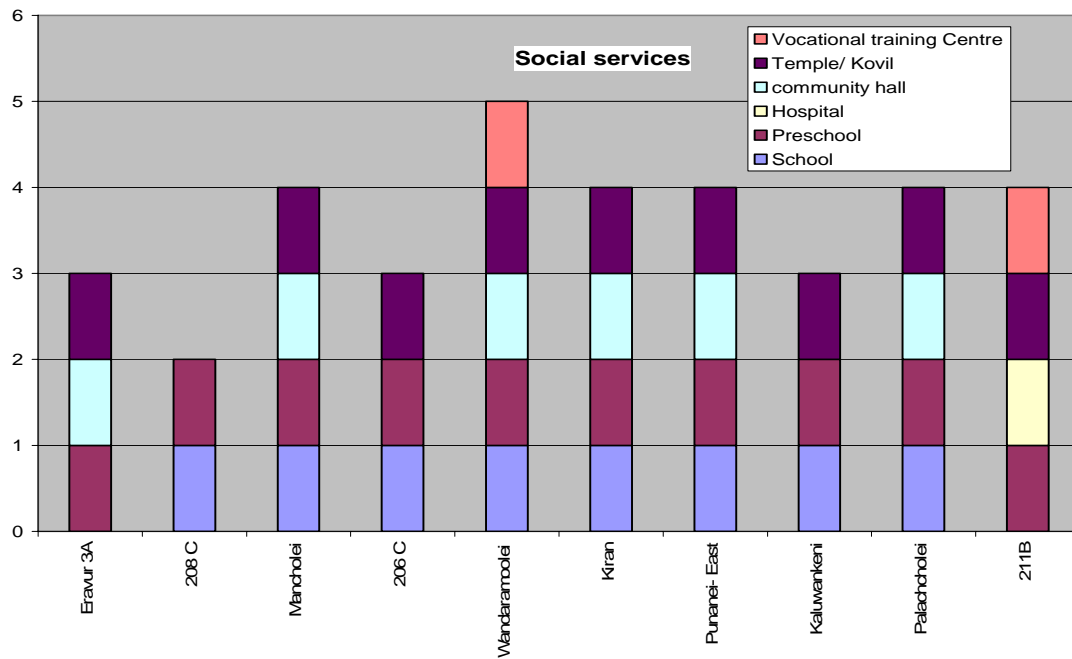


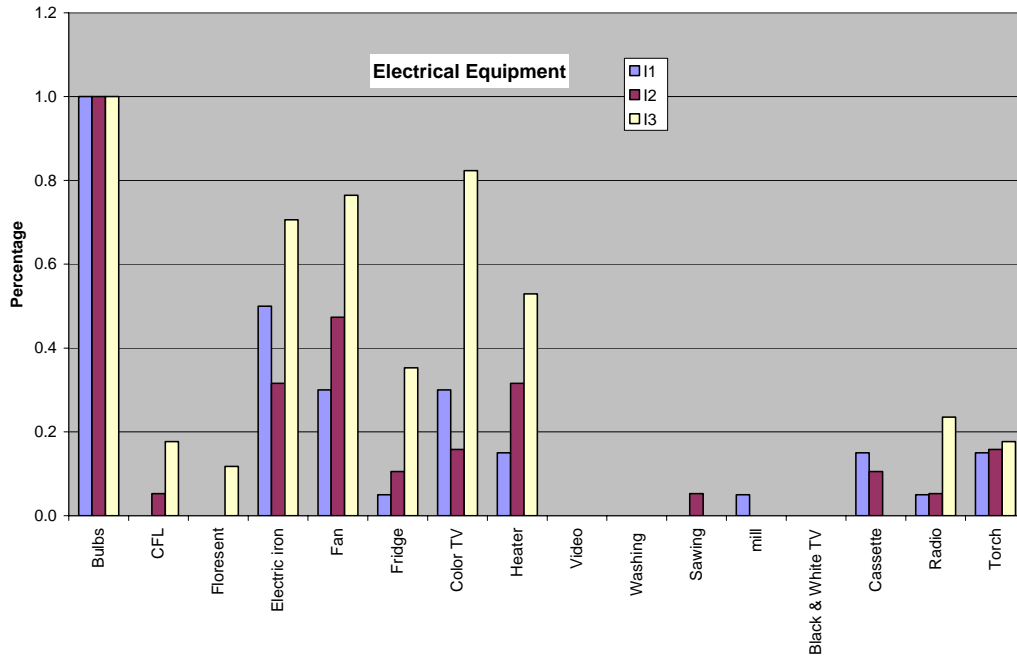


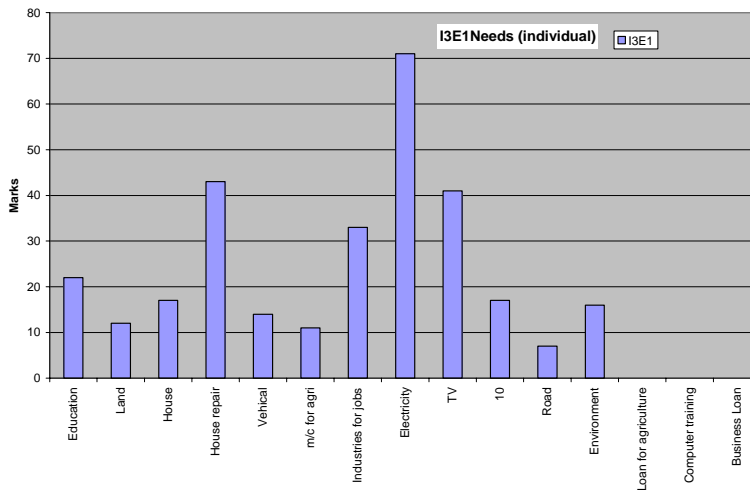
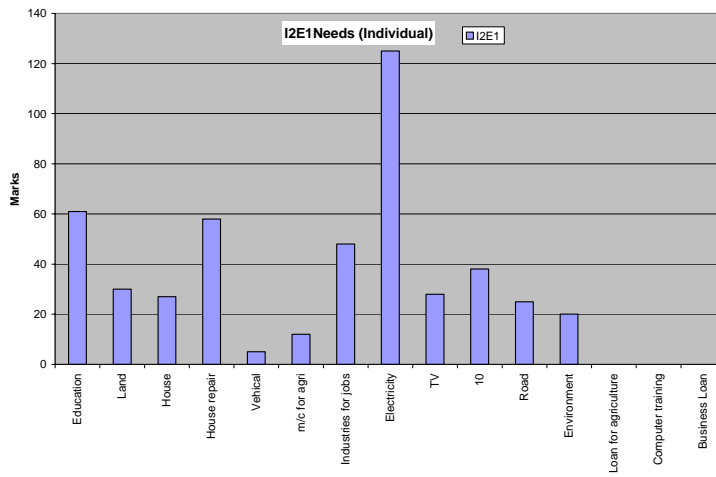
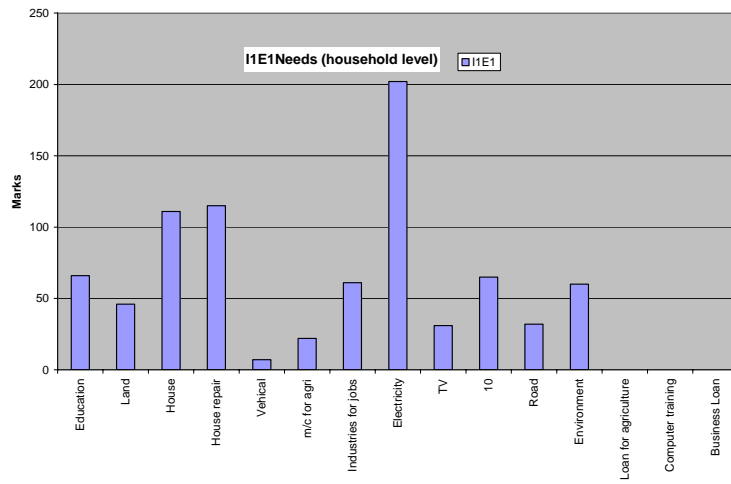
Occupation

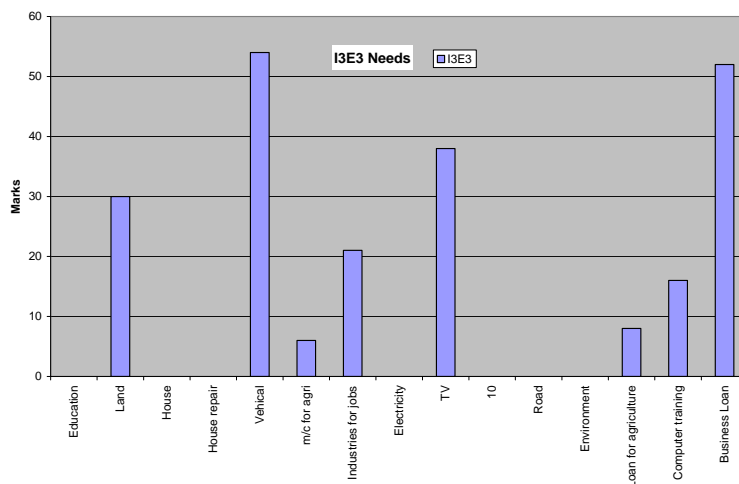
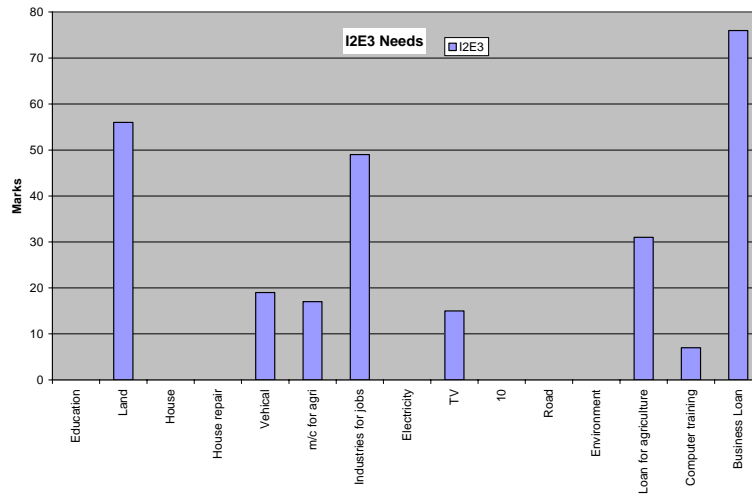
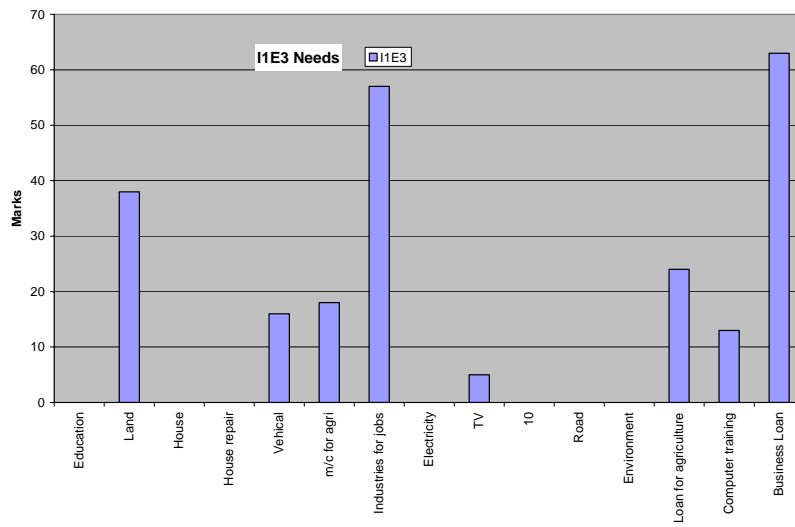


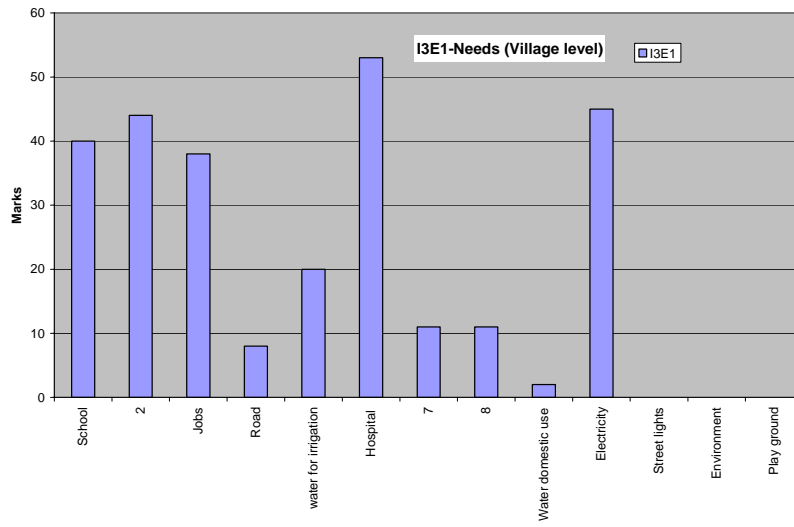
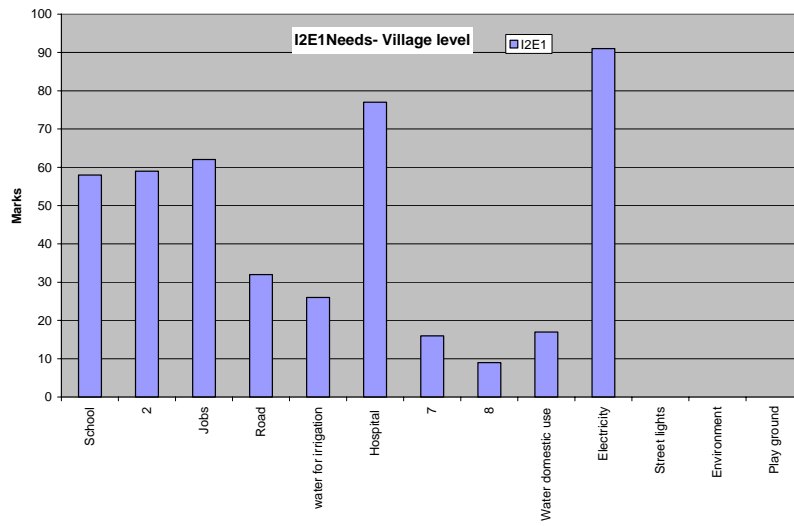
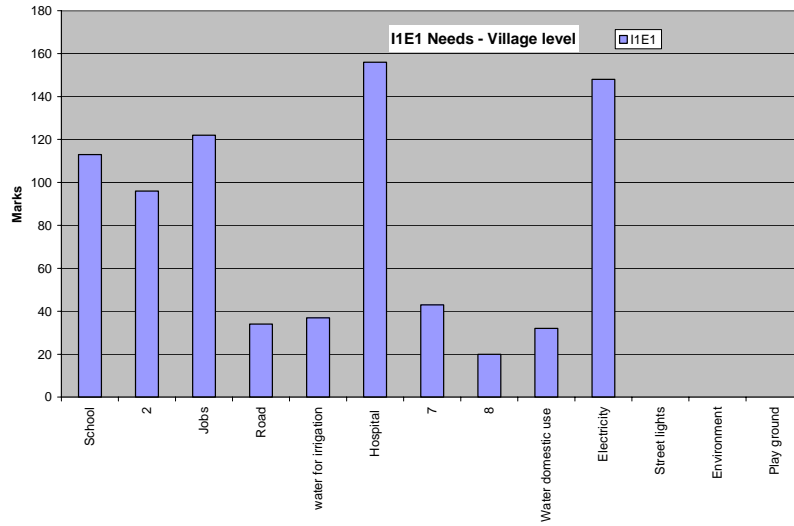


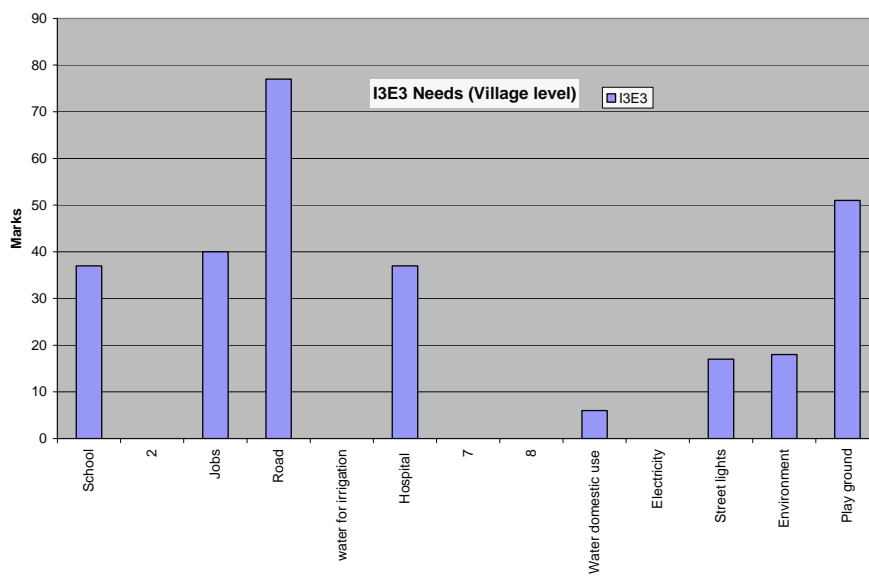
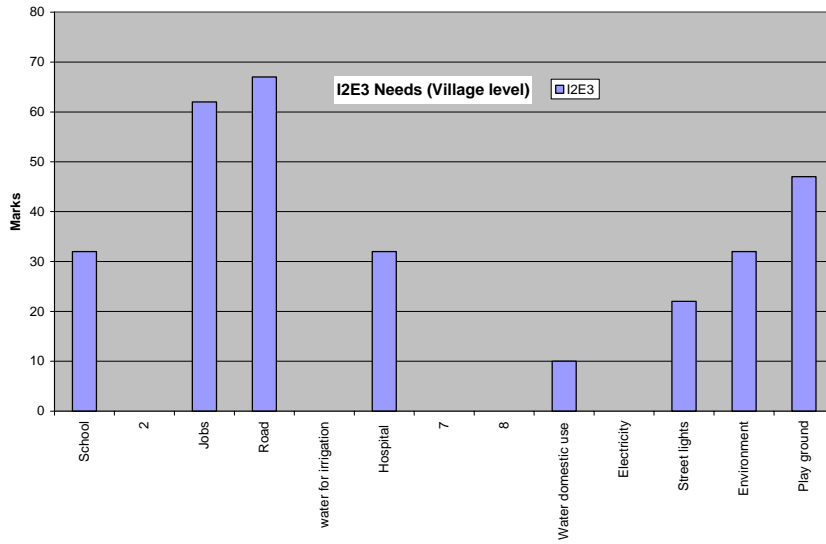
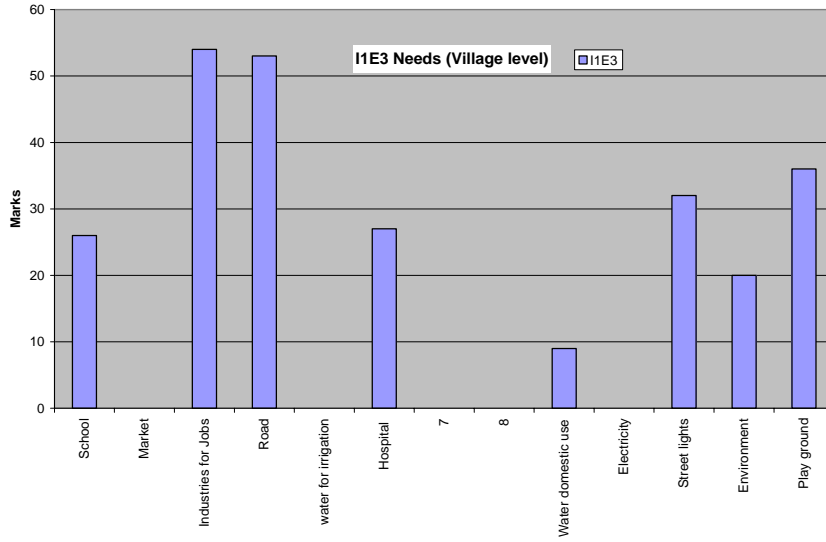




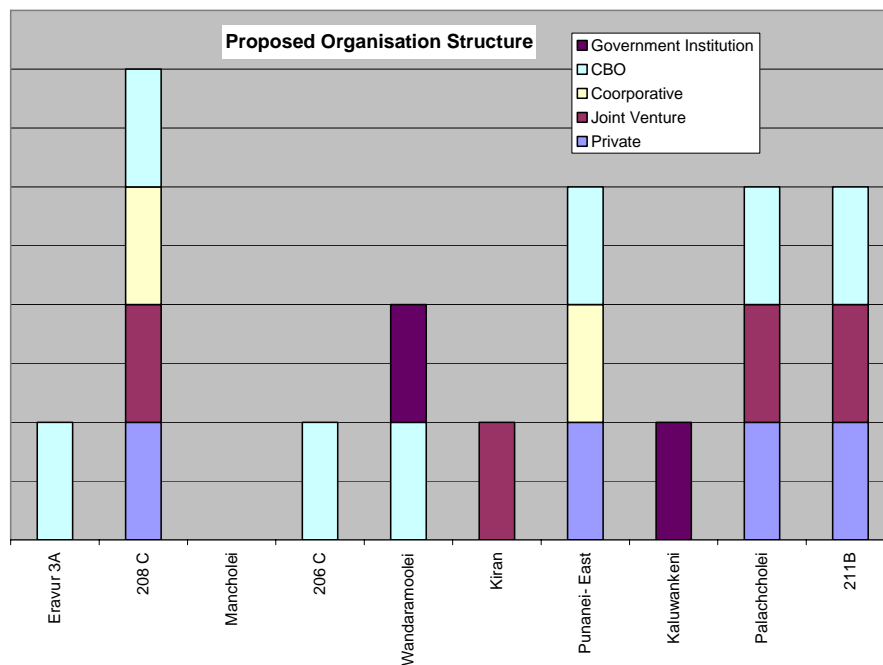








Introduction of Income-Generation Projects



Informants were asked to suggest which would be the most-desirable institution to undertake income-generating projects in their area, should such projects be developed and implemented. People preferred that local CBOs should undertake the implementation of income-generating projects followed by a preference for private individuals working together as small groups (joint venture).

6. Findings of the Study

Village level main requirement is electricity.

Main requirements at village level

1. Electricity
2. Water
3. Stable Market for agricultural products
4. Industries to create more employment

Main requirements at household level

1. Construction or repair of the House (combined)
2. Electricity
3. Education
4. More jobs

Having electricity for domestic lighting during 7.00 pm - 10.00 pm and to view a TV is a basic need. Off-grid community has given higher marks for electricity. Richer people with decentralized energy are not satisfied with the available energy supply. Higher income groups consume more electricity.

Even though survey showed that electricity was a priority, several community leaders felt that malnutrition was a more important problem. In the district, malnutrition is as high as 60%.

The income generation opportunities in the electrified villages are higher.

Employment opportunities in electrified Villages

1. Welding shop
2. Carpentry
3. Vehicle repair
4. Rice mills
5. Cereal grinding mills

However no clear relationship between energy supply and income level. Even if electricity is available, people do not have the financial capital to invest in industrial activities. Furthermore, it is very difficult to get bank loans. There is a lack of technical training which influences income-generating potential regardless of electrified village or not.

Value-addition for agricultural products is a potential economic growth sector. Those who want to do income generation; they should be encouraged and protected. If grid is extended, there should be an integrate program to ensure that income-generation activities take place with a proper follow-up program.

Electricity is a basic need, even if there is no direction connection with income generation. This is further proven (as a basic need) based on the fact that politicians always promise to give. Electricity is a development unto itself. And the perception of the people living in off-grid is that having electricity is like living in heaven- easy to handle, less accidents, work time is extended, education goes up, ability to access new kinds of technological equipment.

Moreover based on experience in Monaragala it was pointed out that when certain villages get electricity they have the potential to become towns. Some villages have good facilities and ability to become towns if they get electricity. However, there is a lack of coordination with the government to inform it, which would be good villages to electrify in order to grow into a town.

Batticaloa District has a special issue -fuel wood scarcity.

7. Conclusions

- Priority of the off-grid community is electricity
- It is not clear whether there is a direct relationship between energy supply and Income generation.
- There should be an integrated program for economic development at community level using electrification as a springboard.
- Fuel-wood problem in Batticaloa needs to be addressed through introduction of new technologies.

Annex 1 - First round of Workshops

First Workshop - Moneragala

Conducted on 11th August 2002, from- 9.00a.m. to 4.00p.m. at Frashi Guest Inn, Moneragala. Number of participants attended the workshop- 28 (Male- 21, Female- 7).

Agenda of the Workshop

1. Introduction of Energy Forum
2. Introduction to the objectives of the study.
3. Individual Information (Written)
4. Presentation of written information
5. Analysis-group discussion
6. Summarizing the findings of the group discussions
7. Discussion on the logistics of the 2nd workshop.

First workshop -Batticaloa

Conducted on 20th of September 2002 from 9.00a.m. to 4.00p.m. Dr. Parreb Meera Lebbe Center in Eravur. Number of participants attended the workshop- 25 Male 17 Female -8

Agenda of the workshop

1. Introduction of the Energy Forum
2. Introduction of the objectives of the study.
3. Plenary Discussion - on the Income levels in the area
4. Group discussions
5. Presentation of the key findings the group discussions
6. Summarizing the findings of the group discussions
7. Discussion on the logistics of the 2nd workshop

Annex 2- Second round of Workshops

Second workshop - Monaragala

Conducted on 22nd of September 2002, from- 9.00a.m. to 2.00p.m. at Frashi Guest Inn, Monaragala. Number of participants attended the workshop- 26 (Male- 20, Female- 6).

Agenda of the workshop

1. Select activists for the survey (10 Participants)
2. Exercise - how to fill the questionnaire
3. Plenary Discussion - to identify the weaknesses of the draft questionnaire
4. Plenary Discussion - on the draft of the questionnaire to be filled by the activists
5. Distribute the questionnaires among the selected activists.

Annex 3- Third round of Workshops

Third & Final workshop - Monaragala

Conducted on 26th of January 2003, from- 9.00a.m. to 3.00p.m. at Victory Inn, Moneragala. Number of participants attended the workshop- 21 (Male- 14, Female- 7).

Agenda of the workshop

1. Present findings from the survey for the participants.
2. Discuss the findings from the survey with the participants.
3. Summarized the finding and conclude the workshop.

Third & Final workshop - Batticaloa.

Conducted on 11th of May 2003, from- 9.30a.m. to 4.30p.m. at . Dr. Parreb Meera Lebbe Center in Eravur Number of participants attended the workshop- 21 (Male- 15, Female- 6).

Agenda of the workshop

1. Present findings from the survey for the participants.
2. Discuss the findings from the survey with the participants.
3. Summarized the finding and conclude the workshop

Annex 4 - List of participants- Moneragala District

1. Ms. Premalatha Ratnayaka
2. Mr. U. G. Ajantha Samanlal
3. Mr. T. U Dinesh Priyantha Kumara
4. Ms. S. G. R. Priyanganai
5. Mr. H. A.D. Amarasiri
6. Ms. R. M. Seelawathi
7. Mr. D. M. Gunathilaka
8. Mr. A. A. G. Jen Nona
9. Mr. T. W. Sarath Kumara
10. Mr. T. U. S. K. Bandara
11. Mr. R. A. Wijeratne
12. Mr. H. M. Bandara
13. Ms. J. M. Gnanawathi
14. Mr. A. A. Sugath Rohana
15. Mr. D. M. Sudath Priyadharshana
16. Mr. E. M. Punchi Banda
17. Ms. Chandra Dissanayaka
18. Mr. R. M. Ariyasena
19. Mr. R. M. Rupasinghe
20. Mr. K. S. Jayasinghe
21. Mr. S. Somasiri Fernando
22. Mr. U. G. Priyantha Jayalal
23. Mr. Padmasiri Jayasundara
24. Mr. D. M. Ratnayaka
25. Mr. T. M. Siriwardana
26. Ms. D. M. Renuka Disanayaka
27. Mr. M.D. Sanjeewa Bandara
28. Mr. Prenith Thilakaratne
29. Ms. J. M. Sriyalatha
30. Mr. A. A. Prasanna Rohana
31. Mr. K. M. Singhapala

Annex 5 - List of participants - Batticaloa District

1. Ms. A.L. Refeeka
2. Mr. T. Kalaivanan
3. Mr. A.L.M. Sathath
4. Mr. K. Vinayagamoorthy
5. Ms. A.B.Noorjahan
6. Ms. M. I. Shabeena
7. Mr. M.S.Rauff
8. Ms. S. Sasikala
9. Ms. Y. Sarojini
10. Mr. A.L. Mohomed Anas
11. Mr. S. I. M. Kabeer
12. Ms. S. Wijayalechchami
13. Ms. S. Ahalya
14. Mr. I. Subair
15. Mr. P. Logithas
16. Mr. K. Purushothman
17. Mr. S. Sasitharan
18. Mr. M. M. M. Buhary
19. Mr. U. Razeek Fareed
20. Mr. U.S. Jothirajaha
21. Mr. T. Dineshwaran
22. Mr. A.R.A Cadar
23. Mr.S.L. Meeramohideen
24. Mr. M.A.M. Hussen
25. Ms. K.M. Moomina

8. ගමේ සුභ සිද්ධිය සඳහා ඉදිරියේ දී අවශ්‍ය යයි ඔබ සිතන්නේ මොනවාද ?

අවශ්‍යතාව	දැනට තිබේද		ප්‍රමාණය	දැනට ඇති සැලසුම් ඉල්ලීම්, ඉමදාන, සමීභිසාකවීපා	බාධක (ප්‍රාග්ධනය, ආකල්ප,දේශපාලනය)
	ඔව්	නැත			
පාසැලක් -					
අස්වනුවලට හොඳවෙළඳපොලක්					
රැකියා ලැබෙන කර්මාන්ත					
ගමට පාරක්					
වාරිමාර්ග පද්ධතියක්					
රෝහලක්					
කෘෂි සහනාධාර සහ දැනුම					
කෘෂි දැනුම					
ගොවිතැන සඳහා බීජ					
නල ජලය					
විදුලිය					

9. නිවාසවල තත්ත්වය:

1. ඔබගේ නිවසේ මුළු කාමර සංඛ්‍යාව කොපමණද ?
2. ඔබගේ නිවසේ වහලය සෙවිලි කර ඇත්තේ මොනවායින්ද ?
පිදුරු/ උළු/ සෙවිලි තහඩු/ ඉළක්/ තල ඇතු/ ඇස්බැස්ටස් ෂීට්
3. ඔබගේ නිවසේ බිත්ති තනා ඇත්තේ මොනවායින්ද?
ගඩොලින්/ බිලොක් ගල්/ වට්ටි බිත්ති/ ලැලි

10. ඔබගේ නිවසේ සිට ප්‍රධාන පාරට ඇති දුර ප්‍රමාණය කොපමණද ?

11. ඔබගේ නිවසට විදුලි බලය තිබේ නම්,
එහි තත්ත්වය පිළිබඳව ඔබ සැකිලකට පත්වන්නේද ? ඔව් / නැත
මාසිකව විදුලි බිල සඳහා වැය වන මුදල කොපමණද ?
රු 30 ට අඩු / 30-90 දක්වා / 90- 180 දක්වා / 180 - 400 දක්වා / 400-600 දක්වා / 600 ට වැඩි

12. විදුලි බලය නැත්නම්,
විදුලි රැහැන් පද්ධතියට ඔබගේ නිවසේ සිට ඇති දුර ප්‍රමාණය කොපමණද ?.....
දැනට එම අවශ්‍යතා සපුරා ගන්නේ - කුප්පි ලාම්පු -/ විමිනි ලාම්පු -/ පැට්ටොමැක්ස් / කාර් බැටරි / මෝටර් සයිකල් බැටරි / ජෙනරේටර් / පිට වායුව / සුර්ය කට්ටල/ කුඩා පරිමාණ ජල විදුලි බලාගාර

13. ඔබට විදුලිය ලැබෙන්නේ සුර්ය බල කට්ටල වලින් නම් එහිදී ඔබට මුහුණ දීමට සිදුවී ඇති ගැටළු මොනවාද ?
වැසි කාලයට ප්‍රමාණවත් නොවීම/ විදුලි බල්බ සංඛ්‍යාව ප්‍රමාණවත් නොවීම / ආලෝකය ලැබෙන කාලය මදවීම/ ස්ත්‍රික භාවිතා කිරීමට නොහැකිවීම / වර්ණ රූපවාහිනී නැරඹීමට නොහැකිවීම / නිතර ක්‍රියාත්මක නොවීම / මාසික ගාස්තුව ගෙවීමට නොහැකිවීම /

14. ඔබට විදුලිය ලැබෙන්නේ කුඩා පරිමාණ ජල විදුලි බලාගාර වලින් නම් එහිදී ඔබට මුහුණ දීමට සිදුවී ඇති ගැටළු මොනවාද ?
අඩු ආලෝකය / විදුලි බල්බ සංඛ්‍යාව ප්‍රමාණවත් නොවීම / අතහැරවූ වේලාවට ආලෝකය නොමැතිවීම / ආලෝකය ලැබෙන කාලය මදවීම / ස්ත්‍රික භාවිතා කිරීමට නොහැකිවීම / නිතර ක්‍රියාත්මක නොවීම / සමීභියේ ආරවුල් / ගාස්තුව අධිකවීම /

15. දැනට භාවිතා කරන බලශක්තිය අවශ්‍ය උපකරණ / යන්ත්‍රසූත්‍ර සහ ව්‍යායේ භාවිතයන්

උපකරණය	ශක්තිය ලබා ගන්නේ කෙසේද	මාසිකව වැයවන මුදල	භාවිතා කරන්නේ දවසේ කවර වේලාවන්හිදී?	ඉන් ආදායමක් ලැබෙනම් මාසික ආදායම	උපකරණයේ ශක්තිය භාවිතය තයත් අඩුකළ හැකිද?	ඉදිරියේදී ගන්නට යන උපකරණ හා යන්ත්‍ර	බාධක
ගල් තුනේ ලිප							
අනගි ලිප							
කුඩු ලිප							
අඟුරු ලිප							
කුප්පි ලාමිපු -							
විමිති ලාමිපු -							
පෙට්‍රොමැක්ස් -							
අඟුරු ස්ත්‍රික්කය							
ගැස් ලිප							
සූත්‍රිකා බල්බ් -							
සිව්ජ්වල් බල්බ් -							
ජ්ලෝරිනි බල්බ්-							
විදුලි ස්ත්‍රික්කය							
විදුලි පංකා -							
ගිනකරණය							
වර්ණ රූපවාහිනී							
තිටරය							
විඩියෝ යන්ත්‍රය							
රෙදි සෝදන යන්ත්‍ර							
මහන මැසීම							
ධාන්‍ය ඇඹරුම							
කළු සුදු රූපවාහිනී							
කැසට් යන්ත්‍රය							
ගුවන් විදුලිය							
විදුලි පන්දම							
වතුර පොම්පය							
මෝටර් සයිකලය							
ට්‍රැක්ටරය							

16. එක් එක් බලශක්ති අවශ්‍යතාවන් සඳහා ඔබ දැනට භාවිත කරන බලශක්ති ප්‍රභව හා උපකරණ වල තිබෙන ගැටළු මොනවාද?

ඔබ වඩා ඔබ හොඳ යයි සිතන වෙනත් බලශක්ති ප්‍රභව හා උපකරණ මොනවාද?
 සූර්ය බලය, පිට වායුව, ගෑස් ලිප, සුළං බලය, ප්‍රධාන විදුලි රැහැන්, සිව්ස්වල් බල්බ, ජෙනරේටර, යතුරු පැදිය.....

17. දැනට ඔබගේ නිවසේ හෝ ගමේ ඇති බලශක්ති උපකරණ/ යන්ත්‍ර සූත්‍ර නිසා පරිසර හානියක් සිදුවේද?
 ඔව් / නැත.
 ඔව් නම් කෙසේද?
 වාතය දූෂණයවීම/ නිවසේ දැලි බැඳීම/ අනතුරු/ වන විනාශය/

18. ඔබ දන්නා ගමේ තිබෙන දැනට උපරිම ප්‍රයෝජනයක් නොගන්නා බලශක්ති සම්පත් මොනවාද?
 දර / දිය පහර / ගොම / පිදුරු / සුළඟ / දහයියා /ලි කුඩු/

19. බලශක්ති උපකරණ සහ ප්‍රභව පිලිබඳව තොරතුරු ඔබ ලබාගන්නේ කෙසේද?

රූපවාහිනියෙන් / ගුවන්විදුලියෙන් / දිනපතා පත්තර වලින් / සතිපතා පත්තර වලින් / පත්‍රිකා මගින් /
 කඩේ මුදලාලිගෙන් / පෝස්ටර් වලින් / අසල්වැසියන්ගෙන් / දරුවන් මගින් පාසැලෙන් / දැනුවත්
 කිරීමේ වැඩසටහන් මගින්

20. කෘෂි නිෂ්පාදන පිලිබඳ තොරතුරු

කෘෂි නිෂ්පාදන කන්න/ වාර්ෂික/ බහුවාර්ෂික හෝ/ සත්ව පාලනය	කල් තබා ගන්නේ කෙසේද?	අපතේශාමක් සිදුවන්නේද	අපතේ ශාම වැළැක්වීමට ඇති පියවර

පත්‍රිකාව පිරවූ නිලධාරියාගේ නම
 නිලධාරියාගේ අත්සන
 පිරවූ දිනය

Annex 7- Questionnaire on Village Information

ගම ගැන පොදු තොරතුරු

- ගමේ නම-
 අයත් වන ප්‍රාදේශීය ලේකම් කොට්ඨාශය -
 අයත් වන ග්‍රාම නිලධාරී වසම -
 ගමේ නිවාස ගණන -
 ගමේ රැහැන් විදුලිය ඇති නිවාස ගණන -
 අඩු ආදායම්ලාභී පවුල් ගණන මාසික ආදායම රු. 4000 ට අඩු -
 මධ්‍යම ආදායම්ලාභී පවුල් ගණන මාසික ආදායම රු. 4000- 8000 දක්වා-
 ඉහල ආදායම්ලාභී පවුල් ගණනමාසික ආදායම රු. 8000 ට වැඩි-
 ගමේ මුළු භූමි ප්‍රමාණය -
 කුඹුරු බිම් ප්‍රමාණය -
 සෙසු වගාබිම් ප්‍රමාණය -
 මඩුබිම් සහ ලඳු කැළෑ ප්‍රමාණය -
 හේන් බිම් ප්‍රමාණය ගමේ අයගේ -
 වනාන්තර බිම් ප්‍රමාණය -

- ගමේ ප්‍රධාන ආදායම් මාර්ග -

වී ගොවිතැන- / එළවලු වගාව- / උක් වගාව- / හේ වගාව- / අලු වගාව- හේන්
 ගොවිතැන- / දර වෙළඳාම- / දැව වෙළඳාම- / සත්ව පාලනය-
 සුළු අපනයන බෝග- / ස්ථිර බෝග- / ගඩොල් කර්මාන්තය-

.....

- ගමේ දැනට බලශක්ති ආශ්‍රිතව තිබෙන කර්මාන්ත පිළිබඳ විස්තර

(කුළුබඩු හා ධාන්‍ය ඇඹරුම්පල, උක් මෝල, කම්මල, කේක් නිපදවීම, බේකරිය, පාල්මෝල, වෙල්ඩින් වැඩපොල, බැටරි වාප්කිරීම, දෙතිසෝස් නිෂ්පාදනය, නුඩල්ස් පසබිම් නිෂ්පාදනය, වඩු වැඩ, ගඩොල්/බිලෝක්ගල් කර්මාන්තය, මැටි කර්මාන්තය, මැනුම් කර්මාන්තය, වාහන අළුත් වැඩියා කිරීම, බයිසිකල් අළුත් වැඩියාව ආදී)

කර්මාන්තය	සේවකයින් සංඛ්‍යාව	ඊට බලශක්තිය ලබා ගන්නා ආකාරය	ඒ ආශ්‍රිතව පවත්නා ගැටළු

- ගමේ ඇති සමිති මොනවාද?

- ගම සතු වන වෘත්තීය පුහුණු හැකියාවන් මොනවාද?

ජාති පුහුණුව- , පරිගණක- , පෙර පාසැල් ගුරු පුහුණුව- ,
 රූපලාවණ්‍ය- , රූපවාහිනී හා ගුවන් විදුලි යන්ත්‍ර අළුත් වැඩියාව- ,
 ඊයදුරු- , වඩුවැඩ-

5. ගමේ දැනට ඇති පොදු ආයතන

- පාසැල
- පෙරපාසැල
- රෝහල
- සමිති ශාලාව
- පන්සල
- වෘත්තීය පුහුණු මධ්‍යස්ථාන

6. ගමට සුදුසු ආදායම් උත්පාදන වැඩසටහනක් දියත් වන්නේ නම් ඊට සුදුසු ආයතනික ව්‍යුහය කුමක්ද?

- පුද්ගලික ව්‍යාපාර ලෙසින්
- හවුල් ව්‍යාපාරයක් ලෙසින්
- සමුපාකාරයක් ලෙසින්
- සමිතියක් ලෙසින්
- ඊජයේ ආයතනයක් ලෙසින්

7. ගමේ ප්‍රධාන කෘෂි නිෂ්පාදන මොනවාද?

කෘෂි නිෂ්පාදන කන්න/ වාර්ෂික/ බහු වාර්ෂික හෝ ග/ සත්ව පාලනය	කෘෂි නිෂ්පාදන අලෙවියෙන් ආදායමක් ලබන්නේද?	කල් තබා ගන්නේ කෙසේද?	ආශ්‍රිත නිෂ්පාදන	අපතේ ගාමක් සිදුවන්නේද	අපතේ ගාම වැලැක්වීමට ඇති පියවර

8. ගමේ ඇති බලශක්ති ප්‍රභව පිළිබඳ විස්තර-