Enabling urban poor livelihoods policy making: understanding the role of energy services

DFID KaR PROJECT R8348

Inception Report
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Inception Report

Executive summary

The Technology and Development Group of the University of Twente has joined with Winrock International, Brazil, Friends of the Environment, Nigeria and APPROTECH, The Philippines to conduct a study which aims to gain insights into poor urban livelihoods and the role which energy plays into sustaining those livelihoods. The outcome of the study will contribute to the eradication of urban poverty by making pragmatic policy recommendations that formulate strategies for addressing bottlenecks in accessing energy services by urban poor people which are acting as a barrier to their moving out of poverty. A particularly important aspect of the research undertaken in this project is that it will provide micro-level empirical evidence of the energy issues within urban households and to provide a holistic understanding of the role of energy in sustainable urban livelihoods. Empirical data on the urban poor and energy is lacking and much policy making is based on assumption. For example, commercial (modern) energy, such as LPG and electricity, is more readily available in urban than rural areas and so it is *assumed*, that the urban poor have better access than the rural poor to the benefits these cleaner forms of energy with their more efficient conversion technologies. The data gathered in this study will test the validity of that assumption.

In order to test this assumption four hypotheses have been formulated.

1. Clean and affordable energy services are key factors in creating good physical well being and productivity of urban household members.
2. Social networks and relationships facilitate access to urban energy services.
3. Energy services are key factors in the sustainable urban livelihoods by increasing the viability of existing enterprises and enabling the establishment of new ones.
4. Energy sector reforms lead to improved access by urban enterprises to energy services.

For each hypothesis, a number of broad indicators have been formulated which will determine the data that needs to be collected. These indicators build on an earlier set of indictors in a coping study for DFID KaR carried out in Ghana, Indonesia and China[1]. The study described here will also take a broader definition of an urban household, which reflects the ways in which urban households are socially constructed as well as social relations, such as gender, marital status and kinship, and age. The focus of the study will be enterprises (micro and small scale; formal and informal sectors) and how energy services

[1] Future Energy Solutions et al (2002) Energy, Poverty and Sustainable Urban Livelihoods. DFID KaR R7661.

influence enterprise development and the sustainable livelihoods of urban household members, including their well-being and productivity. The study will focus on the enterprises of low-income urban groups, in particular the linkages between energy in enterprises and household members' well being and productivity will be analysed. These will not be the "poorest of the poor" – since there is no doubt that providing people in this group with energy services will lead to improvements in their livelihoods. Instead, the focus will be on those groups which have the capacity to be entrepreneurs or improve their entrepreneurial status. The sectors to be covered are: fish processing, cassava processing, mat craft and pottery *(*Nigeria); street vendors, bakeries/small markets (Brazil); food processing and preparation (household) and shoe making (Philippines).

An innovative aspect in the research is the mapping of the role of social networks and relationships in facilitating access to energy services.

The data to test the hypotheses will be from primary and secondary sources. There will be opportunity to test some new data gathering tools specifically developed for the energy sector to reflect the gender aspects.

Specific Outputs of the study include:

- Best Practices Paper: Energy Services for the Urban Poor (March 2004)
- 3 Country Reports which explore the urban livelihoods and energy nexus (January 2005)
- 3 National Workshops (January 2005)
- Synthesis Paper (April 2005)
- Briefing note (May 2005)
- International Practitioners Workshop (June 2005)
- ENERGIA News Special issue on gender, energy and urban livelihoods (September 2005)

Acronyms

ANEC	Affiliated Non-conventional Energy Centre
CBO	Community Based Organisation
CV	Curriculum Vitae
DFID	Department for International Development
ECN	Energy Commission of Nigeria
ELDIS	Internet based gateway to development information
ENERGIA	International Network on Gender and Sustainable Energy
FES	Future Energy Solutions
FOET	Friends of the Environment
GENES	Meso-America Gender in Sustainable Energy Network
ICC	Improved Cookstove Centre
ITDG	Intermediate Technology Development Group
KaR	Knowledge and Research
LPG	Liquid Propane Gas
NCRFW	National Commission on the Role of Filipino Women
NGO	Non-Governmental Organisation
RENOVE	Brazilian Energy Network
RDC	Research and Development Committee
SULF	Sustainable Urban Livelihoods Framework
TDG	Technology and Development Group
TRLC	Technology and Livelihood Training Centres
UNIFEM	United Nations Development Fund for Women

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Inception Report

1 Goal, Purpose and Output of Project

The Goal of the project is to contribute to reaching the Millennium Development Goal of, between 1990 and 2015, halve the population whose income is less than one dollar a day.

The purpose of the project is to provide a clear understanding, based on micro-level gender disaggregated data, of the issues around urban energy supply and use for poor people's livelihood strategies.

During the inception phase, it was decided to make the focus of the study enterprises rather than households and to map the linkages between the role of energy services in enterprise development and the sustainable livelihoods of household members, including their well-being and productivity. A basic assumption is that energy services have to be clean and affordable, although affordable is not necessarily synonymous with cheap.

The study will focus on enterprises of low-income groups, in particular the linkages between energy in enterprises and household members' well being and productivity will be analysed. These will not be the "poorest of the poor" – since there is no doubt that providing people in this group with energy services will lead to improvements in their livelihoods. Instead, the focus will be on those groups which have the capacity to be entrepreneurs or improve their entrepreneurial status.

An innovative aspect in the research is mapping the role of social networks and relationships in facilitating access to energy services. It is assumed that these networks are more significant in urban areas than in rural areas. The project partners therefore defined the specific objectives of the research as:

- To determine the role of energy services in urban enterprise viability and the influence on household livelihoods.
- To analyse the role of social networks and relations in facilitating urban household livelihoods.
- To analyse the impact of energy sector reforms on access by urban enterprises to energy services.

The outputs of the project are:

- Inception Report (March 2003)
- Best Practices Paper: Energy Services for the Urban Poor (March 2004)
- Data Collection Methodology Report (July 2004)

- 3 Country Reports which explore the urban livelihoods and energy nexus (January 2004)
- 3 National Workshops (February 2005)
- 3 National Workshop Reports (March 2005)
- 3 Dissemination Strategy Reports (March 2005)
- Synthesis Paper (April 2005)
- Briefing note (May 2005)
- International Practitioners Workshop (June 2005)
- International Practitioners Workshop Report (July 2005)
- ENERGIA News Special issue on gender, energy and urban livelihoods (September 2005)
- Final Report (October 2005)

The overall outcome of the research will be policy recommendations for the delivery of energy services that positively influence enterprise development and sustainable livelihoods.

2 Initial Activities and Findings

2.1 Key issues

The study (R8348) aims to gain insights into poor urban livelihoods and the role which energy plays in sustaining those livelihoods. The outcome of the study will contribute to the eradication of urban poverty by making pragmatic policy recommendations that formulate strategies for addressing bottlenecks in accessing energy services by urban poor people which are acting as a barrier to their moving out of poverty. A particularly important aspect of the research undertaken in this project is that it will provide micro-level empirical evidence of the energy issues within urban households and to provide a holistic understanding of the role of energy in sustainable urban livelihoods. Empirical data on the urban poor and energy is lacking and much policy making is based on assumption. For example, commercial (modern) energy, such as LPG and electricity, is more readily available in urban than rural areas and so it is *assumed*, that the urban poor have better access than the rural poor to the benefits these cleaner forms of energy with their more efficient conversion technologies. The data gathered in this study will test the validity of that assumption.

If urban poor people have access to modern energy services, what affect does it have on their livelihood strategies? How does energy influence income generation for poor urban people and how do changes in income feed back into the household? Does increased income lead to better well-being through the purchase of modern energy, for example, through reduce indoor air pollution, better cooked food, and more boiled water?

A key issue for policy making related to fuel pricing and the need for fuel subsidies, is how the urban poor gain access to energy services. Are these always purchased, and if so what proportion of household income is used for energy? Poor urban households appear to spend a significant proportion of

their limited income on energy. One estimate has put it as much as 25% of household income[2]. The poorest 20% of urban households spend a higher proportion of their incomes than wealthier ones for lower-quality fuels (primarily biomass and kerosene) both for cooking and lighting. There is some evidence[3] to suggest that the quantities of fuels purchased do not increase in line with income, however, the study made no reference to the quality of the fuels bought. How do poor urban households respond to energy shocks, such as price increases? This is a significant question in relation to current policies of privatisation and commercialisation in the energy sector. Households have three options: (i) shift to using cheaper options, (ii) reduce overall energy consumption (iii) reduce non-energy expenditure (for example, children are withdrawn from school)[4]. Which option they choose can influence well-being (see Section 2.4.4).

What are the gender aspects of urban energy and livelihoods? The evidence would suggest that the situation is little different to that which exists in rural households: energy is primarily the women of the household's responsibility. Urban women also face similar inequalities to their rural sisters: low capabilities, low rewards in the labour market, exclusion through social stigma and discrimination, a lack of productive assets and resources relative to men[5]. How do these inequalities manifest themselves in urban women gaining access to energy services? Women are over-represented amongst the chronically poor (defined as those living in poverty for a considerable period of time). Therefore, if energy is a key factor in moving people out of poverty, through improved income generation, or is a significant contributor to well-being, addressing gender issues in energy will make an important contribution to reducing poverty. Gender and energy issues have not been explored in any systematic way in urban livelihoods and this is one of the data gaps this study intends to address.

2.2 Activities to date

To date there has been an inception meeting (contributing to milestone 1 referred to as the kick-off meeting in the proposal) held from March 8 to 12. The three national team leaders participated in the workshop together with the project coordinator. A summary report of the workshop can be found in Appendix 1. The workshop worked out in more detail objectives of the research which led to the development of hypotheses to be tested. For each of the hypotheses, a number of broad generic indicators were identified. An initial assessment of the indicators developed as part of KaR study by Future Energy Solutions (FES)[6] for their relevance to this study was made (see Appendix 2). These indicators are discussed in more detail in section 2.3. The next step is to decide what data needs to be collected related to the specific

[2] Barnes D (1995), *Consequences of Energy Policies for the Urban Poor*, FPD Energy Note No 7, The World Bank, Washington DC. November 1995. http://www.worldbank.org.
[3] O'Keefe P (1993), *No use for a ladder?*, Appropriate Technology, Vol. 20, No.3.
[4] Future Energy Solutions et al (2002) Energy, Poverty and Sustainable Urban Livelihoods. DFID KaR R7661.
[5] Amis P (2002), *Thinking about chronic urban poverty*. CPRC Working Paper No 12. Chronic Poverty Research Centre, University of Manchester. ISBN 1-904049-11-7.
[6] Reference as for footnote 1.

indicators to test the hypotheses. This will be done between now and the Training workshop on Data Gathering and Analysis (to be held in May). The focus (or locus) of the research will be enterprises and not households but the linkages between energy services, enterprises and household members' sustainable livelihoods will be analysed.

The best practices paper (milestone 2) reviews the state of the art for energy services for the urban poor. This activity is currently underway (completion end March) and hence the knowledge review presented here (section 2.4) is a slightly up-dated version of the review presented in the original proposal. The format of presentation of current knowledge is different to that in the proposal and gives an indication of the structure of the best practices paper.

2.3 Data gathering

There is little empirical data on urban livelihoods and energy. The study therefore will collect empirical data from three countries. To ensure that comparative data is collected a planning workshop has been held with the country team leaders and the study co-ordinator to define the boundaries of the study. This will be followed by a training workshop in the Netherlands for the three researchers responsible for data collection and analysis (May 10 to 14). Between six and eight weeks into the data collection, a review meeting with the country team leaders and the study coordinator will be held to evaluate the data collection process and the need for any adjustments (provisionally set for August 23-27).

There have been two significant developments related to data collection since the proposal for this study was first written which will strengthen the data collection and output. A KaR study by Future Energy Solutions (FES)[7] has now been completed which examined the use of the Sustainable Urban Livelihoods Framework (SULF) for exploring the energy/ poverty linkages in poor urban households. Within the FES study a number of indicators (generic and context specific) were developed that reflect the importance of energy within the livelihood priorities of the urban poor. The present study was asked to test the indicators for their generic replicability and to adapt them to reflect gender aspects which the FES study had not included. The project kick-off meeting made an initial review of these indicators for use in this research and found some relevant, some needed minor adjustment and others were not relevant at all (see Appendix 2). The current study has developed a number of broad indicators for the hypotheses to be tested (see Appendix 1). The FES indicators can be assimilated into those that form part of the study. The indicators shape the data that needs to be collected which will be formulated in dialogue with the national teams and during the training workshops on data gathering and analysis to be held in the Netherlands in May and by the national teams during June. The broad indicators fall within the categories proposed by Drake[8].

[7] See Footnote 1.

[8] Drake L., (2000), *Scoping Mission to investigate the development of Livelihoods Indicators and Livelihoods Monitoring Systems for DFID-Bangladesh* quoted in Future Energy Solutions et al (2002) *Energy, Poverty and Sustainable Urban Livelihoods*. DFID KaR R7661.

Indeed, to reflect the situation in urban areas that more than one social grouping of people can be living under one roof, the present study uses a wider definition of the household than the FES study. These social groupings take into account marital status (single, married, widow(er) and divorced/separated), ethnicity and age. Also attempts will be made to look at intra-household gender issues rather than taking the household as a single entity, with common goals and strategies (which is contested in gender theory).

The Technology and Development Group (TDG) is currently revising its Gender and Energy Training Manual[9] which includes tools for data collection and analysis. Until now there have been no specific gender data tools for the energy sector and attempts to collect and analyse gender disaggregated data have had to rely on adapting tools from other sectors. It is the opinion of the TDG that this has resulted in gaps and incomplete analyses. Therefore, the manual revision has included the development of gender tools specifically for the energy sector. This study will be able to test these tools which should result in a more comprehensive data set on gender and energy issues.

2.4 Knowledge Review: Urban livelihoods, poverty and energy

2.4.1 Introduction

Energy has both a direct and indirect impact on the livelihoods of the poor. Whilst there is a significant body of knowledge on how energy affects the rural poor, relatively little research has been undertaken into the relationship between energy and the livelihoods of the urban poor[10]. Existing research exploring urban household energy use has mainly taken a sectoral focus and not examined the links with household income generation, neglected gender aspects (particularly at the intra-household level) and the strategies poor urban households use to develop livelihoods, nor has it reflected the outcomes of privatisation and commercialisation in the energy sector on energy services for the urban poor. This section gives a brief review of the available literature and a more extended version will appear as a best practices paper, an output of this project.

2.4.2 Energy Use Patterns in poor urban households

The available evidence suggests that urban poor people buy their fuel even though there is little quantitative data on the use of non-purchased (scavenged) fuels, although qualitative evidence suggests that this source is not without its risks[11]. At the beginning of the 1990s, the World Bank carried out a global survey of 45 cities and 20,000 households[12]. This study found that poor urban households spend a significant portion of their cash incomes on energy (15 to 22%). In urban areas, t~~T~~he poor were found to often pay higher prices for energy than more wealthy households. This was attributed in part to the heat

[9] This work is partially supported by funding from ENERGIA. A copy of the original manual can be found on the ENERGIA web site: www.energia.org.

[10] Future Energy Solutions et al (2002). Reference as for Footnote 1.

[11] Doig A (1998), *Energy Provision to the Urban Poor*. Report of the Household Energy Development Organisation Network IX Meeting. DFID Energy Research Newsletter, Issue 7, November 1998. http://www.etsu.com/dfid-kar-energy/html/7-urban_poor.html

[12] Barnes D (1995), *Consequences of Energy Policies for the Urban Poor*, FPD Energy Note No 7, The World Bank, Washington DC. November 1995. http://www.worldbank.org.

content of the fuels used and the conversion efficiency of the technologies influencing the amount of useful energy produced. The urban poor often continue to rely on biomass and kerosene for cooking whereas the rich use LPG and electricity. The failure for the poor to switch to LPG has been attributed to the high up front costs associated with the purchase of the cylinder and stoves. However, this might only be part of the problem if the findings from research in rural India can also be applied in urban areas. Work by Sinha has found that even under schemes where the urban poor have facilitated access to overcome these up-front costs the cylinder falls into disuse due to the high cost of refilling the cylinder[13].

A desk study of urban household energy use in Pakistan, suggested that with improved fuelwood stoves savings of up to 38% of fuel bills were possible[14]. A programme promoting fuel-efficient stoves in urban areas of Madagascar is reported as bringing annual fuel savings equivalent to the minimum monthly salary (approximately US$ 24) to households which adopt the stoves[15]. This level of savings should have a significant impact in low-income households and may be of the order that households can begin to accumulate assets.

2.4.3 Fuel Switching and energy efficiency

A comprehensive survey in Hyderabad, India on urban energy use[16] found that a substantial shift has occurred in household energy use: over a twenty year period poor households have moved from wood to kerosene and LPG while the middle-class has moved to LPG reducing their competition with the poor for kerosene. The fuel transition by poor households has been attributed to subsidising the price of kerosene and keeping it in reach of the poor. The decline in fuelwood use in Hyderabad has been linked to a significant decrease in deforestation in the surrounding peri-urban and rural areas. However, there was no attempt to explore the impact on rural incomes since supply of wood fuels to urban areas can form an important income source for rural households, particularly in peri-urban areas. There was a limited attempt to explore fuel use in enterprises.

2.4.3.1 Subsidies

It is commonly argued that blanket subsidies on fuels should be removed since middle- and better-off households are considered to reap a disproportionate share of the benefits[17]. However, this is not a universal finding. In urban Zambia, poor urban households have managed to capture the bulk of the kerosene subsidy (87%)[18]. Targeting has also not been a successful strategy for reaching poor households, since retailers can divert fuels to more profitable

[13] Sinha S, Technology and Development Group, University of Twente, unpublished PhD research.
[14] Dasgupta N (1999), *Energy Efficiency and Poverty Alleviation*, DFID Energy Research Newsletter, Issue 8, May 1999. http://www.etsu.com/dfid-kar-energy/html/8_-_ee_pa.html
[15] Bazile, D. (2002), *Improved cookstoves as a means of poverty alleviation,* Boiling Point No 48, pp 20-22, ITDG, Rugby, UK.
[16] ESMAP (1999*), Household Energy Strategies for Urban India; the case of Hyderabad*. Report 214/99, World Bank, Washington, June 1999.
[17] See for example Barnes (1995) in footnote 12.
[18] Kalumiana O (2002), *Energy Services for the Urban Poor*: *The Zambian Perspective*. Proceedings of a National Policy Seminar: Zimbabwe's Policies on Urban Energy for the Poor. Mapako M and Dube I (eds), AFREPREN Occasional Paper No 20.

outlets, as for example happened in Ecuador where kerosene intended as poor households cooking fuel was diverted to the transport sector. In India, subsidised kerosene is diverted to the black market. However, there are positive exceptions of smart subsidies, for example, in Thailand the "lifeline rates" for enabling access by poor households to electricity ensure that they can enjoy the benefits of a higher quality light provided by electricity instead of candles and kerosene, the favoured options of the poor, which are also fire hazards[19].

The impact of subsidies and incentives on urban poor household energy use formed part of a recent major study of energy services for the urban poor in East and Southern Africa[20]. The study has focused primarily on commercial modern forms of energy and not looked at biomass. Subsidies were found not to be decisive for the affordability of energy by the urban poor but the removal of subsidies would impact more on the poor than on the non-poor. Other factors such as upfront costs, proximity and availability of energy sources were found to be more decisive. For example, the levels of expenditure on energy by the poor were considered to be sufficiently high that they could be taken as proxy indicator that the poor could afford electricity and that the barrier for the poor to use electricity is the high connection costs. Subsidies were not found to be beneficial for the income generation of poor households but did benefit large-scale formal sector businesses and home-based income generating activities of the non-poor.

2.4.3.2 Privatisation and Commercialisation of the Energy sector

Privatisation and commercialisation of energy services have been advocated on the grounds of economic efficiency. The assumption is that the changes in ownership and management will lead to technological advances, as well as institutional and financial innovations, in providing energy services, which will also benefit the poor. There is little empirical evidence, particularly at the micro-level on the impacts of the reforms and as to whether or not the urban poor are benefiting from improved services. Most research to date has focused on electricity sector reforms[21].

There are positive results reported in Bolivia of high levels of access by low-income households to electricity following the privatisation of the utilities[22]. In urban areas, there was more than 95% access in the lowest income quantile. However, prior to privatisation, there was already an 86% access rate for this quantile. Other evidence is not so positive.

Privatisation has generally been matched by price increases. Table 1 gives data for the petroleum sector in Nigeria where the government is pursuing a privatisation policy. Price rises do produce a fuel transition but for the poor this appears in general to be downwards. In Brazil, privatisation has resulted in an

[19] Barnes (1995) in footnote 12.

[20] Mapako M and Dube I (eds) (2002) Proceedings of a National Policy Seminar: Zimbabwe's Policies on Urban Energy for the Poor. AFREPREN Occasional Paper No 20.

[21] World Bank, (2000). *Energy Services for the World's Poo*r. Washington D C: The World Bank.

[22] Barja G and Urquiola M (2001), *Capitalization, Regulation, and the Poor: Access to Basic Services in Bolivia*, UNU/WIDER Discussion Paper No 2001/34.

increase in fuel prices and in urban areas households have switched from LPG to wood for cooking. Such switches initiate a chain reaction. Not only does this have negative effects for the health of the cooks but also will impact on peri-urban forests. Increase in electricity tariffs lead to a significant loss of revenue by utilities through increased theft. For example, in Bahia State, Brazil, 11% of electricity distributed goes to illegal connections[23]. Not all illegal electricity connections are made with the explicit compliance of the end-users. Research in Ghana found poor urban households were the victims of deception with unscrupulous fellow residents making illegal connections while collecting the payments with the impression that these were legitimate payments which were to be handed to the utility[24]. There are also concerns that the deregulation of energy markets has not been matched by a policy framework in which social objectives, such as equitable access, can be safeguarded[25].

Table 1

Prices of Petroleum products in Nigeria (1990-2004)

Products	1990	1991	1993	1994	1998	2000	2002	2002	2003	2004
Gasoline	0.51	0.6	3.25	11	20	22	42.50	32/34	40.23	42.80
Diesel	0.35	0.5	3.0	9	19	8	42.00	32	38/39	40.50
Kerosene	0.15	0.4	2.75	6	17	19	32.00	32	32/53	41.25
Fuel oil	0.30	0.5	2.75	9	12.40	230	230	230	275	275

SOURCE: NNPC (Nigeria National Petroleum Corporation)[26]

All prices are in naira ($1 = 130naira) exchange rate January 2004.

2.4.4 Energy and Sustainable Urban Livelihoods.

Perhaps surprisingly, there has been little attention to energy within the livelihoods framework in general, despite its acknowledgement as a key aspect of physical capital. Barnett has made an initial attempt to assess how energy can reduce peoples' vulnerability, although this is not specifically dealing with urban energy[27].

A recently completed KaR research project, has examined the use of the Sustainable Urban Livelihoods Framework (SULF) for exploring the energy/ poverty linkages in poor urban households. This project has confirmed other

[23] Andrade, T (2004), *Report: Brazil.* Prepared for DFID KaR Project R8348 "Enabling urban poor livelihoods policy making: understanding the role of energy services"

[24] Bannister, A., (2002), *The Sustainable Urban Livelihoods Framework – a tool for looking at the links between energy and poverty.* Boiling Point No 48, p 7-10.

[25] Maduka J.O. (2004), *Inception Report: Nigeria.* Prepared for DFID KaR Project R8348 "Enabling urban poor livelihoods policy making: understanding the role of energy services"

[26] Reference as for footnote 25.

[27] Barnett A (2001), *Looking at household energy provision in a new way: The Sustainable Livelihoods approach,* Boiling Point 46, pp30-32.

work that poor households spend a large percentage of their income on energy (see Section 2.4.1). The study also examined how households respond to energy shocks and found that in order to stay as a family unit, households adopt a number of strategies to fulfil short-term objectives of ensuring sufficient food, fuel and clothing. Households have three options: (i) shift to using cheaper options, (ii) reduce overall energy consumption (iii) reduce non-energy expenditure (for example, children are withdrawn from school). The study found in Ghana, which had recently experienced significant energy price rises as well as other negative economic effects which made it more difficult for poor people to earn income, that which ever option a household adopted there were negative consequences for household assets[28]. People are eating less cooked meals (health), travel to home villages has become too expensive so less contact with family and kinship networks, and entertainment is reduced (quality of life). It is interesting to note that one of the last assets to be abandoned is that of sending children to school.

The study demonstrated one of the values in SULF is its ability to bring out cross-sectoral linkages. Another example, of how decisions (even well meaning ones) in one sector can have negative outcomes for the urban poor and their access to energy is from Cairo where buildings need an official certificate to prove they meet certain standards. This measure was introduced in response to buildings collapsing as a result of poor construction. The building standards certificate is also required by the utility to connect homes to the electricity supply. Many poor people regard this certificate as too expensive. On the other hand, in some areas, communities have mobilised themselves and through credit associations were able to extend infrastructure to their homes[29]. There is no explanation of why these differences occurred.

2.4.5 Energy, Urban Enterprises and Poverty

The urban poor are largely dependent on small-scale enterprises for income, for example, street food vendors, small-scale manufacturing and repair services are common. The informal sector forms an important part of coping strategies and their numbers are on the increase. For example, in the Philippines, a large number of factories and small business closed due to the financial crises in Asia, and this has been accompanied by a five-fold increase in street food vendors over the past 3 years (Lumampao, personal communication). These enterprises are often using process heat and since they operate in commercial markets they are vulnerable to shocks from energy price rises.

Based on an extensive review of the literature, Meadows et al[30] considered that the linkages between modern energy and micro-enterprises were:

a) Modern energy can, but does not necessarily, affect the emergence, development, productivity and efficiency of micro-enterprise.
b) While lack of access to modern energy is often characterised as a barrier to micro-enterprise development, removing this barrier (through, for example, energy developments such as electrification) does not necessarily result in

[28] See footnote 24 for reference.
[29] UNDP (1999), SLA in Urban Areas. http://www.undp.org/sl/Documents
[30] Meadows K, Riley C., Rao G., and Harris, P. (2003), *Modern Energy: Impacts on Micro-enterprises*, Report of Literature Review for DFID KaR Project R8145.

micro-enterprise development. Rather, modern energy should be viewed as one of a suite of critical enabling factors that act individually and/or in concert to create a suitable environment in which micro-enterprises can operate.

c) The linkages between modern energy and micro-enterprise, and the effects of the former on the latter, can have a gender-specific dimension (see Section 2.3.6).

Most of the literature reviewed would appear to be linked to the effects of rural electrification on enterprises in rural areas. It is not clear whether urban enterprises have their own specific characteristics, challenges and better access to modern energy services than rural enterprises.

The Intermediate Technology Development Group (ITDG), in Bangladesh, examined the role of energy in informal sector businesses, in particular the cooking aspects of street food vendors. They found that any improvement in household energy would improve the livelihoods of street food vendors since the production of food for sale is a family based activity and a large part of the food production takes place in the household[31].

2.4.6 Gender, Energy and Urban Livelihoods

Evidence would suggest that household energy in urban areas primarily remains a woman's responsibility. Based on evidence from other urban livelihoods research[32], this responsibility can be extended to the provision of services for the community which in the case of energy services would include electricity. Urban women also face similar inequalities to their rural sisters: low capabilities, low rewards in the labour market, exclusion through social stigma and discrimination, a lack of productive assets and resources[33]. They are over-represented amongst the chronically poor (defined as those living in poverty for a considerable period of time).

Within the livelihoods framework, energy is seen as enabling asset for reducing the drudgery, saving the time and improving the livelihood strategies. However, whether the men and women benefit equally from improving access to energy is not clear. A desk study for DFID found that the urban gender-energy-poverty nexus is under researched[34] and there is a lack of empirical data[35]. It would appear that there is a gender division in the types of enterprises owned and operated by men and women. Women's enterprises tend to be home based and use process heat. If this is the case, women might benefit by access to clean modern fuels if they are substituting for the use of biomass in confined spaces.

Women's enterprise development is often advocated as a means for women's empowerment. The role for energy in this context then becomes one of

[31] Tedd, L. (2001), *Energy and Street Food Vendors*. Boiling Point No 47**,** p 10-12**.** ITDG. Autumn 2001.
[32] Beall J and Kanji N (1999), *Households, Livelihoods and Urban Poverty*. Urban Governance, Partnership and Poverty Theme Paper 3. Department of Social Policy and Administration, London School of Economics
[33] Amis P (2002), *Thinking about chronic urban poverty*. CPRC Working Paper No 12. Chronic Poverty Research Centre, University of Manchester. ISBN 1-904049-11-7.
[34] Clancy J, Skutsch M M, and Batchelor S (2003) *The Gender - Energy- Poverty Nexus: Can we find the energy to address gender concerns in development?*. Position paper for DFID. Project CNTR998521.
[35] Reference as for footnote 27.

reducing drudgery and to extend the working day (providing more flexible hours of work combined with other household duties) or enable other opportunities such as education or relaxation. The study in Bangladesh referred to above (see Section 2.3.5) appears to be the only work to date which has explored gender and household energy issues in urban areas beyond health impacts. The study explored gender aspects in relation to income generation (women are able to control the production process and hence keep the profits generated, which it was concluded would lead to their empowerment) and recognised the need to involve women in technology selection due to their key role in the food preparation.

There have been concerned expressed about lengthening the working day for women adding to rather than reducing their burdens. Women are well aware of this and women in male-headed households may not wish to increase their workload by becoming full-scale entrepreneurs. Perhaps it is better to envisage women's empowerment enabling women to be able to act upon energy choices open to them and this is linked to decision-making within households and often this requires social and political changes.

2.4.7 Urban Energy Use and Environmental Impacts

A DFID KaR funded study of the environmental impacts of urban energy use found that the urban poor suffer disproportionately from the impacts of air pollution[36]. This is a consequence of the poor tending to live in areas with higher concentrations of roads and industry which are areas higher income groups can avoid. However, where solid fuels are used for space heating, the indoor air pollution from this source can be of greater significance than from air traffic pollution for poor peoples' health.

The shift from fuelwood to kerosene in Hyderabad (see Section 2.3.3) has been accompanied by a shift to cooking indoors, into poorly ventilated rooms, which it is feared could increase the environmental health impacts on women and children. However, a positive environmental impact from the shift to kerosene, has been the reduction in deforestation in peri-urban and rural areas[37], although this might have a negative effect on rural livelihoods through loss of income from wood sales.

Improvements in energy efficiency in the industrial and commercial sectors could bring significant health improvements for workers and the surrounding low-income housing. A study by the Natural Resources Institute for DFID noted that the direct linkage between poverty and the commercial sector was difficult to explore due to a lack of data[38].

3 Project Planning and Proposed Adjustments to Project

Team Commitment and members

[36] Watkiss, (undated) *Urban Energy Use: Guidance on Reducing Environmental Impacts*, DFID KaR Project R7369. Project Report Summary. http://www.etsu.com/dfid-kar-energy/html/r7369.html

[37] ESMAP (1999*) Household Energy Strategies for Urban India; the case of Hyderabad*. Report 214/99, World Bank, Washington, June 1999.

[38] Dasgupta (1999) – see footnote 9.

The three country partners have indicated their intention to be involved in the project. The team leaders remain as stated in the contract. However, there are a few changes with junior staff. These are:

Nigeria
Two new team members have been added to strengthen policy analysis. CVs of new project staff are attached in Appendix 3. The addition of these team members has no consequences for the budget.

Philippines
During the Inception workshop, it was decided to restrict the urban areas where the data gathering is to be conducted to Metro Manila. This restriction is based on a more realistic assessment of the budget. However, it is the intention of the Philippines partner to disseminate the results to those working in other urban areas through the National Workshop and the dissemination strategy.

This focus on Metro Manila means that there is a change in research personnel, using researchers based in Manila. Dr. Epifania Tabbada will replace Dr. Imelda D. Soriano. She is a competent researcher, and was the recipient of the prestigious national MetroBank Award as outstanding researcher of the year in 2003. She will be paid at the rate of 22GBP/day for a total of 30 days as reflected in the original budget.

Mrs. Adelina Ranga who is the Non-formal Education Supervisor of Manila will replace Ms. Rachel Polestico. She be paid at the rate of 22GBP/day for a total of 30 days as reflected in the original budget.

CVs of new team members are attached in Appendix 3.

Brazil
No change.

Implementation Schedule
There has been a change in the timing of a number of activities due to the illness of one of the country team leaders. An unexpected operation in December has prevented on medical grounds the team leader for the Philippines from flying before March which therefore delayed the kick-off meeting until the second week of March. As a consequence, DFID agreed to a new time plan and the study is now expected to be completed by October 2005. The total budget remains unchanged but there has been a redistribution over the three financial years to reflect the change in delivery dates of milestones.

Location of data collection sites
The location of data collection sites were reviewed during the kick-off workshop which led to a narrowing down of cities in Nigeria and the Philippines. There are currently no security concerns with the sites selected.

Brazil
Salvador, the state capital of Bahia, has been chosen because of the city's importance within the context of both Northeast and Brazil. Salvador is a large

city – both in terms of territorial extension and population – and urban poverty can easily be compared with other large centres in Brazil. It is a place with high level of social inequality where many people live in *favelas* scattered in several neighbourhoods throughout the city, thus occupying a large highly densely populated area.

Nigeria

During the Inception Workshop, after defining the selection criteria, it became clear that data collection should be restricted to two cities, Lagos and Abuja, the commercial capital and administrative capital respectively of Nigeria. While Lagos is the old capital and a mega-city with different categories of urban poor, Abuja is the new capital city with relatively new urban poor. Port Harcourt is also under consideration.

The Philippines

Metro Manila is composed of seven (7) cities with a population of over 12 million. Manila City is the present city capital of the country. Makati City is the financial district while Quegon City is the old capital and the biggest in area.

Eighty (80) percent of the population in Metro Manila are considered poor. More than half of this population live in socialized housing subdivisions and resettlement areas. Many of the residents are micro-entrepreneurs, who are involved in the underground or informal economy. These entrepreneurs supported the economy during the 1998 financial crisis and the economic slump in 2000 until now. Most of these entrepreneurs are women and home-based. Home-based workers are organised into a national body with network organisations in Indonesia and Thailand. They are linked electronically with assistance from the International Labour Organisation and UNIFEM. This will be a useful linkage for wider dissemination of results.

Risk assessment

Preconditions

Willingness of participants in project proposal to participate has been re-confirmed. There is at present no indication of political instability in the three partner countries which would hinder data gathering.

During Implementation

Urban poor are prepared to participate in surveys

This assumption will be reviewed at kick-off meeting and data collection workshop.

Sufficient interest by appropriate stakeholders to participate in national workshops

The country partners have indicated that there is considerable national interest in the research output. Where possible, researchers from appropriate ministries are involved in the teams which should help encourage participation in the workshop. ENERGIA will also allow use of national membership mailing lists to identify appropriate invitees.

Data is available for best practices paper.

There have been no problems so far in collecting information.

After implementation

Donor interest in urban livelihoods

The output of this research is intended to stimulate interest which, given the

predicted increase in urbanisation, is unlikely to decline. It will also provide data and evidence for those who wish to advocate for appropriate interventions.

Perception of need for support in public and private sector to improve access to energy services for urban poor

Assessment is the same as for the last assumption.

No new risks have emerged since the original log frame was written.

OUTPUT TO PURPOSE SUMMARY REPORT

Title: Enabling urban poor livelihoods policy making: understanding the role of energy services **Countries**: Nigeria, The Philippines, Brazil **MISCODE:**				
Report No. 1 (Inception Report)	**Date**: March 2004	**Project start date:** December 2003 **Project end date:** October 2005	**Stage of project:** Inception	
Project Framework				
Goal Statement: Between 1990 and 2015, halve population whose income is less than one dollar a day				
Purpose Statement: To provide a clear understanding, based on micro-level gender disaggregated data, of the issues around urban energy supply and use for poor people's livelihood strategies				
Outputs:	**OVIs**	**Progress**:	**Recommendations/actions**	**Rating:**
1. Inception Report	March 2004	1. Kick-off meeting held. Draft Inception Report prepared and submitted.		
2. Best Practices Paper: Energy Services for the Poor	Paper published – March 2004	2. Work started on collecting material and drafting started. Framework for paper can be found in Knowledge summary of Inception Report. Draft of paper will be ready by March 31st the milestone deadline but the paper will not have been peer reviewed.	2. Peer review is an important element in quality control. Paper should be circulated on 31st March for peer review. Final version should be available no later than May 12th (due to author out of office April 17 to May 5).	
3. Data Collection Methodology Report	July 2004			
4. Three Country Reports which explore the urban livelihoods and energy nexus	3 Reports published – January 2005			
5. Three National Workshops	Workshops held by February 2005			
6. Three National Workshop	Reports published – March			

Reports 7. Three Dissemination Strategy Reports 8. Synthesis Paper 9. Briefing note 10. International Practitioners Workshop 11. International Practitioners Workshop Report 12. ENERGIA News 13.Final Report	2005 Reports published – March 2005 Paper published – April 2005 Note published – May 2005 Workshop held – June 2005 Report published - July 2005 September 2005 October 2005	7. Country teams have begun first draft of dissemination strategy included in Inception Report. 12. Briefing meeting held with ENERGIA Information Officer during Kick-off meeting March 2004.		
Purpose: To provide a clear understanding, based on micro-level gender disaggregated data, of the issues around urban energy supply and use for poor people's livelihood strategies	**OVIs** • International development agencies have adapted energy policies which reflect the reality of poor urban peoples' livelihoods • National and local governments in the South have pro-poor urban energy policies. • Poor urban people have better access to energy services	**Progress:** Since the project is only in its inception phase it is not expected to have made significant progress in achieving the project purpose.		

	and increased household incomes.		

4 Monitoring, Evaluation and Uptake Strategy

Monitoring as a Management and Quality Control Tool

Monitoring of progress is on the basis of the delivery of distinct outputs. Some of the outputs form inputs into other activities and their timely delivery is crucial for keeping the project on schedule. At this stage the monitoring system is considered adequate.

Dissemination Strategy

International Level

An output of the project is a workshop in London to disseminate the findings to DFID staff and other researchers in the UK who are involved in Livelihoods Research.

A special issue of ENERGIA News on gender, urban energy and poverty will be produced at the end of the project. This will feature articles from the three country studies, as well as the findings of the Best Practices Paper. ENERGIA News has a subscription list of nearly 2000 practioners in gender and energy at the policy and field level. Each issue of the newsletter is put on the ENERGIA website. It can be assumed that through ENERGIA, the number of people who will have access to the results of the study will be significantly more than 2000.

The TDG will also use the results to write papers and articles for other networks, such as the European Association of Development Institutes. Other websites to promote findings include the TDG's own website, the DFID Livelihoods Site and ELDIS.

Brazil

The dissemination of the study can be largely promoted through RENOVE (Brazilian Energy Network), which Winrock helped establish and is an active and important member. Moreover, in aiming to ensure that lessons are disseminated to key audiences for wider benefit, the project in Brazil will:

- Produce and distribute printed and electronic material about gender-energy-poverty for benefited communities and other project partners such as grassroots organizations and local government institutions (this includes information on gender-sensitive impact indicators as well as guidelines for incorporating gender-sensitive methodologies into rural energy initiatives, both building on Winrock's experience in the GENES network). Disseminate information (e.g., documents, success stories, and articles) in both Portuguese and English targeting members of RENOVE and ENERGIA networks and Winrock's website both at the national and international levels; and through the REPSO list server and Winrock's "Innovations" newsletter.
- Promote visits, meetings and share project findings with key partners from public, private, and non-profit sectors to any of the city's sites to help increase their interest in replicating module in their communities;
- Submit articles about the project to ENERGIA news;
- Promote workshops to present project results;

- Present project information and outcomes in project partners' participation in both national and international events; and
- Provide technical assistance for project replication and proposal writing to other areas in the country NGOs involved in the project.

Nigeria

FOTE will employ the following strategies to disseminate the research outcome to all stakeholders:

- In organizing the national workshop, FOTE will involve all stakeholders including NGOs in related project areas, especially ENERGIA members to kick-off the dissemination.
- Inviting the print and electronic media to cover the proceedings of the national workshop. This has been found to be effective especially with government policy makers.
- Distributing the research results and workshop reports to relevant Research Institutions, Private Sector Operators with bias in energy, Government institutions at all levels (Federal, State, Local).
- Transforming the summary of the workshop reports into a short policy advisory document that is simple and reader friendly.
- Working with the Energy Commission of Nigeria (ECN) to use the document as platform for the review of the draft national policy to include pro-poor urban energy policy initiatives.
- Findings will be reported extensively in the FOTE quarterly newsletter which is widely circulated to government agencies, NGOs and other stakeholders.
- Using the document in a follow-up sensitization workshop for key policy and decision makers.
- Dialoguing with selected private operators on how to develop affordable energy-dependent sustainable livelihoods among the urban poor.
- Establishing pilot demonstration projects to show the viability of proposed energy dependent means of livelihoods among the urban poor.
- Sensitizing members of the Committees on Energy in the national legislature on the need for sustainable energy initiatives for the urban poor.

The Philippines

- Link-up with the Regional Research and Development Committees (RDCs) of the 15 regions in the country to disseminate the results of the research. The Regional RDCs are composed of educators/academicians, researchers, development and extension workers, government agencies, micro-finance institutions, women's organizations, trade and industry, non-government organizations, cooperatives (farmers, fisherfolks, etc.), among others.
- The results of the research will be disseminated through our Affiliated Non-Conventional Energy Centers (ANEC) Improved Cookstove Centers (ICS-Center) which are housed in State Colleges and Universities in 13 regions in the country.
- Other key targets include the press and media, the National Commission on the Role of Filipino Women (NCRFW) where Approtech Asia is a member, the Department of Science and Technology, Department of Energy and the National Anti-Poverty Commission. For example, NCRFW holds annual

women's month celebration where entrepreneurs, policy-makers, government and non-government institutions gather to share information, expertise, and the like in a big forum. This is an opportunity to share research results and valuable information to the poor and the women.

- Since the focus of the research is micro-entrepreneurs then linking with the agencies or institutions assisting them will be important. The micro and small entrepreneurs are trained and assisted by Technology and Livelihood Training Centers (TRLC) under the Office of the President; the development institutions assisting the poor (urban and rural) and prospective entrepreneurs, government officials, among others.
- The dissemination strategy is not limited to the Philippines but also to other countries in Asia through Approtech's partner organisations, which include some of the largest national NGOs in Asian.
- The print, press and electronic media will be used to reach the poor and the entrepreneurs, micro-finance institutions through organizational meetings, regional and national workshops and conferences of related activities, academic institutions through our partners and electronic media.

There will be an election in the Philippines in May 2004 and the results from this study will be timely.

Uptake Strategy

The team is satisfied that the national (macro-, meso- and micro-levels) and international networks their organisations are involved in (a number are referred to in this report) are good vehicles for dissemination of the results.

APPENDIX 1

Enabling urban poor livelihoods policy making: understanding the role of energy services

KaR research project R8348

Inception Workshop Report

Enabling urban poor livelihoods policy making: understanding the role of energy services
KaR research project R8348

Inception Workshop Report
(in the proposal this meeting is referred to as Kick-off workshop)
8 to 12 March 2004
University of Twente, Enschede, The Netherlands

Attendees: Joy Clancy (Project leader), Tanya Andrade (Brazil National Team leader), Olu Maduka (Nigeria Team Leader), and Feri Lumampao (Philippines National Team Leader)
Support: Wendie Klieverik (Project Administrator)

The aim of the workshop was to design the research project. This was achieved.
A workshop for team members on data gathering and analysis will be held on May 10 to 14 at the University of Twente.
An interim review meeting will be held August 23-27 at the University of Twente.

1 Objectives

- To determine the role of energy services in urban enterprise viability and the influence on household livelihoods.
- To analyse the role of social networks and relations in facilitating urban household livelihoods.
- To analyse the impact of energy sector reforms on access by urban enterprises to energy services.

2 Assumption

Energy services must be clean and affordable.
[NB. Affordable does not necessarily mean cheap.]

3 Research Hypotheses

1. Clean and affordable energy services are key factors in creating good physical well-being and productivity of urban household members.
2. Social networks and relationships facilitate access to energy services.
3. Energy services are key factors in sustainable urban livelihoods by increasing the viability of existing enterprises and enabling the establishment of new ones.
4. Energy sector reforms lead to improved access by urban enterprises to energy services.

Livelihood is defined as:
The capacity (ability and opportunities) to enjoy long, healthy lives in a manner of one's choosing in harmony with one's physical and social environment.

4 Definition of the target group which will form focus of study

The study will focus on enterprises of low-income groups in urban areas, in particular the linkages between energy in enterprises and household members' well-being and productivity will be analysed (hypothesis 1). These will not be the "poorest of the poor" – since there is no doubt that providing people in this group with energy services will lead to improvements in their livelihoods. Instead, the focus will be on those groups which have the capacity to be entrepreneurs or improve their entrepreneurial status. The characteristics of the study target group are:

- Precarious access to basic amenities eg water, sanitation, health, education, food security, shelter
- Low capacity skills
- Physical assets are of poor quality eg low energy efficiency
- Non-permanent material for housing construction
- Some capacity to participate in entertainment
- Some access to physical infrastructure eg roads, community buildings.

Urban Enterprises:

- Can be seasonal
- Will be a major contributor to the household income
- Have significant energy inputs
- Are not necessarily located in a physical structure.

Selection will be from micro and small scale (exact division depends on country classification); informal (although may be subcontracted to a registered company) and formal (registered; own bank account). Women to be well reflected

Provisional Sectors:
Nigeria
Lagos - Fish supply chain
- Cassava processing
Abuja - Mat Craft and pottery
Port Harcourt – to be decided

Brazil
Street vendors
Bakeries/small markets

Philippines
Food processing and preparation (household)
Shoe making (home-based)

All three partners will ~~take~~ look at informal sector energy suppliers as entrepreneurs. The ESCOs will be supplying both informal sector energy (eg charcoal or wood) and formal sector energy (eg LPG). In the case of the latter it has to be recognised that this supply activity may involve illegal activities, for example, illegal electricity connections.

5 Definition of an urban household for the purposes of this research

People who live within a physical structure and have common use of resources eg kitchen/sanitation, electricity, income, labour, equipment (eg iron). A household can consist of more than one unit and the individuals within the units may or may not have kinship relations with other units. The head of the household is the owner of the property or the recognised senior resident. The individual units can have their own heads. It will be important to map the relations between individual members of units.

Unit heads can be:

- Unmarried
  either living alone (widows/widowers; single;)
  or head of a family (single parents; siblings)
- Married
  male or female headed (partner working/resident elsewhere – rural/other city/abroad)

Units/households can vary with:

- Age
- Gender
- Income/occupation
- Ethnicity (indigenous; migrant)
- New or long term urban resident

Indicators

Each hypothesis has its own broad indicators which can be used across the three countries. The type of data for these indicators will be elaborated between now and the workshop for data gathering in May 2004.

Hypothesis 1

- Smoke in the household (qualitative)
- Meals (quantity and type)
- Water potability/sanitation
- Health
- Working days
- Perceptions of well being and productivity
- Flow of money at the household level (linked to hypothesis 2 and 3)

Hypothesis 2

- Energy services and equipment available
- Involvement in CBOs and NGOs
- Membership of formal associations and clubs
- Information flows about energy services.
- Ability to invest in energy services/technologies
- Decision making within the household/enterprise.

Hypothesis 3

- Energy services and equipment available

  - Physical forms (quantity; reliability; variety)
  - Price
  - Repairs (timely; spare parts availability)
- Demand driven
  - Visibility of service providers
  - Consultation
- End User perceptions of services
- Service providers perceptions of the end-users (low priority for service continuity)

Hypothesis 4

- New policies in place
  - Price driven
  - Cost recovery
  - Tariff reform
  - Regulators established
- New suppliers enter the market.
- State institutions (Central, state, local) perceptions of end-users (linked to 1 and 3)
- Quality of services
- Exclusion/disconnection of enterprises
- Expansion of service delivery
  - Area covered
  - Types of services
  - Local technicians and agents
- Financing mechanisms to enable access to energy technologies.

The SULF indicators were assessed and some were not considered generic. The rest could be adapted and absorbed into the indicators given above (see Table in Appendix 2).

Community selection criteria

- Ethnic mix
- "precarious" settlements
  Not passive victims but vulnerable to man-made calamities (eg fires and compulsory relocation) and natural disasters (eg floods)
  new settlements
  more established settlements.
- Enterprises (number, size, type)
- Grid electricity available
- Transport network

Preliminary selection of location of urban conurbation:
Nigeria – Lagos and Abuja
Philippines – Metro Manila
Brazil - Salvador

Key Informants
Local Government workers, Health Workers, Teachers, NGO/CBOs/Cooperatives, Leaders from Clubs /Association, Indigenous leaders, Enterprise branch leader, Religious leaders, Energy supply providers women's/Mens' Associations, Union Leaders, Support fro enterprises (bank, etc*)*

Outcome
Policy recommendations for the delivery of energy services that positively influence enterprise development and sustainable livelihoods amongst the urban poor.

Enabling urban poor livelihoods policy making:

understanding the role of energy services

Kick-off meeting

Joy Clancy, Olu Maduka, Feri Lumampao, Tanya Andrade and Wendie Klieverik

Held at University of Twente

Agenda

1. Getting to know each other, our organisations and study team members.
2. Ways of working, roles and responsibilities.
   Including financial reporting (meeting with Linda de Kleine Tuesday 13.30)
3. Objectives of the study.
4. What do we want to know?
   The Livelihoods Framework
   Reviewing the tools to be used. Including briefing with Margaret Skutsch on TDG/ENERGIA gender and energy tools (Wednesday 10 March 11.00).
5. What do we already know?
   Partner country situation.
   Previous DFID work.
6. Work plan
   Data gathering and analysis training workshop – date and participants
   Team leaders review meeting
   National workshop
   Dissemination strategy
7. Outputs
   Including briefing with Chesha Wettasinha, Information Officer ENERGIA (Tuesday 9 March 16.00). Unfortunately, Sheila Oparaocha is not available next week.

Joy Clancy
3 March 2004

Appendix 2 Amended Indicators from KaR Project R7661

AMMENDED INDICATORS FROM KaR PROJECT R7661

SLF	Ghana	China	*Indonesia*
Financial assets	• Level of h'hold savings pre and post crisis • %expenditure spent on luxuries • Level of h'hold debt	• % of h'hold income spent on energy according to income-level (higher incomes spend proportionately less on energy)	• H'hold member with secure employment • % h'hold savings against expenditure
Human assets	• No and frequency. of meals cooked per day (poor nutrition leading to poor health) • Time spent preparing ~~cheaper~~ foods • ~~Withdrawal of c~~Children's participation in ~~from~~ school	• No. of respiratory illnesses • No. of back-related and other health probs • *Level of pollution in soils and vegetables* • Withdrawal of children from school • Likelihood of purchasing medicines	• Withdrawal of children from school • Extra time spent preparing cheaper foods • No. of meals cooked per day
Social assets	• ~~No~~Perception of ability to participate in. ~~of~~ social events attended by h'hold in past year, compared to pre-crisis • Level of travel to social events • Sharing of resources (e.g. electricity) – ~~ironically, has led to conflicts rather than social cohesion~~ • *Concern of the elders about increased crime*	• Involvement of h'hold member in a community org (e.g. NGO, CBO) ~~– according to rural or urban status of h'hold~~ • *Disputes between urban (factory employees) and rural (farmers) about impact of energy intervention at factory*	• H'hold member involved in 'arisan' (group money saving scheme) • Investing in goods for ~~daughter marriage?~~time saving and drudgeryr reduction • No. of social events attended • ~~Frequency of women's travel to market~~
Natural assets	• Charcoal consumption ~~(pre & post crisis)~~ • Firewood consumption ~~(pre & post crisis)~~ • Sea pollution (for fishing community~~– Chorkor~~)	• Access to firewood and coal • *Pollution of soil, crops and water – by soot*	• Access to land for food (for personal consumption and income-generation)
Physical assets	• Existence of elec infrastructure (ie. grid)? • Is house connected to elec? • Can h'hold afford elec (individually or in group)? • H'hold use of elec appliances (pre & post crisis)? • Regularity of electricity cut-offs?	• Condition of house (e.g. bathroom – water to be heated) ~~according to rural or urban status~~ • Amount of ~~soot~~ SMOKE in house • Access to elec and ~~piped~~ bottled gas ~~according to urban or rural status~~	• House ownership? • Access to electricity?
Vulnerability	• Direct % of energy expenditure/ total expenditure ~~puts pressure on other cash outlays~~	• ~~Compare~~ type of energy used ~~against the rural or urban status of h'hold~~ • % income spent on energy according to income-level (higher incomes spend less proportionately)	• Direct & indirect energy use per h'hold – ie. H'hold is vulnerable if direct energy expenditure is less than or equal to 5% of h'hold income, and indirect energy expenditure is bigger than or equal to 90% of h'hold income (income measure: convert a h'hold calorie intake indicator into money terms)
	• Energy types used ~~pre and post crisis~~	• Change in use of ~~elec~~ appliances	• Selling house and/or belongings

Coping Strategies	• Energy consumption ~~pre and post crisis~~ • Change in number of meals cooked per day • Change in expenditure ~~on luxury items as % of h'hold expenditure~~	• ~~Change in origin of~~ water source (e.g. buying water)	• Letting rooms in house • H'hold ability to purchase meat/fruit/milk on a weekly/monthly/yearly basis? • % h'hold income spent on transportation (children to school, women to market) • Change in h'hold energy consumption and types of energy used • Change in frequency of journeys • Change in expenditure ~~on luxury goods~~ • No and frequency of meals cooked per day & food-type
Shocks, Stresses and Trends	• House damage/fire/forced relocation • H'hold member suffers illness/accident • H'hold member loses employment (human & social asset loss) • Increase energy prices • Increase in the cost of basic goods	• *Trend towards reduced use of high sulphur coal* • Trend towards increased environmental protection *(coal use by food vendors is technically banned in some city centres but not enforced – this may change),* • *Trend towards removal of dual system differentiating between rural and urban status* • Increasing demands for clean energy as awareness grows •	• Increasing prices paid for basic necessities • Loss of subsidies on basic necessities and energy
PIPs	• ~~Stepped tariff: groups of poor users pay more than rich residents~~ • Failure of authorities to hear the complaints of the poor re tariffs, etc.	• Impact of energy intervention at ~~factory~~ the enterprise on: a) Environment (air pollution, water quality) b) ~~Community~~ household/enterprise (health indicators) • Policies to change ~~h'hold~~ energy usage away ~~from high sulphur coal~~ to ~~more~~ cleaner energy types •	• • Removal or introduction of subsidies (policy) • Initially rapid removal of subsidies (process)

KEY
Indicators in italics are too specific for this study.
The underlined indicators – data is likely to be unreliable for a variety of reasons (eg recall; reluctance to discuss financial matters with outsiders) so proxy indicators will be used.
Other indicators have been edited to make them more compatible with the present study.

Appendix 3 CVs of Additional Researchers

Nigeria Team

1. Personal name Details

Family Name	First name	Middle name
Ojosu	Johnson	Oluyemi

2. Degrees (include subject, class, university, and date)

Graduate Executive Certificate in Energy Planning and Policy (An evaluation of the impact of recent energy policy strategies and technological options for Nigeria), Centre for Energy and the Environment, University of Pennsylvania, Philadelphia, USA, July 1992.
MSc (Active compensation of Active – R filter networks for high frequency applications) Electrical Engineering, University of Lagos, Nigeria, June 1986.
BSc (Honors) Physics (2nd Class Lower), University of Ibadan, Nigeria, June 1980
Diploma in Theology, Immanuel College of Theology, Ibadan, Nigeria, Sept. 2002

3. Posts Held (with dates)

- Assistant Director, Training and Manpower Development, Energy Commission of Nigeria Abuja (since January 1998)
- Chief Scientific Officer, Energy Planning and Policy (1994 – 1997), Energy Information Systems (1996 – 1997), Assistant Chief Scientific Officer, Energy Planning and Information Systems (Sept.1990 – 1993).
- Senior Research Officer, Energy Conservation in Buildings / Solar Energy Applications, Building Physics Division. Nigeria Building and Research Institute, Lagos, Nigeria (1986 – 1990), Research Officer (1981 – 1985)
- Lecturer in Physics with Electronics, Computer and Numerical Methods, (Part Time),
School of Applied Sciences, Dept of Science Technology, Yaba College of Technology,
Yaba, Lagos (1984 – 1922), External Examiner / Assessor for Ordinary and Higher National Diploma Courses, Dept of Physical Sciences (1998 – 2000).
- Graduate Assistant and Doctoral Studies, Dept. of Electrical Engineering, University of Lagos, (1986 – 1990)
- Physics Teacher, Government Secondary School, Kano (NYSC 1980 /81)

4. Duties and Responsibilities (for three most recent posts)

Yemi Ojosu is an electrical engineer whose work for more than 20 years has been
focused on energy issues in Nigeria and the Africa sub – region. His employer, the Energy Commission of Nigeria, is the national government parastatal with the responsibility for strategic planning and coordination of national policies in the field of energy in all its ramifications: periodic master plans: gathering and dissemination of information relating to national policy in the field of energy development. It is also committed to capacity building in the energy sector.
Much of his work has been devoted to achieving this national objective either through energy planning and policy making, pilot project implementation, research projects, short courses and training and development in the energy sector of the country. He is also involve in skills development and training as instructor and has contributed to training manuals on renewable energy, biogas, solar – PV, energy audit, etc. He was also involved in preparing and publishing proceedings of various workshops and seminars conducted by the Commission. His involvement in data gathering and analysis included the development of energy database for the National Energy Databank. He is also involved in collaboration efforts with international and multinational organization such as UNIDO, UNDP, UNESCO and NGOs like Friends of the Environment (FOTE) on climate change, desertification, energy efficiency, industrial energy audit, small hydro power schemes and solar – PV for rural energy, energy modeling and energy planning and policy

5. Recent Publications (maximum of 10 title and reference only)

1. ECOWAS Solar ad wind energy maps project: Nigeria solar radiation and wind data.
   320pp. Sept 2000
2. Training manual on Photovoltaic Systems Maintenance and Installation ***ECN Reports*****,** 1998
3. ***Load survey*** of Bauchi and Abia States for small hydro power scheme. **ECN Reports,** 2002
4. A survey of business activities in solar – PV in Nigeria, ***ECN Technical Report No***
   ECN/EPA/02/3, 2002.
5. Government policies and Programmes on the development of solar – PV sub sector
   in Nigeria, ***Nig J.Renewable Energy*****,** 8, 1- 6, 2000
6. Iso- Radiation maps of Nigeria. ***Solar & Wind Technology, Vol.7*****,** 563- 575, 1990
7. On the bounds for global solar radiation estimates from sunshine hour for Nigeria
   cities. ***Nig. J. Solar Energy, Vol*****. 9,** 123- 132, 1990
8. An evaluation of wind energy potential as a power generation source in Nigeria.
   Solar & Wind Technology, Vol**.7**, 663- 673, 1990.
9. Experiences in converting waste to energy, Biomass Briquettes and technology

development in Nigeria. ***Invited paper by industrial Microbiologist of Nigeria****,* 1999

10. Renewable energy applications in Nigeria. ***UNESCO Workshop****,* Ghana 1999.

6. Countries of Work Experience (Include length of time)

Yemi Ojosu works in Energy Commission of Nigeria. His work on applications of renewable energy in rural areas has taken him to some ECOWAS countries like Ghana, Cote d' Ivoire and Mali. He had been on a short visit to India on solar energy application in the G 15 countries. He was in UK for two weeks. He spent seven months in US at the University of Pennsylvania, Philadelphia Centre for Energy and Environment on Energy planning and policy.

7. Capacity and Experienced Relevant to this proposal

Yemi Ojosu is an experienced researcher, trainer and policy maker. He is mainly involved in energy planning and policy, energy information systems and training and manpower development for the energy sector. He has experienced in leading research projects on renewable energy applications and rural energy. He has been involved in training and capacity building for renewable energy - biogas, small hydro power schemes, solar – PV, energy audit and energy efficiency. He was responsible for developing Nigeria's proposals on the World Solar Programme and the renewable energy component of the Environmental Management Programme for Nigeria. He is involved in data gathering, analysis and modeling of energy use, demand and supply some of these projects have enjoyed financial and active support from international organization like UNDP, UNIDO, UNESCO, ECOWAS, IAEA, IN-SHP and Government of China.

1. Personal Details

Family Name	First Name
Oladipo	Emmanuel

2.Degrees & Institutions

B.A. Hons. (Geograpgy) (First Class) Ahmadu Bello University, Zaria; 1974
M. Sc., Ph.D (Climatology); University of Toronto, 1978; 1982.
Fellow of the Royal Meteorological Society, London

3.Post Held (with dates)

Head, Department of Geography, Ahmadu Bello University, Zaria, Nigeria (1990 – 1992)
Deputy Dean, Faculty of Science, Ahmadu Bello University (1991 – 1992)
Sustainable Development Adviser, United Nations Development Programme (UNDP), Nigeria (1994 – 2001)
Head of Unit, Sustainable Agriculture, Environment and Rural Development, UNDP; (1998 – 2001).
Assistant Resident Representative, UNDP Nigeria, 2001 to date
Head of Unit, Energy and Environment, UNDP, Nigeria, 2002 to date
Consultant for World Meteorological Organization on Climate, Drought and Desertification (1983-1995).

4. Duties and Responsibilities (for most recent posts)

Emmanuel Olukayode Oladipo is the Assistant Resident Representative and the Sustainable Development Advisor, UNDP. He possesses a very broad knowledge about environment and energy as well as development issues. As a specialist in climatology, he provides scientific analysis for critical environmental/energy issues; climate change, drought, desertification, floods erosion as well as alternative sustainable energy sources. He consults with Federal, States and local governments, donor agencies, civil society organizations, research institutions and acts as an advisor in Nigeria on sustainable development issues.

5. Recent Publications

As a researcher, Professor Oladipo has several publications on climate change, sustainable human development, desertification and capacity building in International Journals **International Journal of Climatology**, **Journal of Theoretical and Applied Climatology**, **Natural Hazards**, and **Geographical Review.** He has also supervised M.Sc. & Ph.D Projects at Ahmadu Bello University, Zaria. Recent publications include:

1. Key Elements of Environmental Impact Assessment in Nigeria (2001) in Development Policy and Analysis p. 339 – 369 (S. I. Abumere and A. Soyibo ed.)
2. Financing and Developing Renewable Energy Schemes in Africa (2000) – in Growing the Energy and Mineral Industries for Prosperity p. 213 – 242. (O. Fawibe ed.)

3. Environment and Poverty (1999) – in Ecosystem Changes and Poverty in Nigeria p. 46 – 72 (A. Falomo & C. C. Chikwendu ed)
4. Energy Efficiency for Sustainable Development (1999) – National Workshop on Energy Conservation in Commercial/Institutional Buildings.
5. Industrial and Vehicular Emissions and Their Effects on Climate Change (1998) - in Ecosystem Changes and Poverty in Nigeria p. 24 – 34 (A. Falomo & C. C. Chikwendu ed.).
6.

6. Countries of Work Experience (incl length of time)

Nigeria (21 years)
Canada (7 years)
New Zealand (one year) - University Visiting Lecturer
Ethiopia (4 weeks) - Consultancy
Tanzania (2 weeks) - Consultancy
Kenya (4 weeks) - Consultancy
Somalia (1 week) - Consultancy
Lesotho (2 weeks) - Consultancy
Mozambique (2 weeks) - Consultancy

7. Capacity and Experience Relevant to this Proposal

1. Vast research experience in energy related issues
2. Has undertaken research work at the University level
3. As Head of the Energy and Environment Unit in the UNDP has unlimited access to ICT.
4. Has participated in many conferences of relevance.
5. Has analytical and conceptual ability.
6. Has written many research and workshop reports.

The Philippines Team

Epifania V. Tabbada, Ph.D.

1. Personal Details

Family Name	First Name
Tabbada	Epifania

2. Degree

Date	University	Specialization	Thesis/ Dissertation Title
1973	Philippine Normal College	Master of Arts (Administration and Supervision)	Administrators' and Supervisors' Knowledge and Attitudes Toward the Scheme of Continuous Progression in the Division of City Schools – Manila
1987	University of Illinois (Champaign-Urbana, Illinois, USA)	Doctor of Philosophy (Home Economics Education and Curriculum Development)	Exploring the Development of Critical Thinking in Home Economics

3. Posts Held

Academic Rank - Professor VI – Philippine Normal University

Date	Position/Title
March 14,2004 to present	Officer In-charge, College of Graduate Studies
January 2003 to present	Extension Coordinator, College of Graduate Studies
December 2002 to present	Head, Department of Nonformal Education, College of Graduate Studies
1999 – 2002	Head, Department of Allied Sciences
2001-2002	Head, Department of Technology Education, Health, Home Economics and Nonformal Education

4. Duties and Responsibilities

4.1. As Officer in Charge of the College of Graduate Studies:

1. Administrative Management
2. Executive Judgment
3. Delegating Authority and Responsibility
4. Encouragement of Faculty Research
5. Faculty Representative to Academic and Administrative Council Meetings
6. Keeping communication lines open
7. Communicating ideas
8. Planning ability

5. Recent Publications

Title of Material Developed	Role	Types of materials	Target Users	Date
Productive Living 4 *Home Economics and Livelihood Education*	Co-author	Textbook	Elementary Level	1991/ 1996
Productive Living 4 *Home Economics and Livelihood Education*- Teacher's Guide	Co-author	Teachers Manual	Elementary Level	1991/ 1996

Productive Living 5 *Home Economics and Livelihood Education*	Co-author	Textbook	Elementary Level	1991/ 1996
Productive Living 5 *Home Economics and Livelihood Education*- Teacher's Guide	Co-author	Teachers Manual	Elementary Level	1991/ 1996
Productive Living 6 *Home Economics and Livelihood Education*	Co-author	Textbook	Elementary Level	1991/ 1998
Productive Living 6 *Home Economics and Livelihood Education*- Teacher's Guide	Co-author	Teachers Manual	Elementary Level	1991/ 1998
TECHNOLOGY AND HOME ECONOMICS- First Year	Co-author Coordinator	Textbook	High School Level	1993
TECHNOLOGY AND HOME ECONOMICS- Second Year	Co-author Coordinator	Textbook	High School Level	1997
TECHNOLOGY AND HOME ECONOMICS Dressmaking I -Third Year	Co-author Coordinator	Textbook	High School Level	1995
TECHNOLOGY AND HOME ECONOMICS Dressmaking II- Fourth Year	Co-author Coordinator	Textbook	High School Level	1997
Technology and Home Economics IV HOME TECHNOLOGY, Related Crafts II Fourth Year High School	Author	Module	High School Level	1995
Technology and Home Economics IV HOME TECHNOLOGY. Clothing II Fourth Year High School	Author	Module	High School Level	1995

Significant Papers Written and Other Publications

Title of Paper Presented	Conference /Journal	Conference Dates/date of Publication
Strategies in the Indigenization in Home Economics	Philippine Home Economics Association Seminar on Indigenization in Home Economics - PNU Cadiz	October 24-26, 1998 March 1999
Research abstracts on NRCP AND PNU Researches	PI LAMBDA THETA Research Compendium	July 1999
Utilization of Papaya Leaves as an Indigenous Food stuff in the Family Meals	Philippine Association of University Women meeting	August 1998
Development , Implementation and Evaluation of a University-Based Meal Management Program	PAUW Journal Pi Lambda Theta Research compendium	June 1998 July 1999
Home economics: *The impact of new technologies*	PERSPECTIVE-The National Education Magazine Sangguni (PNU)	September 1996 !998

6. Capacity and expertise relevant to proposal

6.1. Academic Programs/ Projects spearheaded, organized, planned, proposed (Director, Coordinator, Club Adviser, Curriculum Developer)

PROJECT	Role	Inclusive Dates	Clientele

Literacy Project conducted by HE and NFE students in the Main campus and in the branches	Project Director	1988 - to present	Underprivileged members in depressed communities
Revival of the DECS-BNFE-PNU Scholarship Program	Program proponent and co-implementor	1997-1998	DECS - NFE Scholars from the 16 regions
TEHHEN Departments joint activities (Field trips for Faculty and Exhibits on finished products)	Initiator and Coordinator	1998-1999	TEHHEN Faculty (LS, Undergraduate and graduate) and Students
Upgrading Seminar for teachers (DECS and/or PNU initiated)	Project director	1989 - present	Public and private school teachers in Technology and Home Economics, and EPP

6.2. Networking with Academic and Non-academic institutions agencies (consultancy, partnership, co-sponsorship)

Name of Networking Activity (Consultancy, Partnership)	**Level**	**Role**	**Institution/ Agency**	**Inclusive dates**
Consultancy in Bangladesh (Second Primary Education Sector Project) ADB funded	Inter-National	Consultant - Curriculum Evaluation Specialist in Primary Education	Republic of Bangladesh and Asian Development Bank	March 31-June 30, 1999
Consultancy in Cambodia under UNESCO	Inter-National	Consultant in the Textbook Development Project in Social Studies (Home Economics, Values Education, and Geography for Grades 7,8,9,10,11, and 12.	Republic of Cambodia and UNESCO	July 1, 1997 - May 5 1998
DECS- BNFE-PNU Scholarship Program	National	Project proponent and implementor	DECS-BNFE	March 1997-April 1998
Consultancy for Junior Secondary Education Project of the Ministry of Education, Culture and sports, Republic of Indonesia	Inter-national	Consultant in Curriculum Development	Republic of Indonesia and Asian Development Bank	December 1994 - November 30, 1995
TPK National Training Program Puncak, Indonesia	National	Resource Speaker/ Trainor/ Demonstrator	DECS of Indonesia	10-17 April, 1996

6.3. Extension (as Resource Speaker, Trainor, Lecturer, Facilitator)

Name of Activity /Project	**Level**	**Role**	**Agency/Place**	**InclusiveDates**
Performance Based Evaluation Using Rubrics	National	Lecturer	PNU	January 16-17, 2004

and Portfolio Assessment				
Performance Based Evaluation Using Rubrics and Portfolio Assessment in Technology and Livelihood Education	National	Facilitator	DEPED Educators' Congress	October 6-8, 2003
Balikatan Sa Kauinlaran	College	Seminar Director	PNU	October 16, 2003
NFE Implementors Research Forum	College and DEPED Manila	Seminar Director	PNU	January 2003
Seminar in National Teacher's College	College	Speaker on Leadership in Educational Technology	National Teachers College	January 26, 2003
PUP Seminar on NFE	University	Speaker	Polytechnic Univ. of the Phil.	December 2003
Balikatan sa Kaunlaran	College	Seminar Director	PNU	May 2003
PAUW PNU OUTREACH Project	Regional	Seminar Director	PNU	May 2002 December 2001, October 2000
PNU-PAUW Literacy Project Home Management Skills Training	National	Project Director	PNU	4, 10, 17 and 24 February 1996
UNESCO-PNU Training Program for Parateachers of DSWD Street Children	National	Lecturer/ Demonstrator	PNU	22-25 January 1996

6.4. Researches Conducted (for the past six years)

Name of Activity/Project	Relevance/Significance	Inclusive Dates
Knowledge and Attitudes About Gender Issues of Pupils at Primary Level in Selected Schools in Dhaka, Bangladesh (An Exploratory Study)	Provided insight and data to curriculum writers and university faculty in the National Curriculum and Textbook Board of Bangladesh	2000 – 2001
Analysis of the Competencies in the Essential Learning Continuum at the Primary Level: A Basis for Curriculum Enrichment	Provided data to show the levels of competencies stated in the Essential Learning Continuum and served as guide to curriculum writers commissioned by the National Curriculum and Textbook Board of Bangladesh	April – August 2000
Nutrition Knowledge and Value Orientation of Home Economics and Nutrition and Dietetics Students at PNU	Identified the data relevant to HE and ND curriculum enrichment	2000 – 2002
Philippine Science Encyclopedia (Governmental, Educational, and International Policies). National Research Council of the Philippines, 1999 Wrote about Home Economics and	To serve as reference materials to students, teachers, and educators	1999

Nonformal Education		

6.5. University/College -Wide Committee Work

Activity/Committee	Role	Date
Honoris Causa for the Education Minister of Thailand	Chairman of Decoration Committee	July 1998
Investiture of the President	In charge of the Presidential Medal	January 1999
Dissertation and Thesis Advising	Dissertation Adviser of Maritess Fronda, Priscilla Balangue, Marita Bancual, and T. Pobocan Thesis adviser of Alex (Taiwanese student),	1996 -1999
University Bazaar	Chairman	Jan. 11,12, 13, 1999
Sportsfest	Co-Manager of Green Group	September 1999
PNU Foundation Day Centennial Exhibits	Chairman in the Graduate College	September 1, 1999
Fund Shower	Chairman	September 4, 1999
Graduate College Cultural Trip	Chairman	September 7, 1999
Graduate College National Conference	Chairman of the reception and socials , and exhibits	Sept. 15 - November 24,25,and 26, 1999
Safety Council	Co-Chair	Sept. 1999 to 2000