## Final Technical Report R7660 Extension Processes for Rural Energy

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# Final Technical Report R7660 Extension Processes for Rural Energy

Authors Batchelor S, Best J, Malhotra P, Sakyi Dawson O, Scott N, Sinha S

## **Executive Summary**

This document is the final technical report of a research programme funded by the Department for International Development (UK), undertaken by a partnership led by the University of Reading (IRDD) and Gamos Ltd but including the University of Ghana (Legon), TERI (India) with the assistance of a number of field NGOs in these countries.

Based on 3 key assumptions and a basic hypothesis the research tested the proposition that skills and awareness of workers facilitating participatory processes depend largely on the training given, which is in turn governed by the remit of their parent organisation. If energy is not included in the training, it is unlikely to be recognised by either extension worker or village as a need.

The purpose of the project was to assist general extension workers to be aware of the role of energy, and of the potential to incorporate energy into their grassroots work by promoting and adapting tools to specifically explore energy related issues.

**Method:-** The project methodology included a review of existing training materials for institutes, a survey of extension workers throughout the world to gain an insight as to how widely participatory processes are used in the field and to determine which tools are commonly used, and workshops with trainers of participatory processes were undertaken in Ghana and India. Resulting from the India workshop the hypothesis was challenged (for India). The revised hypothesis was that the integrated nature of the Indian development sector included energy in its portfolio of responses, and that there were considerable tools and resources on participatory planning that included energy as key examples. The methodology was, therefore, modified to include a component intended to transfer lessons learned from India to Ghana and beyond. A scoping study was undertaken by the Indian Partner TERI, to collect and collate examples of "participation and energy" and to present tools that had worked in India. A pilot set of tools and guidelines was developed. This was field tested and refined in Ghana and India. The revised set of tools and guidelines were discussed and disseminated to partners, training institutes and respondents of the survey. Dissemination has been made throughout the project of various outputs, and via a website <a href="https://www.sustainablelivelihoods.org">www.sustainablelivelihoods.org</a>

## The key assumptions were:-

(1) Energy is important: - Energy is an important aspect of life and livelihoods and forms a cross cutting need for all development activities.

The DFID Guidance note for Energy for the Rural Poor states "Access to energy is essential to sustain human life".

This assumption remains unchallenged at the end of the project. The workshops all confirmed the importance of energy as a cross cutting need of all development activities and, indeed, this is well recognised in India. The pilot activities confirmed that once questions were posed to open discussion about energy needs, then energy needs emerged as a significant concern amongst communities. In particular the work by REALS piloting the tools and guidelines showed that Tribal forest people were very aware of energy as a central part of the lives, and gave numerous examples of how it affected their daily life. Since the pilot was conducted in four different environments (dryland, coastal, forestry, agricultural highlands), this represents strong confirmation of the assumption.

**(2) Participatory processes are important**:- There is strong concern among donors that development actions be demand led and that participatory planning processes are the basis of planning development activities.

Extension services around the world are now the bedrock of development practice. The mobilisation of the community is essential to ensure demand led provisions which lead to sustainable effective and efficient practices.

The assumption remains unchallenged. However, two key issues arose. First was a need to clarify WHEN participation is being used and to what objective. A distinction was noted between agenda free initial needs assessment, and agenda led planning and design. The research project intended to address the use of participatory processes in the initial needs assessment.

The second issue concerns the role of participatory tools and techniques per se. There is a growing feeling in some sectors in India that participatory tools have been applied excessively such that communities no longer respond positively to them. If this is true, it raises the question not so much about the tools themselves but their use within the development process.

However, while this view of participatory tool overuse was voiced in India it was not true in Ghana, and did not seem to be the case from the global survey. On the contrary, the Southern based workshop in Ghana demonstrated that field workers in that area were unfamiliar with basic participation tools, as were the two smaller NGOs working in remote areas in India who were selected to pilot the tools.

(3)There are few recorded and reported examples of where energy issues are expressed as a need resulting from participatory processes. A survey of needs rankings across a broad range of projects shows food, water, health needs and education in the foreground - leading to projects in those sectors.

Whilst this was observed to be the case in Ghana, it was not in India. Indian field work tends to be more integrated because of the way in which services from the government are provided. NGOs in India assert that this is likely to become more common as pressure on natural resources (fuelwood in particular) increases. Examples were identified of participatory needs assessments that flagged energy as a significant issue for the community. The methodology was, therefore, modified to include a component intended to transfer lessons learned from India to the global community.

Hypothesis: Energy may not feature as a reported need because the facilitators of participatory processes are not sufficiently aware of the impact of energy on livelihoods to ask the right questions of the communities.

Output from participatory processes often depends on the facilitator. A framework is created within which the community undertakes an exercise of participation. While in theory the framework should be open to include all needs, in practice it is often slightly closed - health workers tend to get a greater feedback on health, agriculturalists on agriculture, etc. The response depends on the skills and awareness of the facilitating extension worker.

This is the central premise of the research and has been confirmed. See below.

**Proposition:-** Skills and awareness in turn often depend on the training given to extension workers. If energy is not included in the training, it is unlikely to be recognised by either extension worker or village as a need.

The workshops in Ghana confirmed that field workers tend not to be aware of energy needs (unless they have had specific training in energy issues). Similarly, the two Indian NGOs working in isolated areas also demonstrated that their field workers had a low awareness of energy needs prior to this research.

Basic 2 day training given to Indian NGOs was able to create awareness in field workers with the outcome that needs assessments in communities included energy needs.

The research project has confirmed that one of the ways of creating a suitable awareness of energy is to present participatory tools that illustrate the possible responses of the community regarding energy needs. Tools and guidelines have been developed and have been distributed with the intention of parts thereof to be embedded in standard teaching and training, not presented as a new curriculum per se on energy.

The research has also highlighted the more general linkages between training curriculum and needs assessment. It suggests that it is important that workers who are undertaking an "agenda free" needs assessment need a broad general knowledge, possibly with the comprehensiveness of the Livelihoods framework, in order to facilitate the community. The potential weakness of a facilitator who does not have a broad general background is that the facilitation can result in semi closed questioning.

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## 1. Introduction and background

Purpose:- to bring the subject of rural energy into mainstream extension networks, demonstrating a practical SL approach

This document is the final technical report of a research programme funded by the Department of International Development (UK), undertaken by a partnership led by the University of Reading (IRDD) and Gamos Ltd but including the University of Ghana (Legon), TERI (India) with the assistance of a number of field NGOs in these countries.

It is supported by a number of internal project documents listed below:-

- Initial Workshop Report Ghana Sakyi-Dawson, O & Sey, A 2000 Report from the Discussion Workshop on Extension Processes for Rural Energy, 11 December 2000, Bayview Hotel, Accra (Agricultural Extension Department, University of Ghana, GAMOS Ltd., UK and AERDD, University of Reading, UK)
- 2. Initial Workshop Report India TERI 2001 Workshop report 'Extension processes for Rural Energy: Phase I', 13<sup>th</sup> March 2001 New Delhi (TERI, India)
- 3. Survey of Extension Agents Data and analysis
- 4. Scoping document India Malhotra, P, Rehman, IH, Jalajakshi, CK, Shuklas, A & Mirza, A 2001 Extension Processes for Rural Energy: Scoping Study (TERI, India)
- 5. Exploring Sustainable Livelihoods and Energy, Batchelor S, Scott N 2001
- 6. Tools and Guidelines Version 1 Batchelor, S, Best, J, Scott, N, Malhotra, P & Sakyi-Dawson, O 2001 **Participatory Approaches to Energy in Rural Development: Tools and Guidelines** (Gamos Ltd, University of Reading, TERI, University of Ghana)
- 7. Pilot Report Tamale, Ghana Iddrisu, Y &Sakyi-Dawson, D 2002 **Report on 'PRA tools for energy workshop'** (University of Legon, Ghana)
- 8. Pilot Report Swedru, Ghana Iddrisu, Y &Sakyi-Dawson, D 2002 **PRA workshop on participatory approaches to energy issues in rural development, Agona District from 17**<sup>th</sup> **–21**<sup>st</sup> **June 2002** (University of Legon, Ghana)
- 9. Pilot Report AHKS, India Adiwasi Harijan Kalyan Samiti, Chhindgadh, India 2002 Extension processes for rural energy: Field trials of PRA tools in Bastar'
- 10. Pilot Report REALS, India REALS 2002 A research study on rural energy in a protected area of Sitanadi Sanctuary, Tehsil Nagri, Chhattisgarh, India, (in association with IRRD, Reading University)
- 11. Survey of training institutes Data and Analysis
- 12. Best, J 2003 End-of-project review workshop report, New Delhi, 13 February 2003

## 1.1. Assumptions starting point

The hypotheses for the research bring together three thoughts:-

- (1) Energy is important: Energy is an important aspect of life and livelihoods and forms a cross cutting need for all development activities.
  - The DFID Guidance note for Energy for the Rural Poor states "Access to energy is essential to sustain human life".
- (2) Participatory processes are important:- There is strong concern among donors that

development actions be demand led and that participatory planning processes are the basis of planning development activities.

Extension services around the world are now the bedrock of development practice. The mobilisation of the community is essential to ensure demand led provisions which lead to sustainable effective and efficient practices.

(3)There are few recorded and reported examples of where energy issues are expressed as a need resulting from participatory processes. A survey of rankings across a broad range of projects shows food, water, health needs and education in the foreground - leading to projects in those sectors.

The third of these assumptions needs a little qualification. There are examples of participatory processes being used to explore energy needs specifically, and indeed the project highlighted a number of such projects. Assumption three refers to the initial, or preliminary, needs assessment stages of an intervention; this can be an "agenda free" process, and is described in more detail later.

The hypothesis follows from these observations, which formed the starting point of this research: Energy does not feature as a reported need because the facilitators of participatory processes are not sufficiently aware of the impact of energy on livelihoods to ask the right questions of the communities.

Comment:- Output from participatory processes often depends on the facilitator. A framework is created within which the community undertakes an exercise of participation. While in theory the framework should be open to include all needs, in practice it is often circumscribed - health workers will tend to get a greater feedback on health, agriculturalists on agriculture, etc. The response depends on the skills, awareness and interests of the facilitating extension worker.

The alternative explanation for the lack of energy reported in initial open agenda needs assessments is that Energy does not feature as a reported need because it is not of high concern to communities. However this is unlikely given the weight of research that shows how critical energy needs are to poor communities and sustainability of livelihoods.

A Proposition was developed from this hypothesis, namely that skills and awareness of workers facilitating participatory processes depend largely on the training given, which is in turn governed by the remit of their parent organisation. If energy is not included in the training, it is unlikely to be recognised by either extension worker or village as a need.

A casual survey of training literature shows that energy is not mainstreamed in texts. For example :-

- Archer, D & Cottingham, S. 1996 Reflect mother manual: regenerated Freirean literacy through empowering community techniques (ActionAid, London)
- 1999 **Participatory learning and action (PLA) database** (International Institute for Environment and Development. Resource Centre for Participatory Learning and Action)
- 1995 **PLA notes: notes on Participatory Learning and Action** (International Institute for Environment and Development. Sustainable Agriculture Programme)
- Slocum, R, Wichhart, L, Rocheleau, D and Thomas-Slayter, B (eds) 1995 Power, process and participation: tools for change (Intermediate Technology Development Group)
- Hill,P, Webster, P & Williams, N 1993 Business Management for Agricultural Enterprises (MSc and Diploma in Agricultural Development External Programme notes, Wye College, University of London)
- Agricultural Education Group 1997 Agricultural Education and Training: Issues and Opportunities (Extension, Education and Communication Service (SDRE) FAO

Research, Extension and Training Division) accessed through www.fao.org/sd/exdirect/EXre0003.htm

- Van Crowder, L 1996 **Assessment of Pre-Service and In-Service Extension Education** (Agricultural Extension Officer Agricultural Extension and Education Service (SDRE) FAO Research, Extension and Training Division), accesses through www.fao.org/sd/exdirect/exan0001.htm
- Batchelor, S, McKemey, K & Sakyi-Dawson, O 1999 KAR6849: Adoption barriers for efficient domestic energy in refugee sites (Gamos Ltd, Mitigation International and University of Ghana for DFID)

This project proposed assisting general extension workers to be aware of the role of energy, and of the potential to incorporate energy into their grassroots work by promoting and adapting tools to specifically explore energy related issues.

This became the output of the project:

- A set of PRA tools designed to include the energy component of daily life
- Guidelines for extension workers on the inclusion of the impact of an energy agenda
- Field testing of the tools and guidelines
- Dissemination through extension networks and linkages

## 1.2. Methodology

The project reviewed existing training materials for institutes, entering into dialogue with major European training institutes to ensure dissemination pathways for the final outputs. (Project Document 11)

A survey of extension workers throughout the world was undertaken to gain an insight as to how widely participatory processes are used in the field and to determine which tools are commonly used (Project Document 3).

Workshops were undertaken in Ghana (Project Document 1) and India (Project Document 2). The workshops gathered trainers of participatory processes, whether formal trainers such as universities and colleges, or in-service trainers such as NGOs and human resources departments of the relevant government service. The purpose of these workshops was to solicit opinion on current practice, and on potential applications of the proposed tools.

Resulting from the India workshop the hypothesis was challenged (for India). The revised hypothesis was that the integrated nature of the Indian development sector included energy in its portfolio of responses, and that there were considerable tools and resources on participatory planning that included energy as key examples. The methodology was, therefore, modified to include a component intended to transfer lessons learned from India to Ghana and beyond. A scoping study was undertaken by the Indian Partner TERI, to collect and collate examples of "participation and energy" and to present tools that had worked in India (Project Document 4).

Using the above forum to discuss the key issues of the project, the feedback from the global survey and the examples found in the Scoping study and other training materials, a pilot set of tools and guidelines was developed. This was field tested and refined in Ghana and India (Project Documents 7, 8, 9, 10).

The revised set of tools and guidelines (Revised Project Document 6, annexed to this report) were discussed (Project Document 12) and disseminated to partners, training institutes and respondents of the survey. Dissemination has been made throughout the project of various outputs, and via a website <a href="https://www.sustainablelivelihoods.org">www.sustainablelivelihoods.org</a>

## 1.3. Acknowledgements

The project team would like to thank all of those in Ghana and India who have contributed to the preparation of these tools and guidelines through their participation in the national consultation workshops which have guided the process and in the field testing of the tools and guidelines:

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Wamale community, Ghana Yong –Duni Community, Ghana The communities working with REALS The communities working with AHKS

## 2. Stating the Problem

Problem identification, the initial interaction with a community, tends to be carried out by field workers (e.g. extension agents, community development animators, health activists, community volunteers), and there is a growing recognition of the value of participatory approaches (not withstanding the scepticism emerging regarding ways in which participatory techniques tend to be applied in practice). However, the proposition is that participatory surveys are greatly influenced by the skill and personal qualities of the field workers who are conducting the discussion. As workers tend to have been through some form of formal or semi formal training, and are likely to have a background in one of the priority development sectors (particularly agriculture and health), it seems that the low priority attributed to energy issues could be due to a general lack of awareness of the role of energy in development amongst field workers.

## 2.1. Agenda driven or agenda free?

There are many differences in the way various government departments and non-governmental agencies seek to interact with poor rural people. One way of categorising the differences would be to talk about "agenda driven" or "agenda free" interventions.

Most development agencies have a mandate which restricts (or guides) the types of activities that they get involved with; this is especially true of government departments where responsibilities tend to be clearly demarcated. An organisation with a broad, or flexible, mandate can take an "agenda free" approach to development interventions, whilst a more focused organisation will take an "agenda driven" approach.

For instance, an example of an "agenda driven" interaction might be an agency tasked with providing clean water. The agency workers enter a community and hold discussions about the problems of the community. The discussion is drawn towards the issues surrounding the water supply, and the outside agency encourages the community to tackle the problem of water. The outside agency and their representative, the field worker, have an agenda, and while – if good practice is followed - the agenda is only applied where there is real need and real "buy in" from the community, nevertheless there is a somewhat preset agenda. Other problems may be expressed but the agency has a given mandate and can only respond to issues that fall within its remit.

In the development sector, there are other agencies that aim to work "agenda free". Community animators enter a village and hold discussions seeking to get the community to reflect and take action on any issue that arises.

We may therefore characterise approaches to interaction with rural people as:

- 1. "agenda free",
- 2. "agenda driven" (but not energy) and
- 3. "agenda driven (energy)".

The research was intended to raise the awareness of energy in 1 and 2; it was not designed for "agenda driven energy" scenarios (other projects are addressing these latter scenarios and are discussed below)

This has been a difficult concept to communicate. Some agencies have assumed that the tools and guidelines developed by the Project were intended to apply only to scenarios where energy is a targeted issue. This is not the case.

Energy is an important component of almost any activity. The DFID paper, Poverty and Energy, discusses how energy affects our progress towards any of the Millennium Development Goals (MDGs). For example, if a worker were agenda-driven on water, they would still have to discuss what energy supply is going to be used to provide water. If modern energy is used say electricity, then one must consider the impact of power outages and the demand on the grid. If handpumps are to be used, one should consider the labour required for pumping and whether the time taken interrupts critical activities which compete for labour time, such as firewood collection.

Field workers who are "agenda free" need to have a general knowledge about many subjects, in order to stimulate discussion. Field workers who are agenda driven should have a general awareness of issues connected with their central agenda. The livelihoods model was created as a mechanism for people to ensure that all the complexities of poverty are taken into account in the planning discussions. This research was intended for ALL field workers, to encourage a general awareness of energy as an issue in any community, potentially restricting any improvement of livelihoods.

## 2.2. Participatory approaches and the development cycle

The emphasis given to the use of common participatory techniques is on gathering information on the role of energy in the daily lives of the community, and on promoting discussion of the issues raised in order to help people understand the importance of

There are a number of misconceptions or myths about energy, which should be dispelled in order to encourage the development community to think more seriously about issues related to energy supply, energy access and energy use:

**Myth** - poor people do not consider access to energy as a priority.

Reality - the poor may not use the term 'energy', but they can spend far more time and effort obtaining energy services than the better off; and they spend a substantial proportion of their household income on energy just for basic human survival - cooking, keeping warm, etc.

**Myth** - access to electricity, whether from the grid or decentralised renewable energy sources, will solve all the energy service needs of the poor.

**Reality** - development specialists often wrongly talk of 'electricity' when they mean 'energy', and vice versa - all people need access to a range of energy sources to satisfy their energy service needs - cooking, heating, transport and communication.

Myth - the poor cannot pay for energy services.

Reality — many poor people often already pay more per unit of energy than the better off, partly due to inefficient conversion technology and partly to corruption.

**Myth** - new technology alone - such as solar photovoltaics and fuel cells - will improve poor people's access to energy services.

**Reality** — technology is rarely the constraint: addressing institutional, political and social problems that constrain sustainable livelihoods and lack of knowledge and skills is often more important.

**Myth** — only people in rural areas suffer from lack of access to energy.

**Reality** — poor people in urban areas also suffer from lack of access to energy services and their numbers are likely to increase since it is predicted that 61% of the world's population will be living in urban areas by 2025.'

DFID 2002 Energy For the Poor: Underpinning the Millennium Development Goals DFID Issues paper, August 2002

energy. This application of techniques is targeted at the needs assessment stage of the development project cycle (Figure 1). It will enable them to prioritise needs (including any energy requirements), which will then lead into the planning and design stage.

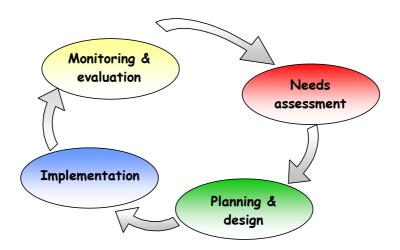


Figure 1 the development project cycle

At the **needs assessment stage** the community is being asked what its priority needs are, and which of those it chooses to work on - for instance, needs may include a lack of a clean water supply, a dilapidated school building, and deteriorating access to firewood, and the community may choose to act on the problem of firewood first. At the planning and design stage the community and the assisting organisation then have to look at the choices available – for instance, if the problem is firewood, then is the best way forward to try to grow more firewood, to improve the way we use firewood, to encourage a transition to kerosene, or to mobilise the people to lobby the government for an electricity supply? Considerable experience has been gained in the use of participatory techniques in the planning and design of specific energy projects e.g. natural resource assessment, energy consumption, but these are at the Planning and Design stage and are beyond the scope of this research. During the project, the team liaised with IRENet and AEA Technology. (Project

Energy encompasses light, heat, mechanical power and electricity from a combination of fuels fossil fuels such as coal, gas and kerosene, plus renewable energy sources such as solar power, wind power, hydropower and biomass - and fuel technologies - ranging from traditional three stone fires to efficient, clean electricity systems. Demand for energy is a 'derived demand': no one wants energy in itself but rather for the services it can provide. The wide range of 'energy services' cooking, water heating, lighting, refrigeration, water pumping, transport and communications, etc. — made possible by fuels and fuel technology - can have a major impact in facilitating sustainable livelihoods, improving health and education and significantly reducing poverty Conversely the absence of adequate, affordable, reliable, safe and environmentally benign energy services can be a severe constraint on sustainable economic and human development. DFID 2002 Energy For the Poor: Underpinning the Millennium Development Goals DFID Issues paper, August 2002

Document 2). IRENet have developed a tool for diagnosis and planning called Empower: this assists a community to reflect on how energy issues affect livelihoods, to collate information about the use of energy within the community, and to outline the various options for addressing energy needs, leading the community to decide to take action on energy. In this sense it is agenda driven since energy is assumed to be an issue. AEA Technology (KAR R7662) have developed a tool called Enpower. This is a decision-support tool, collating all the information about the use of energy within the community, and then using a decision algorithm built into the tool to decide the most cost effective solution or option.

The three tools (i.e. the needs assessment tools developed by this project, the Empower diagnostic/planning tools and the Enpower decision-support tool) can seem similar at first glance and it has been important throughout the project to distinguish their use. In practice they are

likely to prove complementary, each of the three being used at slightly different stages in the planning cycle.

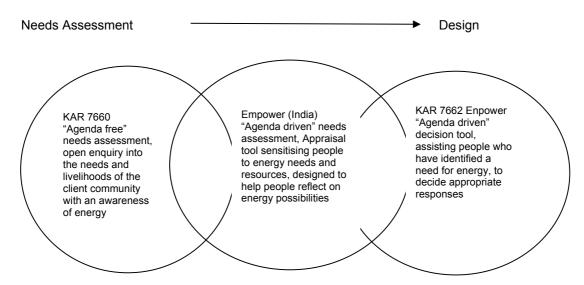


Figure 2 the role of Agenda free and Agenda driven tools

## 2.3. Careful use of the term participation

In India, where there is a long history of using participatory techniques, there is a certain degree of scepticism regarding PRA "tools" – in the sense of the visualisation techniques such as mapping, ranking, scoring which have been developed over a little more than a decade under the banner of PRA. Agencies with a strong community development focus based on establishing a long term presence in a particular location or community tend to shy away from widespread use of PRA techniques, preferring to rely on 'traditional' methods of interaction based on discussion and relationships (methods which in some cases they were using before the ascendancy of PRA in the early 1990s). This points to a growing understanding of the limitations of participatory techniques. At the same time, responses to the global consultation of a wider range of players suggest that PRA tools are very much in common use.

It is important to catch the essence of what was said in India – that all the techniques talked about here are only tools invented to support a participatory approach, the principles of which are discussion and dialogue. We should perhaps move away from the term "PRA" because it is too closely linked to the techniques which are at risk of being used in a prescriptive manner, which would be to miss the point of discussion and dialogue. Agenda-driven PRA is valid in that it can facilitate interaction between rural people and representatives of an agency with a particular (and limited) remit. Further, PRA tools can be a valuable means by which such workers may focus discussion on a particular theme which 'free-form' interaction may not readily lead to. On the other hand 'tool-driven PRA' (i.e. determination on the part of facilitators to use a particular tool or set of tools) will almost certainly be dysfunctional.

The tools included in the Tools and Guidelines (Revised Project Document 6, appended) are, therefore, presented in outline with suggestions on how to adapt them to explore energy issues.

<sup>1</sup> One comment from a development agency in India (with a specific remit) is highly revealing: it was (paraphrased) that PRA (in the sense of the visualisation techniques) 'is fine if you haven't much time for problem-identification with a community; otherwise, to spend time in free-form discussion plus observation is productive because it allows issues to surface which might otherwise be missed.'

It is expected that field practitioners will take the core principles and adapt them to local conditions – knowing that good participatory practice builds on local and traditional practices.

It is recognised that the tools are essentially presented as information extractive techniques. Although this may correspond with actual practice throughout much of the development community, it is not to deny the greater potential value of participatory processes in engendering empowerment.

## 3. Investigating the problem

## 3.1. Global survey – Do workers use participatory processes?

Of 800 questionnaires to departments of Government and NGO extension services working in developing countries there were 76 respondents (just under 10%).

#### **Profile of respondents**

Gender	84% male,	16% female
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Age range	
<30 yrs	9.2%
30-40	18.4%
40-50	53.9%
50>	18.4%

Length of service	
<5 yrs	8.0%
5 to 10	16.0%
10-20	53.3%
20<	22.7%

The respondents worked in urban, peri urban and rural settings. There was a wide range of job titles but the majority were immediate managers of a team responsible for conducting field work (extension or animation activities).

#### The percentage of time spent with clients in the field

<10%	7.0%
10-30%	25.4%
30-60%	39.4%
>60%	28.2%

Extension work has changed over recent years and there are a number of schools of thought. When offered words to describe the type of extension they practice the following percentage subscribed to the word as a partial description of their extension practice:-

Training and visit	60%
Leader farmers	35%
Farmer field schools	27%
Community animation	60%

Among the alternative responses were words such as "capacity building" and "adaptive research". All the participatory tools had fairly equal usage across the whole sample.

#### 3.2. Linkages between poverty issues and tools used

The survey revealed some interesting linkages between people's field of work and understanding of energy.

Respondents were asked what their client's three main needs were, and these responses were

broken down for households, farmers and women. These responses were then assessed against the awareness of energy needs assessment, as indicated by prior use of a particular participatory tool with an energy subject.

There were statistically significant differences between the following:-

Household issues Those who reported	as key for their clients, had	(participatory) investigated
Health issues	more likely (strongly)	fuelwood and stoves issues
Education and training	more likely (strongly)	a wide range of energy issues
Infrastructure	less likely	fuelwood issues
Food issues	more likely	fuelwood issues
Water issues	more likely	collection times for energy

The remaining issues - General poverty, lack of inputs, family issues, lack of manpower, unemployment, markets, communication, land – were no more likely to have investigated energy than those who did not mention the issue. In particular those who mention energy as an issue were no more likely to have investigated energy than those who did not mention it. (We might assume that energy was presented as an issue because of the theme of the questionnaire).

Similarly, there were some statistically significant differences between the issues mentioned and the participatory tools used.

Household issues Those who reported	as key for their clients, had	to have used
Health issues	more likely (strongly)	a wider range of PRA tools including mapping, calendars, even mind maps.
Education and training	more likely	a wider range of PRA tools including ranking and matrices.
Water issues	more likely	a slightly wider range of PRA tools including natural resources maps and relationship profiling

The remaining issues - General poverty, lack of inputs, family issues, lack of manpower, unemployment, markets, communication, land, infrastructure, etc – were no more likely to have used a particular tool than those who did not mention the issue. In particular those who mention energy as an issue were no more likely to have used a particular tool than those who did not mention it.

#### **Farmer issues**

When we consider issues mentioned specifically in the context of farmers, we find no differences between those who mention specific issues and those who don't, with the one exception of those who mention machinery. Those who mention machinery as an issue are more likely to have considered the post harvest energy needs of their clients than those who don't.

#### Women issues

When we consider women's disaggregated issues there are again clear statistically significant linkages.

Women's issues		
Those who reported	as key for their clients, had	(participatory) investigated
Money issues	more likely (strongly)	energy issues linked to markets, e.g. fuel sellers
Health issues	more likely (strongly)	fuelwood and stoves issues
"Heavy workload" issues	more likely (strongly)	energy and transport
"discrimination" issues	more likely (strongly)	energy and transport, including social capital required to access
		energy
Education and training	more likely	alternative energy
Land issues	more likely	energy and transport

The remaining issues - General poverty, lack of inputs, food, unemployment, – were no more likely to have investigated energy than those who did not mention the issue. In particular those who mention energy as an issue were no more likely to have investigated energy than those who did not mention it. (Again we might assume that energy was presented as an issue because of the theme of the questionnaire).

Finally, there were no differences in the issues raised and the use of PRA tools for either those reporting farmers or women issues.

#### Commentary

It is seems reasonable that those who are more specifically dealing with household and women's issues should be more aware of energy needs, particularly those involving fuelwood. The literature on energy (e.g. the DFID Guidance publication) states that fuelwood is an issue for women regarding health, labour (workload) and gender conditional interests. It is therefore interesting that of a survey of generalists, those who would say that those issues are important for their clients are also more aware of energy. Less obvious is the linkage between water and energy, brought to light in the household issues, where once again time and labour are the connection.

Regarding the use of participatory tools, there are linkages back to the issues. For instance health issues tend to use a wide range of tools including maps (distance to various work activities), calendars (labour component), and other tools. Education, is more likely to have used ranking tools, and water natural resources maps and social profiling. While this does not prove the hypothesis, it does suggest that facilitators coming from a specific discipline do tend to use certain tools more often than others from other disciplines – and perhaps consequently the tools then bring to the foreground specific needs and issues.

### 3.3. Training Institutes

Reviews of institutions teaching development studies in both the UK and the Netherlands were carried out, in order to identify target institutions for dissemination of the project output(s). The institutions covered were mainly universities and research centers; but not all of these teach only at degree or higher degree level. A number of Diploma and Certificate courses were identified (varying from one year to one week in length) which cater for development professionals, including practitioners of PRA/PLA. The reviews focused on courses at all levels, and aimed to identify courses which include (a) material on PRA/PLA and (b) material which links energy issues with livelihood. A summary of the findings of the reviews is in Project document 12.

In the UK, a majority (10) of the 13 centers reviewed teach at least one course module with a component in which 'participatory methods' or 'participatory approaches' feature, and/or a course or module dedicated to PRA/PLA. In the prospectus of some institutes, reference to participation appears only as an element in a research methods course (e.g. 'participatory research methods').

In others it appears in courses on project planning under 'stakeholder analysis', or - in higher profile - as (e.g.) 'participatory action planning'. A total of 4 of the institutes reviewed offer a course module dedicated to participation. 2 complete courses in participatory approaches are identified (one of 6 weeks, one of 1 week).

As far as energy is concerned it is noteworthy that none of the prospectuses apart from one (That of the Development Planning Unit, University College, London) mention energy specifically in the context of the courses dealing with participation. Searches for proxy terms for energy (including 'firewood' and 'fuel') yielded a complete blank.

In the Netherlands, 10 institutes responded out of a total of 15 approached for review. Within these, 6 courses were identified which deal with PRA/PLA, two of which could be described as research-based and two practice-based. This picture with regard to energy is similar to that found in the UK, with one notable exception (The University of Twente Technology Development Group) to a general pattern in which energy issues are not in sharp focus.

These reviews have made it possible to identify education and training institutes which form an immediate 'constituency' for dissemination of the Project outputs.

### 3.4. Initial workshops in Ghana and India

Returning to the guestion at the heart of the research, whether energy is currently sufficiently covered in development work, the participants in the initial workshops in Ghana as well as those the survey clearly agreed that it was not. In India the discussion was less clear cut, although the following statements were made at the initial workshop.

"It was observed that energy does not necessarily feature as a major work area in the mandate of most developmental organisations working at the grass roots level. There is. therefore, a need to look at the sector in the developmental perspective as a 'means' to achieve a 'welfare' based end-improved lighting for better education, refrigeration requirements for vaccines, etc."

"Energy is often not regarded as high priority either by the local communities (there are more immediate needs, such as employment, drinking water, provision of health facilities,

etc.) or the grass root agencies. The latter is reflected in two ways:

Energy does not figure in their mandate

Even in the recently published material on rural livelihood, rural energy is not mentioned." Project document 2 There is no doubt that energy issues do indeed come up in baseline studies. Where agencies

It is a sub program, e.g. Biogas installation under the Health & Sanitation program

work with women, issues of water, cooking and shortage of firewood come up frequently; this is because women often have to walk long distances to collect wood. The question of energy also comes up in food processing (e.g. smoking fish) because some form of energy is needed for processing activities. Delegates in Ghana drew up the process chart in Figure 2, which illustrates

#### EXERCISE 1:

Participants were broken up into three groups. Each group prepared a list of what they had consumed for breakfast that morning. The group outputs were as follows:

Group One – tea, coffee, coke, water, bread, toffee Group Two – tea, bread, sugar, milk, porridge, petrol, calories, water

Group Three – tea, bread, making friends, toffee, information

Dr. Batchelor observed that although he had been careful with his words, the instruction to list breakfast consumption items had led participants to focus mainly on food items. None of the groups had mentioned cooking, for example, which would have been necessary to prepare the food. He noted that this backstaging of energy issues could be found in the Ministry of Food and Agriculture (MoFA), where the focus was on macro issues. However, when the community development process was opened up, then energy issues like firewood came up. He stressed that the identification of energy usage patterns would depend on how the community development process was facilitated. From the Project Document 1

the importance of energy in livelihoods.

## 3.5. Energy in Livelihoods

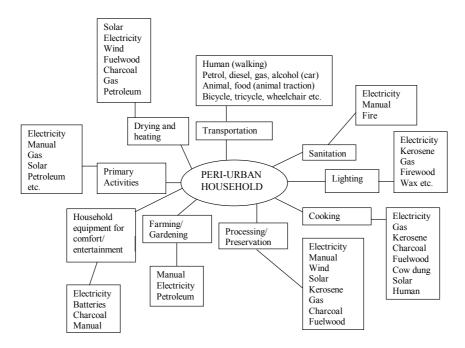


Figure 3 Energy in Livelihoods - Ghana Workshop

Further work on energy in Livelihoods was undertaken as part of the research. Sustainable livelihoods approaches, or frameworks (for there are more than one), are intended as tools to help people understand the complex nature of poverty. Taking a holistic view of poverty should then enable policy makers to make improved decisions, on the basis of a more complete understanding.

Sustainable livelihoods frameworks view people as living in a context of vulnerability; they have a range of assets at their disposal (capital) which they can employ, within the constraints of the policy and institutional environment, in a mix of activities that they hope will improve their livelihoods (the concepts are amplified in Project Document 5). Important features of sustainable livelihoods approaches include:

- approaches are people centred,
- risk and vulnerability are key aspects of poverty,
- people adopt a wide range of strategies reduce poverty,
- poverty is dynamic, as people respond to changing circumstances.

Because of its holistic approach, this is an appropriate model to use to raise awareness of cross-cutting themes, such as energy. Therefore, the sustainable livelihoods framework (as proposed by DFID) has been used as a basis for demonstrating not only the cross-sectoral nature of energy in development, but also how participatory tools can be used to explore these energy issues.

#### 3.6. The Scoping Study from India

The scoping study presented by TERI as an additional output to the project is a stand alone output (Project Document 6).

"Energy projects in rural India have primarily focussed on a) enhancing supply-electricity, kerosene, fuelwood, etc.; and b) conservation-by improving efficiency and providing alternate fuel sources such as renewable energy. The most widespread among these is the rural electrification program under which 87% villages have been electrified. Kerosene supply through the Public Distribution System (PDS) has been another major program. Social forestry program with its focus on 'participatory approaches' to meet the food, fodder and fuel needs of the communities was launched in the 1970s. In the field of renewable energy, the two major programs have been the National Project on Biogas Development (NPBD) and the National Program on Improved Chulhas (NPIC) initiated in the early eighties. The impact of these initiatives on the rural energy scenario has not been very significant, only 31% households are electrified; kerosene accounts for only 7% of the rural energy consumption. Micro level studies indicate that social forestry projects have done little to improve fuelwood supplies for the rural poor. Both NPIC and NPBD have met with limited success. Less than 20% of the total potential has been met and the performance of the programs has been good in geographical pockets.

One of the factors often highlighted, as contributing to this situation has been the lack of a participatory and decentralised approach to program planning and implementation. At the policy level, several initiatives in form of programs such as Integrated rural energy planning (IREP) and Urjagarm (energy village) have been put in place, but the results have not been very encouraging.

The reason for this 'lack' of participatory approach to rural energy project/program planning and implementation are several of which perhaps the most critical is the lack of appropriate aids/tools." (Project Document 6)

"As mentioned before, India has a long history of planning for meeting rural energy needs, a host of programmes and projects and an extensive institutional set up. However, participatory methods aiding the planning process are missing. This is evident from the fact that there is very little literature existing on the topic in both GO and the NGO circles. While one can find enormous information on application of these tools in other developmental sectors such as education, health, etc.; these tools find no place in the text on rural energy." ((Project Document 6)

A joint meeting between TERI, AERDD, University of Reading and Gamos Ltd. was held in which TERI recommended a desk study to gather relevant information and experience from organisations already applying participatory methods/tools in need assessment in relation to energy requirements for various end uses. Potential organisations identified were: MYRADA, Bangalore and AKRSP, Ahemdabad. This was done and provided input to the first version of the Tools and Guidelines.

## 4. Addressing the Problem

## 4.1. Piloting the Tools and Guidelines

Using the workshops undertaken at the start of the project to discuss the key issues of the project, the feedback from the global survey and the examples found in the Scoping study and other training materials, a pilot set of tools and guidelines were developed.

Version 1 of the tools and guidelines were field tested and refined in Ghana and India. Version 2, has been developed in the light of the feedback from the pilot tests in Ghana and India and is appended to this report. While Version 1 discussed the Livelihoods framework in some detail, this was determined to be too "distracting" and is not in Version 2. The Livelihoods analysis has been disseminated as a separate output.

This section presents some of the significant comments and feedback resulting from the pilot tests.

## 4.2. Differing professional constituencies

The status of community work in each location affected the way the pilot was undertaken.

In Ghana two workshops were held as part of the piloting process. The participants were drawn from Government and Non Government extension services, and whilst predominantly from the Ministry of Agriculture and Forestry (MOFA), included other sectors such as representatives of the Ministry of Health. The workshop introduced the participants to the cross-cutting role of energy in the context of the sustainable livelihoods framework, and to the Tools and Guidelines - the participants then applied the tools to nearby communities. This piloting methodology gave opportunity for immediate feedback and a peer group of professionals to analyse the results.

Most of the participants in the Northern Ghana workshop were familiar with participatory techniques generally, and were enthusiastic to refine their knowledge and explore how the tools applied to energy.

In the Southern Ghana workshop, most of the participants had not used participatory techniques before. While they had a casual knowledge of some of the techniques, for many participants the workshop represented the first time they had applied participatory tools to the field. The reported learnings from the piloting therefore tended to be a comment on the tools per se, rather than how they encouraged the inclusion of energy in ongoing work.

In India by contrast there is much experience of the use of participatory methodologies – not only in development agencies but by rural people as well. Some of the participants in the initial workshop noted that communities are said to be "participated out". Many communities have made maps, seasonal calendars etc, for a number of different agencies, and there is a growing feeling that the tools are not necessary per se, and that longer term discussions both one on one and in groups can yield all the required information and assist the community to undertake a reflection action cycle.

For this reason, the projects approach in India was to move the tools and guidelines away from well known participatory practitioners and from communities which were in danger of being "participated out". Instead two partner agencies were selected who work in isolated areas of Central India among predominantly tribal people and who did not use participatory techniques in

their daily work. The two organisations, after training by the team, applied the tools and guidelines during the everyday work over a period of some four months.

A final workshop was held to submit the findings to peer review.

## 4.3. Pilot testing in Ghana

Piloting of the draft tools and guidelines in Ghana was done through two workshops – one in the north (Tamale), and one in the south of the country (Agona Swedru). Each workshop covered five days and brought together development professionals engaged in extension activities. Full details are available in the two separate workshop reports.

#### 4.3.1. Tamale Workshop

The workshop was hosted by the Ministry of Food and Agriculture (MoFA), and was attended by agricultural extension agents from MoFA, field workers from the Department of Community Development, and from NGOs. As practicing extension workers, all were experienced in the use of participatory techniques.

In day one of the workshop, participatory tools/techniques as participatory approaches to the assessment of energy issues were presented and discussed. Delegates went on to apply participatory tools/techniques in the field on the second workshop day, and to present their experiences. The participatory tools/techniques applications were refined for re-testing in the workshop day three. Finally, the fourth and final workshop day witnessed further fieldwork for the re-testing of the participatory tools/techniques, along with presentations of fieldwork experiences.

The field work highlighted some interesting issues relating to the use of energy, some of which illustrate the links between energy and other aspects of rural livelihoods:

- The importance of energy in the local economy was highlighted when it was realised that common income generating activities rely on energy e.g. sale of cooked food, rice milling, groundnut oil extraction, soap making. The local economy is also adversely affected by the fact that women now buy imported fuel wood whereas there used to be a locally available supply.
- Recognition of the multiple uses of trees including windbreaks, soil improvements, protecting soil, fruits to improve nutrition and, of course, fuel wood.
- 10 Financial expenditures on energy are seasonal because there is greater availability of fuel wood in dry seasons, but people need to use kerosene during wet seasons.
- years ago it was men who used to collect fuel wood

Recommendations made by community members in response to the exercises included:

- · The use of mud stoves should be encouraged
- Encourage the establishment of woodlots
- Raise awareness of the potential dangers in the future if nothing is done about the fuel
  wood situation, by referring to changes that have taken place between the past and
  present.

With regard to practical use of the techniques, participants made the following comments:

"On the effectiveness of the PRA tools used by the group, the following were realised:

 Personal Observation was very effective for assessing physical capital in relation to energy issues. Time trends were also good. However it is suggested that, Personal Observation as a tool, needs to be used in combination with other tools, e.g. Resource Mapping and Transect walk.

- For assessing energy issues on financial capital, Probe is good, but this can be combined with other tools like Wealth Ranking in order to be more effective. Pair wise ranking is very good, and can singly be used to unearth a lot of information.
- On the energy issues related to Human Capital, Brainstorming and Health Calendar are effective for assessment."

"In all the PRA tool was effective and participatory as those very conversant with the historical background of the community contributed much with information on past events in the community."

"For very effective use, the tool peer groupings would be very important. Thus, it should involve mainly elderly who are always in a better position to recollect past events of the community than the young ones."

### 4.3.2. Agona Swedru Workshop

The workshop was attended by delegates from a number of ministries concerned with extension work, including the Ministry of Agriculture, the Department of Community Development, the Department of Co-operatives, and Department of Social Welfare, and the Department of Environmental Health. Although delegates were familiar with the concept of participatory rural appraisal and could list a number of tools, it was evident that the majority were not familiar with specific tools, nor had experience of using them.

After an introduction to the tools and to the role of energy in the sustainable livelihoods framework, delegates divided into five groups to design activities for working with one community. After a day to reflect on use of the tools, participants visited a second community to work with the tools once again.

Most groups engaged community members through discussion, which followed on naturally from introducing themselves as visitors to the community. They then introduced specific tools to explore topics arising from the context of group discussions.

The field work exercises highlighted a number of issues:

- "Women do more work than men" daily activity charts clearly illustrated the amount of time women spend collecting fuel wood, and prompted discussion on dwindling resources, and alternative cooking fuels.
- Overall value of timber network diagrams illustrated the links between land owners and
  a variety of people who rely on the land (both those involved with the timber trade and
  villagers who rely on fuel wood). It became evident that long term thinking and action to
  promote sustainability of forests is in the best interests of all concerned.
- Land tenure use of land for timber, and clearing of land for farming has a detrimental affect on wood resources. Traditional structures of land ownership and authority over use of land determine how forest resources are exploited.
- Sickness seasonal calendars illustrated how women are unable to collect fuel wood when either they themselves are sick, or when their children are sick.

Community participants at Nyamendam also came up with a number of recommendations:

- · Tree planting exercises
- Avoid cutting valuable trees
- Free sources of tree seedlings to encourage tree planting
- Legislation to discourage chain saw and timer operators.

Following the field work conducted in Agona Kwanyaku, the community resolved to take a

number of actions to address issues arising from the participatory process:

- Planting of trees along river catchment areas:
- Marginalized lands should be used for wood lots;
- There should be legislation to prevent people from destroying vegetation unnecessarily, and to replant field trees.

Findings from the exercises were reported to the Chief:

"The team after this went to the chief's palace and briefed him on the lessons learnt and experiences gained from their interaction with the community members. The team thanked the chief and the community members for their co-operation through D K Dominic and Elizabeth Synni, who acted as the spokespersons. The chief also in turn gave the team his views and opinion on issues of community development. He mentioned that there are surrounding village communities who are refusing to farm and making firewood collection and cutting of trees their major income generating activities. He hinted should team want to engage in similar PRA activities again, he would encourage them to visit those communities."

## 4.4. Pilot testing in India

#### 4.4.1. AKHS

The working area of AHKS is Chindgadh block, Dantewada district (part of the erstwhile Bastar region). The overwhelming majority of the population of the block are tribal.

The organisation works closely with the tribals on several issues like education, health and income generation. The main focus of their activity is facilitating women's self-help groups, which then become the vehicle for interventions. A striking recent success of one SHG has been to prepare a song and dance around the question of why their village has no electricity (see box opposite): last year they performed this before the District Collector who then ordered the State Power Supply authority to do a costed proposal. This was therefore a hugely empowering experience for the group.

AHKS staff were familiar with PRA but had not used

TARE TARE KISS VAI MANTA – song (translated from Gondi)
Fire is coming by the wire..
Fire is coming by the wire How can you not listen sisters
Fire is coming by the wire

How come sisters you are not saying anything Come on sisters lets move, fire is coming by the wire How will it work if you will shy sisters Come on sisters lets move, fire is coming by the wire

They are not giving us electricity
Come on sisters lets move, fire is coming by the wire
If you will bring us electricity, we will always remember
you

Fire is coming by the wire

We are simple women
Why there is no electricity in our village
Electricity is going to other villages through our village
But why are we not having electricity
Come on sisters lets move, fire is coming by the wire

What wrong have we done, that we do not have electricity

Do anything, but bring electricity to our village

Come on sisters lets move, fire is coming by the wire

Going to the market is very difficult, it is very far
We do not get kerosene oil also from there
We have to buy from black market and is very
expensive
Come on sisters lets move, fire is coming by the wire

Forest is also going away from us We do not get wood also easily, We have to walk a lot Come on sisters lets move, fire is coming by the wire

So many years have passed and we still do not have electricity

How will we stay in this darkness It is very dark, how will we stay in this darkness Come on sisters lets move, fire is coming by the wire

We are women members of the Puriras group It is a small group We have to take this group further Come on sisters lets move, fire is coming by the wire

> Fire is coming by the wire Fire is coming by the wire How can you not listen sisters Fire is coming by the wire

Poem wirtten by the Women of Dantewada The tribal women called electricity as "TARE TARE KISS" (Tare means wire and Kiss is fire in Gondi), which means "the fire which goes through wire". it extensively. They embraced some of the methods enthusiastically (notably resource mapping, the daily activity chart and drama/role-play – which they linked with the song mentioned above to use both in advocacy and awareness-raising). Other methods they found hard to understand and so wisely did not attempt to use them. In particular they felt that the network diagram, problem tree and system diagram were more suitable as means of analysis rather then for eliciting poor people's views and aspirations. Yet other tools to which they had been introduced in the Tools and Guidelines they felt addressed issues which they were able to explore in a semi-structured discussion with their beneficiary groups. These were: the historical transect/ time line, matrix

ranking, seasonal calendar, social mapping and wealth ranking. Village (oral) history was discussed during group discussion and individual interviews. Use of the daily activity chart raised the issue of seasonal changes in availability of fuel wood, although the seasonal calendar is recognised as a useful tool, particularly in exploring changes in the natural resource environment. Social mapping and wealth ranking were not used, on the ground that differences in income and wealth are not marked.

AHKS feel that (semi-structured) group discussions (with men, women and mixed groups) as well as individual household interviews are important means of interacting with their beneficiaries, and regard these as methods of PRA/PLA which should take an important place alongside the methods based on visualisation, concepts and ideas. The drama and role play has also been used by the rural people to express their concerns about specific issues with much more clarity.

"The residents of villages in Dantewada are mainly illiterate and poor. Their life moves and resolves around the sylvan surroundings around them. Their needs are few and far, and are met locally. Their dialect has limited vocabulary, and ... they don't classify the different sources of energy under one head, e.g. energy. For energy they don't have a word. Thus it was very difficult for us to make them understand what energy is, and what electricity is, and that electricity, petrol, diesel, kerosene oil, fuel wood, solar energy, gobar gas, fertiliser are all different types of energy. Tribals have names ofr their traditional sources of energy mainly fuel wood (daru, vedki, or kadsil) and oil (tel, niye) extracted from seeds to burn lamps but these were not classified under one head i.e. energy."

Project document 9

#### 4.4.2. Interesting points from AHKS

Taken from Document 9

"Daily activity chart: this was highly productive in that it showed clearly how much of women's daily work is energy-related. It also raised the issue of increasing scarcity of firewood and also seasonal variations in energy-related activities (see below).

"Drama and role play: two uses were discovered for this – by the PRA team for highlighting aspects of energy related problems as a way of promoting discussion; and by villagers themselves, in presenting problems to other village members and even politicians and the state government officials (see AHKS report pp.11-12 and Annex 2).

[The outcome of this is that when the women of Puriras used for the second time their dance and song to put their demand for electricity supply to the collector, on his order the State Electricity Board gave an estimate of Rs 400,000 to electrify the village. At least 5 metered connections and 15 single point connections would be compulsory. now the women have to decide who will be able to pay for the metered connection and who for single point.]

"Photography: Photographs were used in two ways: first as a means of visual representation of information that people impart (analagously to a resource or social map); second in order to stimulate discussion. Picture of e.g. LP Gas cook-stove and cylinder, women cooking with firewood, etc. were previously used by AHKS in forming self-help groups.

"Resource Mapping: This generated a lot of interest and was a fine example of successful group work: an individual may forget anything they are not closely concerned with, but a group (particularly of mixed ages and gender) is likely to generate a full picture of the village. Women in particular became very involved in constructing maps (for example wanted to represent tree

species by twigs of the same tree) and it was hard to stop them refining and adding to the maps. An advantage of the resource map is that 'you don't have to talk much but everything is there'.

"Venn Diagram (Chapatti Diagram): This was used by AHKS not as a participatory method but to present information collected by other means (household survey and focus group discussion) about distances and directions of markets, fair price shop and other sources of purchased energy supplies (Kerosene oil, battery cells etc), as well as distance and direction of forest from which wood is collected. (Examples are in the AHKS report, annex 8).

As with REALS, AHKS continue to favour (focus) group discussion and individual interviews as a means of interacting with their beneficiaries; this is in spite of the success in general of the PRA methods. Iqbal felt that FGDs (or GDs) were the best tools to break ice or initiate discussions and all other PRA exercises should be followed by this tool in any village/area.

#### "Daily Activity Chart (Women)

The tool was tested using a structured questionnaire. In addition to this, this was also discussed in the focused group discussion. This brought out clearly that almost all the activities of tribal women have an energy component in different forms. For example, before dawn one of the first activity involves mopping the floor of the house with dung and water. As they do not have electricity, they use kerosene lamps like chimni. The other activities involve collection of firewood from the forest, cooking food, distilling liquor, which all has energy components. Kerosene oil. On an average, distilling liquor from Mahua flower consumes twice the amount of fuelwood used for cooking food.

"The scarcity of fuel wood and kerosene oil came out very prominently in the discussions. The forest that was at one time at their door step has moved away. The women said, "the forest is running away from us." The kerosene oil scarcity for lighting is equally severe. Kerosene oil is supplied through fair price shops set-up by the government where stock is often limited, and they in turn have to purchase it from the open market, where it is more expensive.

#### 4.4.3. REALS

REALS is essentially a rights-based NGO. Its prior experience of PRA in villages had been limited to health aspects, in which it has used focus group discussions and individual interviews as the main tools for information collection. The field professionals admitted that they had difficulty at first in understanding some of the tools as presented in the project 'tools and guidelines' and explained by the project team member. Consequently they found them hard to apply in the villages. These problems were resolved by a second round of briefing. Like AHKS, REALS staff selected tools which they felt they would be confident to use and which would be useful in the five selected villages.

Like AHKS, the REALS team placed quite a good deal of reliance on 'focus group' discussion<sup>2</sup> and on individual interviews. REALS trialled only 6 other methodologies from the 'tools and quidelines' - (Natural) resource map, social map, wealth ranking, seasonal calendar, activity chart and photography. Their comments on each of these:

<sup>&</sup>lt;sup>2</sup> The use of the term 'focus group' was used loosely by the partner organisations in India; their use of the term was questioned in the end-of project workshop, where it was suggested that both AHKS and REALS were using the term 'focus group' in the sense of general group discussion, while the term should be applied to a (relatively small) group gathered for discussion on a specific agenda (and usually consisting of people who can contribute to that agenda for a particular reason).

- Resource map: the process is very simple and generated interest among the village people. It also encourages all members of a group to be actively involved. It enable a range of energy related issues to be explored, including sources of energy and location of sources (both bio-sources and others e.g. kerosene oil; common property resources; availability of fuel wood and predicted sustainability of fuel wood supplies).
- Social Map: helpful in tracing linkages between energy and social structure. The same comments apply to social mapping as to resource mapping with regard to its effectiveness in generating interest and encouraging involvement.
- Wealth ranking: relatively easy to use, but not very revealing in the communities in which REALS works where there is not much variation in economic status within the target group.
- Seasonal Calendar effective and simple to apply; effective in getting to know the variation of energy requirements/demand in different seasons and particular seasonal issues relating to use of various resources (e.g. drying of fuel wood).
- Activity Chart: useful to assess the time consumed in meeting energy requirements. The Activity chart was also used in finding linkages between the Health and Education status of the different groups (women/children/men), and the gender factor in fulfilling energy requirements came out strikingly: women spend much of their time in collection of fuel wood and kerosene oil. The activity chart completed by a group would only give an accurate picture where group members are of similar social, economic and cultural background. If applied in diverse groups, variation from person to person will lead to difficulty in gaining a coherent picture.
- Photography: found to be a strong means to focus discussion and develop understanding of energy issues and present a realistic view of energy situation. The use of photography as a medium is thought to be more helpful in collecting energy related information first and then for giving information back to people to show their energy use behaviour. Effective use of photographs would have been to share with dwellers in one-village photographs of different villages and ask them to identify similar energy situation in their own surroundings.

## 4.4.4. Interesting points from REALS

Taken from Document 10.

### "Traditional Practices and rural wisdom towards energy usage:

"Urban society has certain apprehensions that villagers are still unaware about the importance of energy. But during our study, this understanding only proved to be false. The primitive communities living in the forest villages of Sitanadi sanctuary have demonstrated lot of traditional practices towards energy usage. During the PRA exercise, we came to know that the rural household only consumes fuelwood from the selected trees which burn more efficiently and saves time in cooking. According to the villagers, there are certain trees which are especially used for this purposes. The village people categorized trees based on their traditional practices . eg- fruit bearing trees are not used as fuel wood such as Amla, Tendu, Imli, Mahua, etc. Similarly the trees meant for rich timber are also not based for energy usage. eg- Sal, Bija, Sagoan etc. the villagers prefer dry branches of specific trees and not the main trunk or the living branches. This clearly shows that their consumption is directly linked with regeneration.

"Linkages of energy with health, education, custom & livelihood:

"During the PRA exercises, one striking thing which came out was linkages between energy with health, education & livelihood. The availability of energy is directly related to other social issues as the unavailability of kerosene oil in the village has effected the studies of the children and the health of community specifically the women. As they have to spend most of their time in collecting fuel wood, they get lesser time for the other necessary activities. In the monsoon season, availability of fuelwood is a major problem and the villagers feel that energy has also got a direct linkage with their custom and culture.

#### "Gender perspective in the rural energy:

During our PRA exercises, one striking thing which came out was women's role in maintaining rural energy. While the male members of the household are busy with their agricultural activities, the responsibility of collecting fuel wood is on women. The women who are responsible for running the household and fulfilling their basic needs are in a much better position to understand the energy needs of the household as well as the communities. They cook food, feed the family, manage the house and play an important role in the community. On the other hand, they are in a deeper interaction with the nature, they have got a thorough knowledge of the availability of fuel wood in the particular part of the village. Their role in the household as a provider of food supplements their role in the fuel wood collection, utilization and conservation. If we talk of peoples wisdom in energy conservation, it is because that the gender perspective plays a very important role in the whole process. The women of our study area are aware of the whole energy process and actively participate in the decision making level of the house hold as well as the community.

#### "Problems related to energy faced by the rural people in the five villages:

- Harassment by government and forest officials in collecting fuel wood from the forests.
- Unavailability of the kerosene oil from the PDS.
- Rising conflict between conservation and livelihood issues.
- Need to recognise communities practice and traditional wisdom relating to conservation.
- Increasing poverty among the forest villagers and growing dependency on forest for income
- The discriminating character of various acts related to forests such as Forest conservation act, wild life protection act etc. which is a major obstruction in setting energy infrastructure for forest habitats.
- Absence of awareness among the forest villagers towards the non-conventional sources of energy and its utilisation.
- Unavailability of infrastructure for unconventional energy sources which the poor forest villagers can afford .
- No other sources of income generation for the forest villagers which can improve their economic status and quality of life.

## 4.5. Findings from the pilots

The following tables summarise the tools used and the issues raised for Ghana and India.

## 4.5.1. Table - Findings of Piloting Tools and Guidelines in Ghana

PRA Tool / method	Whether/how used by:		Information	Issues raised /
	Tamale	Agona Swedru	transacted	identified
(Focus) group discussion	Used to introduce topics and as basis for introduce other techniques	Used to discuss issues relating to natural and physical capital.	Importance of fuelwood as an energy source. Extent of changes to forest cover, and causes. Exploring use of alternative fuels (by the wealthy only) and coping strategies adopted by people affected by changes in resources.	Type of forest cover has changed dramatically over last 20 years. People have resorted to using alternatives to fuelwood e.g. husks, palm leaves.  Sales of fuel wood is a significant source of income, especially when farming is lean.
Transect walk	Walk concentrated on fuel wood resources.	Group (mostly women) discussed energy issues arising during a walk from the centre of the community.	Tree cover over the course of the walk, availability of fuel wood, charcoal sellers.	
Daily activity chart	Introduced in the context of gender analysis of workloads	Applied in mostly female group; applied in the context of group discussion	Time spent on farm, household chores, cooking, and collecting fuel wood. Alternative fuels to overcome scarcity of fuel wood. Selling of fuel wood. Allocation of land for fuel wood.	Women do more work than men Women waste time and energy collecting fuel wood. Potential for introducing alternative fuel cooking technologies. 10 years ago it was men who used to collect fuel wood, now it is women.
Seasonal calendar	Availability, consumption, collection, and expenditure on wood throughout the year	Used with group members in discussion. Used to identify periods of sickness.	Seasonal availability of a variety of fuels.  Most common disesases and when they are prevalent	Identified alternative fuels available during periods of scarcity of fuel wood.  Women cannot collect fuel wood when they or their children are sick.  It is difficult to get wood in the wet seasons.  Hot water is needed for bathing during the cold season.
Problem tree	Explore unavailability of fuel wood	Introduced to structure discussion arising from forest depletion problem evident from time trend.	Causes of lack of fuel wood (e.g. tree felling, charcoal production), and the effects of lack of fuel wood (e.g.hunger, pollution).	Something can be done through tree planting, and leaving some trees on farms during land clearing.
Social map	Not used	Clarify ownership and control of land.	Structure of ownership and control of land – regarding tree planting	There is indiscriminate felling of trees, and clan leaders have control of trees.
Historical trend	Track decline in fuel wood availability over a 10 year period.	Used to explore depletion in natural resources, availability of land	Decrease in trees, and changes in type and number of dwellings in the community.  Land ownership and authority structures.	Population pressure. Exploitation of fuel wood resources linked to land tenure.
Pairwise ranking	Ranking importance of energy resources.	Promote discussion through exploring availability of tree species.	Availability of trees. Fuels available.	Mahogany is no longer available. Preferred fuel is wood, followed by charcoal,

		Preferred energy sources.		then electricity, and finally kerosene.  Need for agro-forestry projects to revamp depleted vegetation.
Network diagrams	Identify relationships within social and family structures as	Used in context of group discussion to illustrate how farmers use land	Land ownership and acquisition	Large scale farmers and contractor acquire land directly from landowners.
	they relate to fuel wood use.			Youth migrate to urban areas because they are not able to acquire land.
				All stakeholders have a common interest in sustainability of tress.
Semi-structured questionnaire	Not used	Introduced to gather data on alternative cooking fuels arising from use of daily activity chart	Use of charcoal pots, sawdust, kerosene and gas stoves.	80% use charcoal, especially at the rainy season.
Resource mapping	Drawn up by community members; done using information from the transect walk	Not used	Various species of trees, roads bounding community, sacred groves, dwellings and community buildings	Lack of fuel wood is a problem, but trees remain in the sacred groves.

## 4.5.2. Table - Findings of Piloting Tools and Guidelines in India

PRA Tool / method	Whether/how used by:		Information	Issues raised /
	REALS	AHKS	transacted	identified
(Focus) group discussion	Used for introducing energy topics and the tools	Semi-structured interviews, with men's women's and mixed groups	Energy facts and sources used – lighting; usage & load of kerosene oil & electricity; relation with linemen & k-oil suppliers; energy costs; ability to pay to get connection; fertilizers use; villagers with and without access to electricity; biomass fuels and supply problems; how problems should be solved	Some uncertainty over terminology: 'focus group discussion' was used interchangeably with 'group discussion using SSI', when 'focus group' has a more precise meaning.
Household interview	Semi-structured interview with information sheets	As for REALS: but a rather structured approach appears to have been used in practice	All forms of energy used by respondent households. Also historical information like nature of access, gender differences.	To AHKS, this proved most informative of all methodologies used. But could the information have been collected with less time (personhours)?
Daily activity chart	Introduced in household interviews	Applied in group (mixed) and individual interviews	Time spent on securing fuel sources for cooking, lighting, space heating.	Highlights women's energy-related activity
Resource mapping	Yes	Yes	Location of resources –forests, agricultural land, water educational institutions, markets, other institutions	
Photographs (photography)	To develop understanding of different types of energy / to give	Photos taken during visits to village for use by the NGO & triangulation		

	energy information	('backward use')		
Drama and role play	Not used	Drama was developed (with facilitation by AHKS) to support song & dance (see below)	A wide range of energy issues particularly as they relate to the household and to gender	A tool for communication (giving information, (or raising awareness) rather than gathering information
Expression of need/ problem by song & dance	Not used	One women's self-group has made up a song to ask why the village is not connected to the grid, although HT wires pass the village.	All of the difficulties faced because of no access to electricity	The song was used to present the problem of getting electricity to the District Collector
Social map	Effective in generating interest and encouraging involvement.	Not used. (On its own, social mapping would have been possible (not sensitive), but would not yield much information about energy?)	Linkages between energy and social structure.	Could be included within resource map. Can give indirect information about how energy is linked to livelihoods of different social groups
Wealth ranking	Used within resource mapping	Not used		Easy to use, but not very revealing in communities where not much variation in economic status
Seasonal calendar	Yes	Not used, but seasonality in relation for firewood was revealed in drawing daily activity charts	Seasonal availability and quality of fuel (dry season / monsoon). Access to different types of energy source	Easy to use; effective in getting to know the variation of energy requirements/demand in different seasons and particular seasonal issues relating to use of various energy sources
Venn diagram	Not used	Used for presenting information collected by other means (e.g. household survey, focus group), not as a participatory tool.	Distance from village of various resources: FPS, fuelwood, rice mill. Different modes of transport used for reaching these	AHKS's use may be innovative application of Venn diagram, although it was used 'not as a tool but an outcome'.

## 5. Conclusions and Recommendations

The research presented three assumptions

### **Assumptions**

(1) Energy is important: - Energy is an important aspect of life and livelihoods and forms a cross cutting need for all development activities.

The DFID Guidance note for Energy for the Rural Poor states "Access to energy is essential to sustain human life".

This assumption remains unchallenged. The workshops all confirmed the importance of energy as a cross cutting need of all development activities and, indeed, this is well recognised in India. The pilot activities confirmed that once questions were posed to open discussion about energy needs, then energy needs emerged as a significant concern amongst communities. In particular the work by REALS piloting the tools and guidelines showed that Tribal forest people were very aware of energy as a central part of the lives, and gave numerous examples of how it affected their daily life. Since the pilot was conducted in four different environments (dryland, coastal, forestry, agricultural highlands), this represents strong confirmation of the assumption.

**(2) Participatory processes are important**:- There is strong concern among donors that development actions be demand led and that participatory planning processes are the basis of planning development activities.

Extension services around the world are now the bedrock of development practice. The mobilisation of the community is essential to ensure demand led provisions which lead to sustainable effective and efficient practices.

The assumption remains unchallenged. However, two key issues arose. First was a need to clarify WHEN participation is being used and to what objective. A distinction was noted between agenda free initial needs assessment, and agenda led planning and design. The research project intended to address the use of participatory processes in the initial needs assessment.

The second issue concerns the role of participatory tools and techniques per se. There is a growing feeling in some sectors in India that participatory tools have been applied excessively such that communities no longer respond positively to them. If this is true, it raises the question not so much about the tools themselves but their use within the development process.

Tools such as mapping exercises, or seasonal calendars, were mainly introduced to development work as a means to include the marginalised and give voice to those who might not have a voice in a formal discussion. The premise was that a discussion can be dominated by those with existing power, and who may or may not represent accurately the views of the majority. A mapping exercise for instance is an opportunity for a group to work together to reflect on their situation (and problems) in a visible and transparent way. The map is visible for all to see, both those perhaps in the group forming it, but also in those onlookers who care to view it, is image based rather than requiring high levels of literacy, and is an opportunity for the shy to contribute relatively anonymously.

The added value for such exercises is therefore where there is a high degree marginalisation (the poor are unlikely to voice their concerns in an open discussion), and where there groups can benefit from reflection on their situation. In the initial Indian workshop it was argued that a community worker working for years with a community has no need of such tools. They have engendered trust by their length of service which leads to open discussions by all, and the reflection on their situation is undertaken over time.

The "excessive application" of tools in India which, it is claimed, has led to communities no longer responding to them positively, may well have some parallels with the discussion on agenda led and agenda free needs assessment. We could perhaps speak of a "PRA tool led" process rather than a "tool free" process. Some organisations (who may be agenda free) may nevertheless commission their workers to apply the mapping tool. The field staff are asked to apply the mapping tool and see what it raises in the way of a needs assessment. This may be good at collecting information, and may lead to a successful needs assessment. However, it makes the tool the centre of the process rather than the reflection of the community.

The alternative is to go to the community and start with a "tool free" process. The centre of the process is a desire to facilitate the people to reflect on their needs, in the hope that a reflection action cycle may be encouraged. If that includes mapping, so be it. However if the community "no longer respond positively to tools", then whatever serves the reflection process should be used, and if that is straight forward discussion so be it.

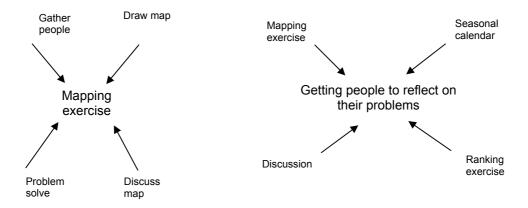


Figure illustrating "Tools led" agenda and "Tools free" agenda.

The "tools led" or "tools free" process is a debate about objectives. We are here concerned with a needs assessment process that leads to a reflection and action cycle. The presentation of the participatory tools in the guidelines is not intended to encourage a tools led process. The guidelines are there to illustrate how a tool might be used, and how it might lead to an assessment of an energy component of the overall livelihoods situation. They should not be used blindly, but preferably where their added value will enhance people's reflection.

However, while this view of participatory tool overuse was voiced in India it was not true in Ghana, and did not seem to be the case from the global survey. On the contrary, the Southern based workshop in Ghana demonstrated that field workers in that area were unfamiliar with basic participation tools, as were the two smaller NGOs working in remote areas in India who were selected to pilot the tools.

One of the features of participatory tools is that they provide a framework for exploring issues within a short period of time (from their beginnings as Rapid Rural Appraisal). Participants in the piloting exercises, in India in particular, were strongly of the view that dialogue based on long term relationships is more effective than using participatory tools, although noting that discussion and dialogue is a participatory tool. Whilst this is indeed a participatory approach, it does not negate the value of the types of tools proposed under this project to the initial stages of the project cycle. On balance participatory tools continue to have a role in the planning process of development projects.

(3)There are few recorded and reported examples of where energy issues are expressed as a need resulting from participatory processes. A survey of rankings across a broad range of projects shows food, water, health needs and education in the foreground - leading to projects in those sectors.

Whilst this was observed to be the case in Ghana, it was not in India. Indian field work tends to be more integrated because of the way in which services from the government are provided. NGOs in India assert that this is likely to become more common as pressure on natural resources (fuelwood in particular) increases. Examples were identified of participatory needs assessments that flagged energy as a significant issue for the community. The methodology was, therefore, modified to include a component intended to transfer lessons learned from India to the global community.

#### **Hypothesis**

Energy may not feature as a reported need because the facilitators of participatory processes are not sufficiently aware of the impact of energy on livelihoods to ask the right questions of the communities.

Output from participatory processes often depends on the facilitator. A framework is created within which the community undertakes an exercise of participation. While in theory the framework should be open to include all needs, in practice it is often slightly closed - health workers tend to get a greater feedback on health, agriculturalists on agriculture, etc. The response depends on the skills and awareness of the facilitating extension worker.

This is the central premise of the research and has been confirmed. See below.

## **Proposition**

Those skills and awareness in turn often depend on the training given to extension workers. If energy is not included in the training, it is unlikely to be recognised by either extension worker or village as a need.

The workshops in Ghana confirmed that field workers tend not to be aware of energy needs (unless they have had specific training in energy issues). Similarly, the two Indian NGOs working in isolated areas also demonstrated that their field workers had a low awareness of energy needs prior to this research.

Basic 2 day training given to Indian NGOs was able to create awareness in field workers with the outcome that needs assessments in communities included energy needs.

#### 5.1. Conclusions

There is value in providing development workers undertaking "agenda free" needs assessments in communities with an awareness of energy, and this is likely to be more so in the future as pressure on energy resources increases.

This can occur during training, either formal or informal, or by other forms of in-service personal development.

One of the ways of creating this awareness is to present participatory tools that illustrate the

possible responses of the community regarding energy needs. The tools and guidelines are intended to be embedded in standard teaching and training, not presented as a new curriculum per se on energy. They are intended to be included as part of a reader on participation thereby creating an awareness of possible responses from communities on energy.

NGOs piloting the tools noted that the tools did not take account of other priority needs within communities. This illustrates the difficulty encountered in communicating the concept of considering energy as a cross-cutting theme amongst a broad range of potential needs likely to be encountered in a community.

Dialogue based on long term relationships with communities is possibly the most powerful "participatory" approach to understanding needs and resources. Nevertheless there remains an important role for the tools used here, especially during the early stages of an intervention, before such relationships have been established, and in providing a structured framework upon which to base discussions. They can also be of value to organisations which are more thinly spread an unable to maintain long term presence in a community.

The research has also highlighted the more general linkages between training curriculum and needs assessment. It suggests that it is important that workers who are undertaking an "agenda free" needs assessment need a broad general knowledge, possibly with the comprehensiveness of the Livelihoods framework, in order to facilitate the community. The potential weakness of a facilitator who does not have a broad general background is that the facilitation can result in semi closed questioning.

#### 5.2. Recommendations

The field tested set of tools and guidelines were disseminated to European training institutes as part of the project, and to all project participants of the project. Further dissemination should occur through articles, electronic media and the participants networks to ensure widespread dissemination.

DFID has recently published a policy paper on the linkages between energy and poverty. This has contributed to global awareness of the role of energy in Livelihood planning. There remains an ongoing need for increasing awareness of the integrated nature of energy with Livelihoods and recommend that DFID commission research accordingly.

Based on the limited scope of this project, it would appear that the tendency is for institutions to follow "agenda driven" needs assessment exercises as the starting point for sector specific interventions e.g. health, agriculture, energy. This would appear to be at odds with the assumption that interventions should be genuinely demand led in order to engender sustainability. It would be useful to explore ways in which development planning processes can be integrated in order to overcome this.

The experience of India demonstrates the potential for integrated approaches to development and needs assessments in particular, and the role of the government in this. Initiatives aimed at promoting awareness of cross-cutting issues, or "agenda free" needs assessment approaches should, therefore, target government agencies in particular.

## 6. Appendices