Nile Basin Initiative

Confidence Building and Stakeholder Involvement (CBSI) Project

STAKEHOLDERS INVOLVEMENT ON SOCIAL ISSUES

ON

POWER AND HYDROPOWER PROJECTS

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STAKEHOLDERS INVOLVEMENT ON SOCIAL ISSUES ON POWERAND HYDROPOWER PROJECTS

During a recent workshop on stakeholders involvement on social issues on power and hydropower projects raised a number of issues that we would like to share with you. But before we do so, take a few minutes and read the heading once more. Take a piece of paper and write down what questions for which you expect this document to provide answers. Compare your expectations with those of workshop participants in appendix A. How many of the participants' expectations are similar to yours?

This document is divided into five sections namely:

- Overview of Confidence Building and Stakeholder Involvement (CBSI) Project - (Gordon Mumbo)
- Issues in integrating consumers views into the analysis and selection of energy projects – (Catherine Ngahu)
- Stakeholders' analysis for the energy sector – (Dr. Charles K. Olenja)
- Sustainable livelihood strategies in relation to power projects in the Nile countries(Dr. Ndalahwa Madulu)
- Resettlement issues in hydropower projects (Dr. Amos Majule).

The document includes some do-it-yourself exercises that are meant to help you understand some of the concepts covered. You are encouraged to carry them out.

Now read on


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P4 x

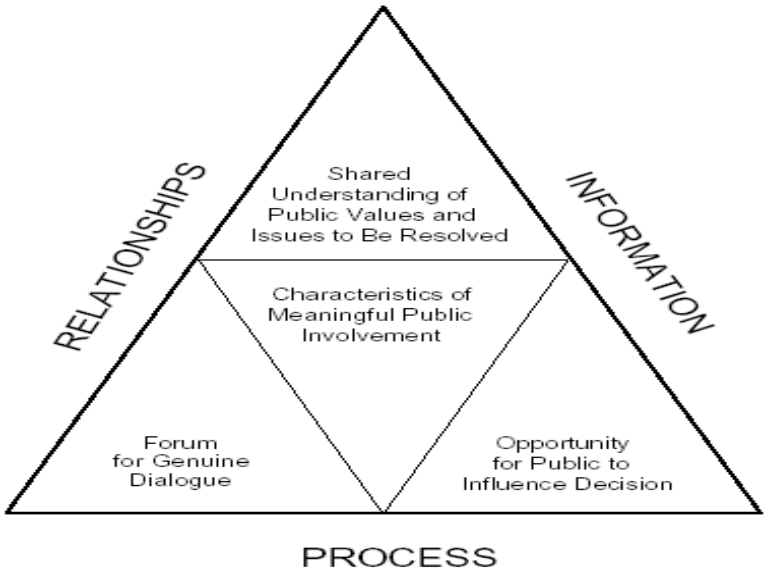
Section 1: Confidence Building and Stakeholder Involvement (CBSI) Project Overview

(By Gordon Mumbo)

Project Objective

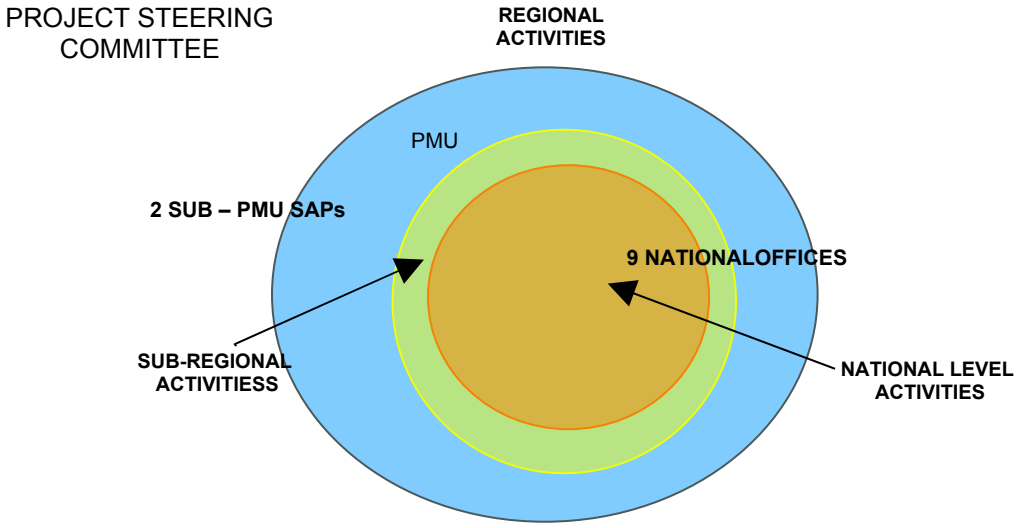
The main project objective is three-pronged consisting of**: relationships** (people and countries), **process** and **information.** These would be translated into:

- Shared understanding of public values and issues to be resolved.
- Characteristics of meaningful public involvement.
- Forum foe genuine dialogue
- Opportunity for public to influence decisions



Project components

Component 1: Regional Sub-regional and National Implementation and Facilitation



Component 2: Public Information

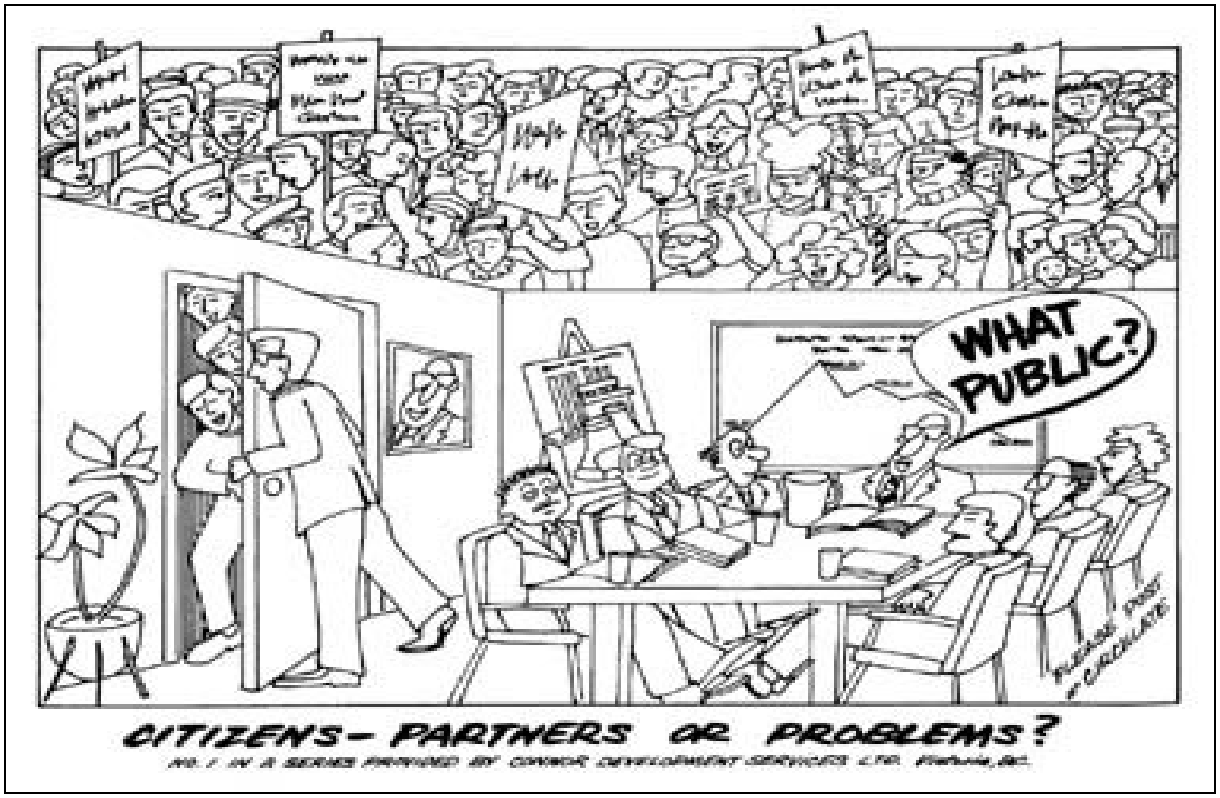
The objective of this component is to:

- Provide accurate and understandable information that people can trust across the basin.
- Focus on provision on information that will:
    - encourage basin-wide political engagement for cooperation;
    - promote a healthy discourse on regional development
    - and poverty reduction; and
    - raise public awareness and understanding of the NBI process

Component 3: Stakeholder Involvement

- *Facilitate Effective Stakeholder participation to make better decisions that reflect the interests and concerns of all categories of stakeholders.*

Engagement with the Citizens



Component 4: Confidence Building

Making the FUTURE the PRESENT. Why wait for the future? Let it be a reality today by:

- Build partnerships
- Foster sense of shared ownership of investments.
- Prioritize services and make better use of limited resources.
- Promotion of commitment for free dialogue and openness.

Status

- Regional PMU setup and running at the Secretariat in Entebbe.
- Recruitment of Staff going on. Interview of Lead Specialists will start from 30 June 2005.
- First Steering Committee Meeting held in February 2005.
- Project Launch in August 2005.

Public Information

- Communication Strategy – draft done.
    - Branding
    - Information dissemination
        - Newsletter. First issue released next issue due in July 2005.
        - Review of the brochure and fact sheets.
        - Press releases and monitoring.

Stakeholder Involvement

- Stakeholder Analysis in process and will focus all countries.
- Just a workshop concluded on Social issues in power and hydropower projects.

Challenges

There are many challenges in the project. These include:

- High expectations among the countries and their people.
- Meeting timelines

Section 1: Issues in Integrating Consumer Views into the Analysis and Selection of Energy Projects

(By Catherine Ngahu)

Introduction:

Who is a consumer? One may ask. In commercial terms, is "person who buys goods or uses services" (Oxford Advanced Learners Dictionary – 2000). Do consumers have views? Do you consider their views important for your project?

The construction of many large dams as well as hydropower stations has revealed various problems. Assumptions that underlie demand and the expected social and poverty benefit have not always been tested. This section focuses on issues in integrating consumer views into the analysis and selection of energy projects. It specifically focuses on assessing willingness and ability to pay, understanding consumer demand and understanding the needs of the poor in this context.

Consumer Demand, Ability and Willingness to Pay

It is estimated that near 80% of the people in the Nile Basin countries currently have no access to modern energy services. It is assumed that this situation is greatly constraining industrial, agriculture and commercial activities as well as efforts to provide education and public health services to the poor. Most countries in the region have shortages of installed capacity and are therefore, not able to satisfy the demands.

In assessing the growth in electricity sales, and particularly for rural electrification programs, it is useful to incorporate assessments of both the ability of the prospective consumer to pay the electricity charges as well as his willingness to pay. One way of assessing the former is through a study of the substitution of energy sources – for example, if a family uses two candles per evening for their lightning needs, if is assumed that that family would be willing to pay up to the cost of those two candles for electric lighting. This presupposes two crucial conditions:

- The family has the disposable income to buy two candles everyday and
- The family would be willing to pay for the electricity, particularly as there would assuredly be additional uses for the power.

Issue

How valid are these assumptions? There is need to consider regularity of income, capacity for monthly payments and daily prioritizing at household level. The willingness to pay of a family is usually inferred from the results of detailed customer surveys. Consumer surveys should focus on the needs of various user types:

- Domestic
- Commercial
- Industrial

Such surveys need to be carried out in the specific target market areas and should aim to establish the level of interest and willingness to buy. Such surveys should seek to understand the competing sources of energy currently in use. These may include kerosene, candles, wood, LPG and diesel. It is important to consider the factors influencing choice among the various end user groups. Rural users are concerned about access and affordability while urban users may raise the issue of quality of supply. Industrial users raise issues of quality and cost. In Kenya the association of manufacturers (KAM) has expressed concern over loss of competitiveness as a result of high energy cost.

Understanding the consumer Decision Process

The consumer decision process is influenced by various factors including:

a) **Need/problem recognition**
   - The consumer must perceive a need or problem and determine how best to satisfy the need or want.

- The desire for electricity maybe tied to other needs the consumer has. These may include food, education, security, social status and recreation among others.

b) Ability to pay

- This will be influenced by consumer's disposable income and regularity of income.

c) Willingness to pay

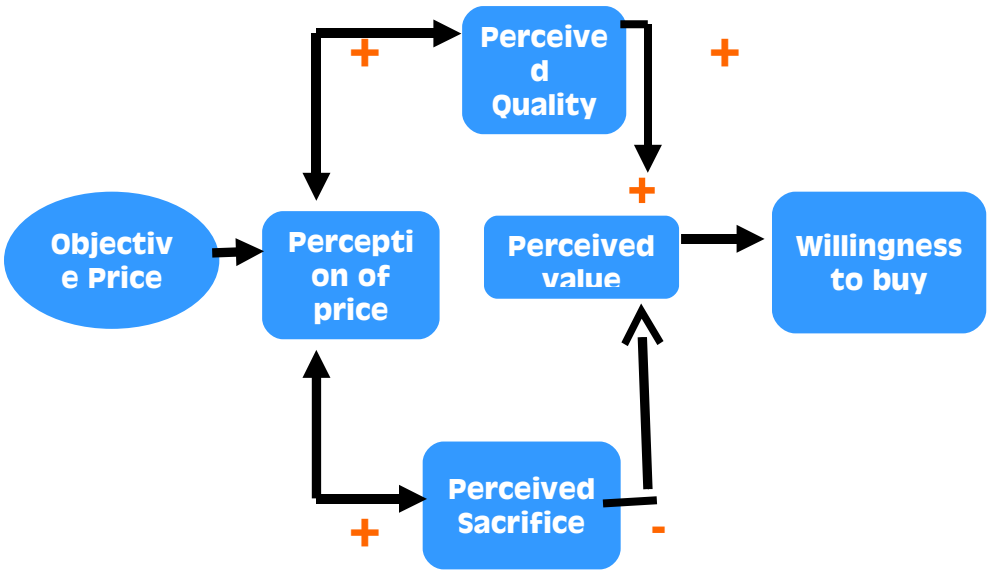
This is to a large extent influenced by:

- Perceived value and
- Perceived risks

Perceived value = Utility - Price

An offering gains competitive advantage by either offering more utility or reducing price. Utility is the satisfaction consumers perceive. Consumers make buying decisions based on what they perceive rather than on the basis of objective reality. Consequently, a rational evaluation of ability and willingness to pay may not give the full picture of how consumers make decisions.

Fig 1: Effects of price on perceived value



Source: WM. B.Dodds, Kent B. Monroe and Dhruv Grewel, "Effects of price, Brand and Store Information on Buyer's product Evaluations," Journal of marketing Research 28 (August 1991), 308.

To behave rationally in the economic sense, a consumer would have to be aware of all available product alternatives, would have to be capable of correctly ranking each alternative in terms of its benefits and disadvantages, and would have to be able to identify the one best alternative. However, consumers rarely have enough information, or sufficiently accurate information, or even an adequate degree of involvement or motivation, to make perfect decisions.

A rational evaluation is unrealistic for the following reasons:

(a) People are limited by their existing skills, habits, and reflexes;
(b) People are limited by their existing values and goals; and
(c) People are limited by the extent of their knowledge.

Hence, in evaluating willingness to buy we should recognize that consumers operate in an imperfect world. Indeed, the consumer generally is unwilling to engage in extensive decision-making activities and will settle instead for a “satisfactory” decision, one that is “good enough”.

Consumer decisions are also influenced by perceived risks. The consumer decision-making process is influenced considerably by psychological concepts. These concepts represent the internal influences (motivation, perception, learning, personality, and attitudes) that affect consumer decision-making process. This process involves what consumers need or want, their awareness of various choices, their information gathering activities and their evaluation of alternatives. Included in these psychological concepts is perceived risk which is a function of perception.

- Because the outcomes of consumer buying decisions are uncertain, the consumer faces some degree of risk when making a purchase decision.
- Perceived risk is the uncertainty that consumers face when they cannot foresee the consequences of their purchase decision.
- The degree of risk that consumers perceive and their own tolerance for risk taking are factors that influence their purchase strategies.
- Consumers are influenced only by the risk that they can perceive, whether or not such risk exists. Risk that is not perceived, no matter how real or dangerous does not influence consumer behaviour.

Types of perceived risks

A consumer perceives many risks during his/her decision making process. These are perceptions and are likely to influence the decisions a consumer makes. These are:

- **Functional risk** – This is the risk that it will not perform as expected (unreliable supply or poor quality)
- **Physical risk** - This is the risk to the user and others that it may pose (is electric power safe?)
- **Financial risk** – This is the risk that it will not be worth the price
- **Social risk** – This is the risk that the purchase choice may result in social embarrassment or social rejection (separation from others in the community)
- **Psychological risk** – This is the risk that a purchase choice will bruise the consumers ego.
- **Time risk**- the risk that time spent in product search may be wasted (if delivery or installation is delayed or reliability is poor)

These are crucial issues to consider especially when assessing willingness and ability to pay among rural communities.

Effects of hydro power projects on the poor

Contribution to poverty reduction is considered important criteria in evaluation of energy projects. As the poor may lack ability to pay for electricity, concern has been raised over the effect of hydro power projects on their economic situation. Do these projects improve their livelihoods or entrench poverty? At national level the availability of reliable low cost electricity is associated with overall economic development and job creation.

While the primary beneficiaries of hydropower projects usually live far away from dam sites, people in the project-affected area may sustain most of the negative impacts of the projects such as:

- Impacts on public health
- Impacts due to population displacement
- Impacts on cultural, historical and religious sites
- Impacts on indigenous communities

Local economic spin-offs are used to address needs of communities near hydro power projects. The indicators are:

- Number of people employed during construction and operation of the project.
- Contribution of project to food security through irrigation, fishing, access to markets and services.
- Multiple - use benefits – ability of the project to provide services other than energy (water supply, flood control, navigation or fisheries).
- Contribution to improvement of the quality of life of vulnerable groups.

Decisions on how to share benefits with neighboring communities have the potential to generate conflict during project implementation phase. It is important to seek community participation in designing the most appropriate approaches for sharing development benefits. This can be done through discussions with the community leaders, civil society and opinion shapers.

Impact of Socio-Economic Mitigation, Compensation and Enhancement Measures on Poverty

Socio-economic mitigation, compensation and enhancement measures adopted may have the effect of enhancing empowerment of the local community or entrenching poverty
Hydropower projects raise the following three main socio-economic issues:

- Involuntary displacement
- Public health risks
- Sharing development benefits

An essential condition for a positive outcome is the meaningful consultation of all stakeholders so that their views and preferences are reflected in the mitigation measures and compensation packages developed as part of the project. To obtain views the consultant can hold meetings with community groups, local leaders, opinion shapers, government representatives, NGOs and Civil Society Organizations.

Involuntary Displacement

Displaced persons must be meaningfully consulted and have opportunities to participate in planning and implementing resettlement programs. Draft plans must be disclosed in the project area to obtain the views of affected people before they are finalized. It's important to consider the views of host communities and vulnerable groups.

Public Health Risks

Most hydropower options involve risks of increase of waterborne diseases. The control of public health risks will require co-operation between the project developer and public health authorities.
Key stakeholders include community members, national and local public health officials and relevant specialists from NGOs.

Enhancing Acceptability of energy projects by the public

In most cases end users and communities living around hydro projects have very high expectations from the project. To ensure that all opinions of end users and communities living around hydro projects are considered, it is important to initiate early consultations with them before the project is launched. The aim should be to create a common understanding between the two parties. This can help in managing expectations on what the project can deliver and what it can't. The consultations should be with the opinion shapers. It is also important to let the people nominate their spokesman to help build consensus and credibility. Formal research should also be conducted before, during and after the project is launched to help integrate the consumers views in the analysis. A good case in point is Shell, who sought the services of anthropologists in the construction of a pipeline in Chad. The Anthropologists used emersion technique where they lived in the society in order to understand the community way of life, their motivations, expectations and fears.

To enhance acceptability of the energy projects by the public, end users and particularly the poor, there is need for consensus between the views of the public and those of project managers. The following can help in achieving the above objective:

- Relationship building- integrates the people in the project and creates a sense of ownership. The initiators of the project should speak in the language of the community.
- The project should be viewed as benefiting the locals directly. The project should support local issues (e.g. tournaments, scholarships) and the managers should not look down upon the locals. Good corporate 'neighborliness' is crucial.
- Having a common understanding between the two parties.
- Making sure that all parties understand that the project has a finite life.

Mismatch between Project Assumptions and Consumer perspectives public expectations

Generally, there is normally a major mismatch between project assumptions and public expectations. Consumers, especially the poor normally assume the project will deliver everything for them which not possible. The other problem is that these projects are normally highly politicized creating unrealistic expectations. For example, the communities in some projects claimed that dust from a project was making their cows blind; in other cases communities have claimed the magnetic fields from the transmission lines have a negative impact on their health. In terms of land compensation, most of those affected prefer to be paid cash as opposed to being given land that is more productive. Many end up misusing the cash and getting poorer.

Good & Bad practices in integrating Consumer

Best practice

- Conducting research before, during and after project implementation.
- Consulting with people nominated representatives
- Monitoring & evaluation system
- Considering the peoples lifestyles and going down to their level

Different communities have different perspectives and interests in power projects. Some communities are interested in the actual work; others want access to water or other services while others are interested in business opportunities that the project will provide. It's very important to consider individual motivations.

Bad practice

- Hand picking peoples representatives
- Dictating compensation methodologies
- Failing to appreciate cultural orientations
- Lack of monitoring and evaluation
- Acting like a know it all

Using power play in negotiations, (acting superior/ undermining the people)

CASE STUDY 1: THE SONDU MIRIU HYDRO POWER PROJECT

This is a 60MW hydro power station. The construction of this project commenced in March 1999. The power station is scheduled for commissioning by the year 2006. The contractor is on site and civil works is almost complete.

Main Issues

A technical committee formed to deal with various stakeholder issues. The technical Committee established four sub-committees including:

- Employment and Economic Opportunities,
- Environment,
- Land Compensation and Resettlement and
- Health and Safety.

The committee identified and investigated issues raised by the community and NGOs. The committee made a report on findings and recommendations as summarized below.

The committee in their detailed investigation established the community complaints and concerns.

- It came out clearly that the problems and concerns raised were not entirely unique to the Project, but are normally associated with large projects of this nature.
- Some of the key findings of the work included irregularities in the system of employment and tendering process, inadequate compensation for improvement on land, undetermined effect of river diversion on aquatic ecosystem and general effect of tunnelling on water springs. Also found was the un-established effect of blasting on cracking of buildings. The recommendations sought TO redress of these anomalies, and specialized investigations are mandatory on areas where there is still doubt.
- A major revelation of the investigations is that the communities in the Project area require the Project to continue to its completion. They recognize its value locally and maintain that the benefit that shall accrue from the Project far out-weighs the ills that might be associated with it.
- It is also agreed that the Technical Committee continue with its mandate to act on behalf of the assembly of stakeholders to the final completion of the Project and beyond.
-

The following activities were carried out/planned for future.

- Organize workshops to make detailed explanations to the community about KenGen's responses to their queries/concerns at four locations. Discuss feed backs from community in the workshops.
- The committee as representative of community will monitor the implementation of the previous recommendations.
- Quarterly meetings to discuss monitoring results and feed back to the community.
- Activities of the committee will continue till the end of Project and also after the project completion.

The following is a summary of monitoring reports findings

Displacement and Land Compensation

The proportion of households buying land to replace land acquired by the project ranges from 20% to 80%. Other uses for compensation payments include establishing businesses and constructing rental houses.

Local Household Conditions

The project has provided employment for around 1250 permanent staff and 270 casual staff. Of these around 55% are from the two projects adjacent districts of Nyando and Rachuonyo, and a further 21% from other parts of Nyanza Province. Wages and salaries form a significantly higher proportion of income in the project-affected locations and there is some indication that wealth indicators have increased.

However, the project benefits of direct and indirect employment are temporary. The social and economic impacts of completing the construction phase will be major. The project has contacted CARE with a request that they carry out an evaluation of long term development opportunities for the affected areas. The project should continue to actively promote interventions through NGOs and local community organizations aimed at addressing local development needs. The project should consider the possibility of using the land acquired for temporary facilities to support long-term development

Increased Traffic Public Roads and Access Roads

Project traffic accounts for between 80% and 90% of all traffic on the roads connecting the construction sites, typically reaching one vehicle every two minutes. The project has been using water browsers to control dust, at a rate of around one pass every hour. This control mechanism is clearly perceived as being inadequate by the local communities. The issue is not limited to roadside households, and applies to all households who use the roads. So far there are no significant indications of dust related health problems, however these would not be expected to become apparent immediately.
The project should construct the planned hard surface roads around the base camp area, road realignments and intake area as soon as possible. The project should consider hard surface past the Nyamarimba and Apoko market centers and main zones of roadside housing. The project should focus on dust control on the remaining priority road sections identified with communities

CONCLUSIONS

Integrating consumer issues in the analysis of viability of energy projects is crucial as they are important stakeholders to the process. Key issues in integrating consumer views in such projects which are reviewed in this paper are as follows:

- Establishing consumer demand
- Assessing ability and willingness to pay
- Understanding the consumer decision process and level of perceived risk related to the project
- Assessing the contribution of energy projects to poverty reduction
- Mismatch between project assumptions and public expectations
- Stakeholder involvement at all levels – before, during and after project implementation

The case study for Sondu Miriu hydro power project presents some learning in planning for implementing stakeholder involvement.

CASE STUDT 2: Rural electrification in Kenya – past scenario

- Informal evaluation of community needs and ability to pay.
- Very high connection cost.
- Consumer charged survey fees and cost of installing transformer.
- Long lead time between application and connection.
- Presumed that once transformer is installed in an area, demand will increase.
- Outcome – mismatch between the utility's expectations and consumer response.
- Integrating consumer issues in the analysis of viability of energy projects is crucial as they are important stakeholders to the process.
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Key Issues

- ❖ Conducting consumer research before, during and after the project is launched.
- ❖ Establishing consumer demand.
- ❖ Assessing ability and willingness to pay.
- ❖ Understanding the consumer decision process and level of perceived risk.
- ❖ Assessing the contribution of energy projects to poverty reduction.

Here is a question for you

What challenges in capturing consumers' views do planners face? Write down as many challenges as possible. What are the possible solutions to these challenges? Compare your answers with those of workshop participants in **Appendix B**.

REFERENCES

- **SNC –Lavalin International; Nile basin Initiative /Nile Equatorial lakes Subsidiary Action Program Strategic/Sectoral, Social and Environmental Assessment of Power Development options – Draft Final Report Sept 2004**
- **United Nations Symposium on Hydropower and Sustainable Development**
- **Philip Kotler, Marketing management: Analysis Planning, Implementation and Control, Prentice – Hall, 2001**
- **Schiffman G.& Kanuk LL, Consumer Behaviour, Prentice – Hall, 1995**

Section 3: Stakeholders' Analysis

(By Dr. Charles Olenja)

Background/context

Development and Stakeholder Analysis

Stakeholder analysis has become increasingly important in development processes. Development is an integral, value-loaded, cultural process that encompasses the natural environment, social relations, education, production, consumption, and well-being. Stakeholder analysis importance is due to the shift in development focus from the original approach of focusing mainly on economic benefits. The focus on economic benefits did not take account of the impacts the envisaged development venture(s) would have on various parties, either positively or negatively, during the life cycle of the development ventures or projects. The shift in development processes to human-centeredness and sustainability has led to the need for new techniques to be applied in the

assessment and determination of the feasibility and ensuing impacts (both short- and long-term) of any perceived development projects. ***Human development*** is defined as:

Human development defined

"Human development is a process of enlarging people's choices. In principle, these choices can be infinite and change over time. But at all levels of development, the three essential ones are for people to lead a long and healthy life, to acquire knowledge and to have access to resources needed for a decent standard of living. If these essential choices are not available, many other opportunities remain inaccessible. … Additional choices highly valued by many people, range from economic and social freedom to opportunities for being creative and productive, and enjoying personal self-respect and guaranteed human rights. Human development has two sides: the formation of human capabilities … and the use people make of their acquired capabilities … Development must, therefore, be more than just the expansion of income and wealth. Its focus must be people."

Source: UNDP (1990); Human Development Report 1990 page10.

On the other hand, the concept of ***sustainable development*** emerged in the 1980s from a report by the World Commission on Environment and Development, better known as the Brundtland Report. The Report defined sustainable development as: "… ***development that meets the needs of the present without jeopardizing the ability of future generations to meet their needs.***"[1]. Three major aspects of sustainable development are environment, economy and community.

The early 1990s witnessed sustainable development as a new paradigm and in 2002; the Secretary-General of the World Summit on Sustainable Development stated that:

Sustainable development

"Since the Rio Earth Summit in 1992, sustainable development has emerged as a new paradigm integrating economic growth, social development and environmental protection as interdependent and mutually supportive elements of long-term development. Sustainable development also emphasizes a participatory, multi-stakeholder approach to policy making and implementation, mobilizing public and private resources for development and making use of knowledge, skills and energy of all social groups concerned with the future of the planet and its people."

Source: IHA (2003); White Paper: The Role of Hydropower in Sustainable Development page19.

Taking account of both human and sustainable development, it becomes necessary and evident that there is need for a sustainable living of people. Sustainable living depends on accepting a duty to seek harmony with other people and with nature. For this to be realized, human populations must share with each other and care for the Earth: that is humanity must take no more from nature than nature can replenish. This in turn means adoption of life-styles and development paths that respect and operate within the limits nature. This strategy can be achieved without necessarily losing the benefits that have emanated from modern technology, provided that technology also

[1] http//www.google.com/ - Roy's Home page; Study on Hydroelectric Projects: Great Whale Project sources of Information Niagara Generators Biodata

works within nature's limits. Sustainable development in the future is only possible if we are willing to maintain our natural capital assets[2].

It has been pointed out that sustainable development remains an elusive concept. To a large extent, it may be thought of as a vision for transforming our currently growth-oriented socio-economic system to one that is predestined on a global vision of environmental sustainability and social justice. In this context, there is emerging agreement on a broad set of principles for sustainability to provide guidance toward these goals.

The United Nations (UN), the Organization for Economic Co-operation and Development (OECD), The International Monetary Fund (IMF) and The World Bank are discussing the human-centeredness and sustainable development with a view to developing a common set of international development goals. This set of development goals is very similar to those set forth in the UN's Millennium Declaration, and focuses on seven broadly agreed goals, as stated in box 3 below.

International Development Goals

- *Eradicate poverty and hunger*
- *Achieve universal primary education*
- *Reach gender equality and empowerment of women*
- *Reduce child mortality*
- *Improve maternal health*
- *Combat HIV/AIDS, malaria and other diseases, and*
- *Ensure environmental sustainability.*

Source: IHA (2003): White Paper; The Role of Hydropower in Sustainable Development page 20.

The UN's Millennium Declaration has an additional goal of "***Develop a global partnership for development***" over and above those stated in box 3 above.

[2] Taylor, Duncan; "Principles of Sustainable Development." Pages 57 – 66. In Off Course: Restoring the balance between Canadian society and the environment. Ottawa: International Development Research (IDRC), 1994.

It is apparent that numerous parties have been affected and continue to be affected by development projects. The effects on these parties are enormous, thus calling for a multi-stakeholder analysis at various levels. The involvement of stakeholders in development processes is perceived to improve and benefit wider sections of human populations. In development processes, the main stakeholders comprise of national governments' agencies, multi-lateral agencies, affected communities, Non-governmental organizations, private sector firms, utility companies, research institutions and international professional associations. Against this background, it is necessary to undertake stakeholder analyses in development processes for planned projects at the conceptualization stages, and make stakeholder analysis a permanent feature in the life cycle of the project(s).

Table 1: The UN Millennium Development Targets and Electricity

Development Targets	Role of Electricity
1. Reducing by half the proportion of people living in extreme poverty by 2015.	Lifting people out of poverty by: • Providing relatively cheap and reliable electricity • Energizing industrial processes and commercial activities providing employment opportunities and revenues • Increasing productivity by extending productive time beyond dusk through lighting • Improving productivity by powering more efficient electrical appliances • Facilitating water pumping for adequate drinking water • Enhancing food security through powering irrigation systems • Assisting national development, thereby improving GDP
2. Achieving universal primary education in all countries by 2015.	Improved opportunities for education by: • Reducing time that children and women have to spend on household chores • Facilitating basic services to run schools
3. Eliminating gender disparity to all levels of education by 2015.	
4. Reducing by two-thirds the under-five child mortality ration by 2015.	Reduction of mortality by: • Facilitating basic services to run hospitals and dispensaries • Improving indoor and outdoor air quality • Facilitating reliable refrigeration to store sensitive drugs such as antibiotics and living vaccines
5. Reducing by three-quarters the maternal mortality rate by 2015.	
6. Halting and reversing the spread of HIV/AIDS, as well as the incidence of malaria and other major diseases by 2015.	• Facilitating reliable refrigeration to store sensitive drugs such as antibiotics and living vaccines • Enhancing awareness of risk factors by facilitating information exchange through telecommunication systems • Powering health monitoring programmes
7. The implementation of national strategies for sustainable development in all countries by 2005, so as to ensure that current trends in the loss of environmental resources are effectively reversed at both global and national levels by 2015.	• Avoid depletion of natural resources and protecting global commons through appropriate choice of electricity generating options • Preserving vulnerable ecosystems and their resources from depletion by avoiding, for example, the over-harvesting of woods in arid

	regions
8. Developing a global partnership for development.	• Providing revenue, investment stability, and infrastructure to promote development.

Source: *IHA (2003): White Paper: The Role of Hydropower in Sustainable Development page25.*

Poverty-related issues

These include:

small land holdings/ landless
unemployment
low level of formal education/ no formal education
food insecurity
no access to health facilities
no proper shelter/housing
no clean water

Are there any more issues you can think of?

"World energy demand will grow by two-thirds in the next thirty years that is by 2030;
Nearly 66 per cent of the growth in energy demand will arise in developing countries,
Natural gas demand growth will outpace that of any other fossil fuel, but will itself be outpaced by demand growth for renewable sources.
Electricity use will increase faster that any other energy end-use."
Some 1.6 billion people – one quarter of the world population – have no access to electricity. In the absence of vigorous new policies, 1.4 billion people will still lack electricity in 2030.
Four out of five people without electricity live in rural areas of the developing world, mainly in South Asia and sub-Saharan Africa. But the pattern of electricity deprivation is set to change, because 95 percent of the increase in population in the next three decades will occur in urban areas.
Some 2.4 billion people rely on traditional biomass – wood, agricultural residues and dung – for cooking and heating. That number will increase to 2.6 billion by 2030. In developing countries, biomass use will still represent more than half of residential energy consumption at the end of 2030.
Lack of electricity and heavy reliance on traditional biomass are hallmarks of poverty in developing countries. Lack of electricity exacerbates poverty and contributes to its perpetuation, as it precludes most industrial activities and the jobs they create.
Investment will need to focus on various energy sources, including biomass, for thermal and mechanical applications to bring productive, income-generating activities to developing countries. However, electrification and access to modern energy services do not per se guarantee poverty alleviation.
Renewable energy technologies such as solar, wind and biomass may be cost-effective options for specific off-grid applications, while conventional fuels and established technologies are likely to be preferred for on-grid capacity expansion.

Source: IHA (2003): White Paper: The Role of Hydropower in Sustainable Development page42

Energy projects, particularly hydropower, have been known to impoverish human populations rather than improve their welfare despite the fact that their initiators view these projects as development in nature and bound to benefit human populations and maintain a friendly environment. However, in practice the situation has been far from the expected reality. Such energy projects have caused populations impoverishment risks of "… landlessness, joblessness, homelessness, marginalization, increased morbidity and mortality, food security, loss of access to common property and services, and social disarticulation."[3] Other problems emanating from energy projects are sedimentation, flooding, deforestation, increased soil acidity, etc. Among these, resolution of social problems is considered more critical in the enhancement of peoples' welfare.

Stakeholder and Stakeholder Analysis

Definitions of a Stakeholder

Stakeholder has roots in the origins of industrialism and is embedded in the ideals of the nineteenth century cooperative movement and mutuality. Several definitions have been developed as given below:

[3] Cernea, M. M. (August 1997); The Risks and Reconstruction Model for Resettling Displaced Populations. The World Bank, Washington, DC, USA.

i) The word ***stakeholder*** was first recorded in 1708 to refer to a person who holds the stake or stakes in a bet. The current definition is "**a person with an interest or concern in something**" (Bisset, 1998[4]).

ii) A stakeholder may also be defined as **"anyone significantly affecting or affected by someone else's decision-making activity**."[5]

iii) A stakeholder is **"any group or individual who can affect, or is affected by, the achievement of a corporation's purpose**."[6]

iv) A stakeholder may also be defined as that party that affects and/or is affected by development policies, programmes and activities. A stakeholder can be a man, a woman, community, socio-economic group or institution of any size and from any level of society. Each of these groups must be represented in the process of deciding upon development programmes and in particular activities. This process, among other things, ensures that decision-making is not effectively taken over by one particular political and/or economic group. The extent of a stakeholder's interest in an activity is determined by the size of the ***"stake"*** which she or he has in it: in other words the extent to which that stakeholder will be affected by the decision.

v) A stakeholder is a range of interested parties in an organization.

It is noteworthy that modern uses of the term are not synonymous with persons or individuals only but also refer to groups and organizations that have an interest or are active players in a system. An example of an interested party is a customer, who may be a private buyer, a work colleague, or another organization. Another example of interested parties (stakeholders) is competitors, for they are affected by the activities of other organizations supplying common, or similar, groups of customers. From an organization perspective, there are ***direct*** and ***indirect*** stakeholders[7]. Sometimes, stakeholders can also be classified into:

- ***Primary Stakeholders*** -Their permission, approval or financial support is needed to achieve or reach the goal.
- ***Secondary Stakeholders*** - Are indirectly affected by the plans.
- ***Tertiary Stakeholders*** - Are not involved or affected, but can influence opinions either for or against[8] the goals and plans.

Primary stakeholders are those people and groups ultimately affected by the project. This includes intended beneficiaries or those negatively affected (for example, those involuntarily resettled in the case of hydropower projects). In most projects primary stakeholders will be

[4] http/ /web.idrc.ca/en/ev-27971-201-1-DO-TOPIC. Html#205ftn02
[5] Chevallier, J. (June 2001); Stakeholder Analysis and Natural Resource Management. Carleton University, Ottawa, Canada.
[6] Freeman, R. E. (1984); Strategic Management: A Stakeholder Approach page vi.
[7] G.A. Cole (2000): Strategic Management: Theory and practice, page 13.
[8] British Department for International Development (DFID) formerly ODA (1995): Guidance on how to do stakeholder analysis of AID projects and programmes page 3.

categorized according to social analysis. Consequently, gender, social or income groups, occupational or service user groups should often divide primary stakeholders. In many projects, categories of primary stakeholders may overlap (e.g. women and low-income groups; or minor forest users and ethnic minorities).

Secondary stakeholders, including donor agencies, are intermediaries in the process of delivering aid to primary stakeholders. They can be divided into funding, implementing, monitoring and advocacy organizations, or simply governmental, non-governmental and private sector organizations. In many projects it will also be necessary to consider key individuals as specific stakeholders (e.g. heads of departments or other agencies, who have personal interests at stake as well as formal institutional objectives). Also note should be taken of the fact that there may be some informal groups of people who will act as intermediaries, such as politicians, local leaders, respected persons with social or religious influence.

Generally, stakeholders include those groups that stand to benefit and those who stand to lose, given a specific development activity. Before undertaking any stakeholder analysis, it is important to identify the various stakeholders. Broadly, stakeholders can be classified into:

Types of Stakeholders

- *Those who have or want a resource*
- *Those who are affected by the use of a resource by others*
- *Those who influence decisions about resources*

The most directly affected stakeholders are those people or groups whose livelihoods depend directly on the resource in question for development. Then there are those whose livelihoods may be affected through use of the resource by others, and finally those who, for various reasons, have strong views on the subject, which they feel should be heard. Table 2 provides a classification and examples of direct and indirect stakeholders.

Table 2: Example of Direct and Indirect Stakeholders

Direct	***Indirect***
1. Customers (clients, members, patients or other users	*1. The Community (local, regional, national or*

of the organization's goods or services)	*international)*
2. Shareholders (companies) or taxpayers (public sector organizations)	*2. Competitors (All those other organizations providing similar goods & services to the same market)*
3. Creditors (especially banks & similar financial institutions)	*3. Stock markets (Nairobi Stack Exchange, Wall Street)*
4. Employees (who could be considered as dependent stakeholders)	*4. The government (Those charged with the management of the economy as a whole on behalf of the community)*
5. Suppliers (of a range of goods and services, some of which may be tailored to the organization's requirements and thus where the stakeholder is critical)	*5. Supra-national bodies (e.g. East African Cooperation, European Union)*

Source: G. A. Cole (2000): Strategic Management: Theory and practice, pg. 13-14

There are two important points about the above example of types of stakeholders. It is often the case that individual stakeholders have an interest in more than one category. Thus, some people may be employees, shareholders and customers of the same organization (e.g. an electricity supply company), as well as being members of the local community. On the other hand, it is likely that conflicts of interest will occur between the different stakeholders, both within and between the two categories just identified. This possibility is particularly important when substantial numbers of stakeholders come into conflict (e.g. if shareholders and/or creditors want to close or sell-off part of the business due to losses, but where employees, suppliers of parts etc and customers want the operation to continue).

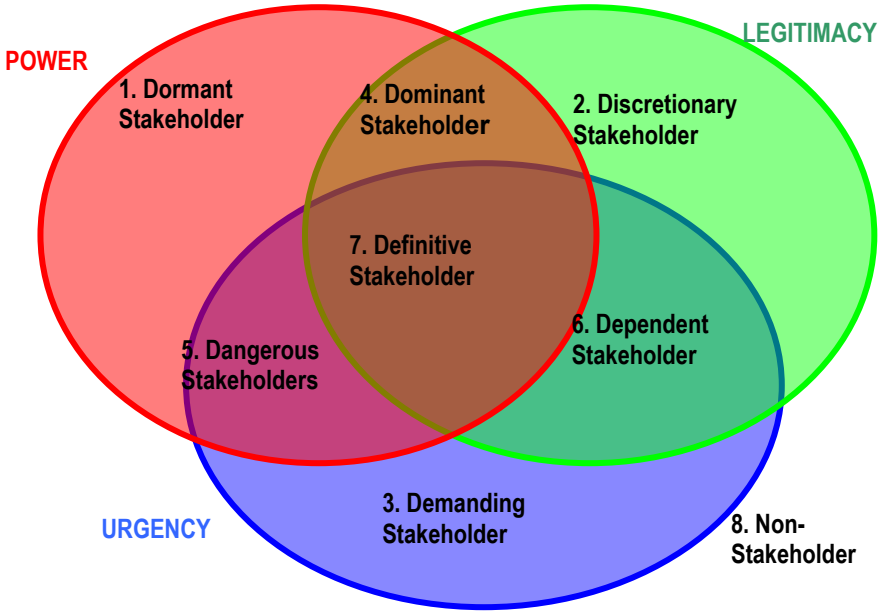
There are some stakeholders, who by nature like being noticed. The likelihood of a stakeholder being noticed and involved in development projects is a function of several attributes that include power, urgency, and legitimacy. The "theory of stakeholder identification and salience" proposed by Mitchell et al. (1997)[9] highlights three stakeholder attributes that merit attention:

- The stakeholder's power to influence the firm;
- The legitimacy of a stakeholder's relationship to the firm; and
- The urgency of the stakeholder's claim on the firm

On the basis of these attributes, the theory proposes a typology of stakeholders to whom attention should be paid. It follows that stakeholders with two or more attributes are likely to be noticed and participate in the planned development initiatives; those without them will tend to be ignored. Below is a stakeholder typology

Stakeholder Typology

[9] Cited in Chevallier, J. (June 2001); Stakeholder Analysis and Natural Resource Management. Carleton University, Ottawa, Canada.



What is Stakeholder Analysis?

Stakeholder analysis has its origin in the history of business and managerial science. The stakeholder analysis approach was designed and continues to be used by firms and organizations "to factor stakeholder interests in order to enhance the enterprise's relationship with society and secure better prospects of financial success."[10] Following are the various definitions of stakeholder analysis.

i) Stakeholder analysis refers to a range of tools for the identification and description of stakeholders on the basis of their attributes, interrelationships, and interests related to a given issue or resource. The term transcends several fields of study, including business management, international relations, policy development, participatory research, ecology, and natural resource management[11].

ii) Stakeholder analysis can be defined as an approach for understanding a system by identifying the key actors or stakeholders in the system, and assessing their respective interest in that system[12]. This definition is useful in that it defines stakeholder analysis as a natural resource management approach and acknowledges its limits - it cannot be expected to solve all problems or guarantee representation[13].

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[10] Ibid.

[11] http:/ /web.idrc.ca/en/ev-27976-201-1DO_TOPIC.html; Ramirez, R.; Stakeholder analysis and conflict management in Concept: Society, chapter 5.

[12] Grimble, R. et al.; (1995); Trees and trade-offs: A stakeholder approach to natural resource management. International Institute for Environment and Development, London, UK. Gatekeeper Series 52 pages 3-4.

[13] Grimble, R.; Wellard, K. (1996); Stakeholder methodologies in natural resource management: A review of principles, contexts, experiences and opportunities. Paper presented at ODA NRSP Socioeconomic Methodologies Workshop, 29 – 30 April, 1996, London, UK.

iii) Stakeholder analysis is a means that assists in not only identifying priority problems that stem from the current situation but also to use the rapid appraisal (RA) information to focus on the future, with tools designed specifically for development planning[14].

iv) Stakeholder analysis is an attempt to cope with political forces through rational approach. In this approach, one looks at i) analysis of behaviour of stakeholders ii) explanation of behaviour of stakeholders and iii) coalition analysis of stakeholders[15].

v) Stakeholder analysis is the identification of a project's key stakeholders, an assessment of their interests, and the ways in which these interests affect project riskiness and viability. It is linked to both institutional appraisal and social analysis: drawing on the information deriving from these approaches, but also contributing to the combining of such data in a single framework. Stakeholder analysis contributes to project design through the logical framework, and by helping to identify appropriate forms of stakeholder participation[16].

Why Stakeholder Analysis?

Stakeholder analysis is imperative because it assists managers and administrators to assess project environment, and to inform decision makers and financers negotiating the position in project talks. Stakeholder analysis may be a key tool for improving livelihoods. Specifically, stakeholder analysis can:

- "*Draw out the interests of stakeholders in relation to the problems which the project is seeking to address (at the identification stage) or the purpose of the project (once it has started).*
- *Identify conflicts of interests between stakeholders, which will influence decision makers and financers' assessment of a project's riskiness before funds are committed (which is particularly important for proposed process projects).*
- *Aid in identifying relations between stakeholders, which can be built upon, and may enable "coalitions" of project sponsorship, ownership and cooperation.*

- *Assist to assess the appropriate type of participation by different stakeholders, at successive stages of the project cycle"*[17].

When should Stakeholder Analysis be undertaken?

The importance of stakeholder analysis has been noted in the preceding sections. However, before the commencement of stakeholder analysis, it is strongly recommended that stakeholder analysis address three interrelated dimensions of: **i) the nature of a problem, ii) its boundaries and iii) those who own the problem.** Also any individual or group or organization seeking to convene

[14] http://www.fao.org/sd/SEAGA: FAO (2001); Socio-Economic and Gender Analysis Programme: Field Level Handbook page 98.

[15] H. Mintzberg, B. Ahlstrand & J. Lampel (1998): Strategy Safari: The Complete Guide Through the Wilds of Strategic Management, pages 250-251.

[16] DFID (formerly ODA) (1995): Guidance Note on How to do Stakeholder Analysis of AID projects and programmes page 3.

[17] British DFID, formerly ODA ((July1995); Guidance note on how to do stakeholder analysis of AID projects and programmes.

other stakeholders should first analyze one's own roles and objectives and one's relationship with the stakeholders one seeks to invite.

Stakeholder analysis should always be undertaken preferably before or at the beginning of a project. A rapid list of stakeholders can be used to depict the main assumptions which are required if a project is going to be viable, and some of the key risks. Accordingly, stakeholder analysis will contribute to the drafting of a log frame of a project.

Whenever project log frames are re-considered during the project life cycle, a stakeholder analysis will be useful. This means that monitoring missions, mid-term reviews and evaluation teams should incorporate stakeholder analysis in their work. Noting that stakeholders are dynamic and their needs keep evolving, and environments in which projects are conceptualized and implemented also gradually change, stakeholder analysis should be a permanent feature in the life cycle of development projects.

Stakeholder Analysis: Steps and Tools

Stakeholder analysis has several steps. These steps can be summarized as:

- Drawing up a stakeholder table;
- Carrying out an assessment of each stakeholder's **importance** to project success and their relative **power/influence**;
- Identifying **risks and assumptions**, which will affect project design and success.

For purposes of this paper, a multi-purpose stakeholder analysis approach is adapted and it comprises several steps, providing some basic rules and checklists. Stakeholder analysis seeks to differentiate and study stakeholders on the basis of their attributes and the criteria of the analyst or convener appropriate to a specific situation. These may include:

- The relative power and interest of each stakeholder;
- The importance and influence stakeholders have;
- The multiple "hats" stakeholders wear; and
- The networks and coalitions to which stakeholders belong.

For illustration, four types of stakeholders are likely to be identified in conflict assessment as:

- Those with claims to legal protection,
- Those with political clout,
- Those with power to block negotiated agreements, and
- Those with moral claims to public sympathy[18].

Differentiation among stakeholders is a necessary step in stakeholder analysis. However, the distinction is often based on qualitative criteria that are difficult to generalize. Use of matrices is a common tool in stakeholder analysis. The following is a listing of a flexible set of steps for conducting stakeholder analysis:

[18] Susskind, L.; Cruikshank, J. (1987); Breaking the impasse. Basic Books, New York, N.Y., USA cited by R. Ramirez in Concept: Society; Stakeholder analysis and conflict management.

- Identify the main purpose of the analysis;
- Develop an understanding of the system and decision-makers in the system;
- Identify principal stakeholders;
- Investigate stakeholder interests, characteristics, and circumstances;
- Identify patterns and contexts of interaction between stakeholders; and
- Define options for management.

Generally, the major phases involved in stakeholder analysis are:

- Defining the problem,
- Analyzing constraints and opportunities, and
- Agreeing on an action plan.

Prior to the commencement of stakeholder analysis, the following question is important: Who decides on the purpose of the stakeholder analysis and who counts most? Simply put, who is a stakeholder? The question refers eventually to the relationship both between the stakeholder and the problem and between the stakeholder and the analyst or convener. For the convener, it has to do with having the ***power, legitimacy or resources*** to convene others, the power to choose the criteria for inclusion or exclusion of stakeholders, and the authority to define the reason or theme around which stakeholder analysis takes place (Grimble and Wellard 1996). On the side of the stakeholder, it has to do with ***being noticed or having a voice,*** which in turn is the result of having attributes such as ***power, legitimacy, and urgency*** in relation to an issue (Mitchell et al. 1997). It will be assumed in this paper that the Nile Basin Initiative is the convener (temporarily).

Unless there is agreement on the boundaries around a resource problem, there may not be enough parameters around which to decide who the stakeholders are in a system. In fact, the stakeholders in all likelihood do not form a system unless they expressly agree, and view themselves as belonging to one system. In practical terms, stakeholders must agree on a problem domain: a problem conceptualized by themselves. In this context, stakeholder analysis steps and tools are presented below.

The Steps and Tools

Taking account of Ramirez's conceptual framework and the emergent propositions, the DFID Guide Note and the FAO Field Level Handbook, the following section deals with the steps and tools of stakeholder analysis.

a. ***Identifying the Stakeholders and Creating a List: Stakeholder Tables***

Stakeholders' attributes, such as power and legitimacy, help explain the odds of a stakeholder becoming a convener or a facilitator. With regard to the time element, or *urgency*, some authors suggest that avoidance of urgency on the side of the facilitator is a key component of successful conflict management (Thomas et al. 1996[19]). A party may be able to initially convene others. However, the stakeholders will subsequently decide on the role and desired attributes of the convener and on the specific functions for other neutral parties, such as facilitators, who may become providers of expert information. Whoever decides to convene stakeholders, should fully understand the relationships, and bear these in mind when drawing up the stakeholder table. The guiding considerations are:

- Identify and list all potential stakeholders.
- Identify their interests (overt and hidden) in relation to the problems being addressed by a project and its objectives. Each stakeholder may have several interests.
- Briefly assess the likely impact of the project on each of these interests (positive, negative, uncertain or unknown).
- Indicate the relative priority, which the project should give to each stakeholder in meeting the identified interests.

Stakeholder typology (see figure 1) would prove useful in this exercise. Table 3 provides an example of a stakeholder table.

Stakeholders can be listed and categorized in various ways. Box 11 below provides a checklist to be used in identifying stakeholders.

Checklist for identifying stakeholders

- *Have all potential supporters and opponents of the project been identified?*
- *Has gender analysis been used to identify different types of female stakeholders (at both primary and secondary levels)?*
- *Have primary stakeholders been divided into user/occupational groups, or income groups?*
- *Have the interests of vulnerable groups (especially the poor, women) been identified?*
- *Are there any new primary or secondary stakeholders that are likely to emerge as a result of the project?*

b. Drawing Out Stakeholders' Interests in Relation to the Project

Before one can draw out the stakeholders' interests, there is need to understand how these stakeholders interrelate, what multiple hats they wear, and what networks and other groups they belong to. It is worthwhile to seek to understand actors' behaviour by analyzing the types of relationships the actors (stakeholders) experience and the structure of those relationships. It is also useful to note that social environment influences what coalitions stakeholders join, and these ultimately influence and reinforce the bargaining tools and also form the means of striking new institutional arrangements.

[19] Cited in http/ /web.idrc.ca/en/ev-27976-201-1DO_TOPIC.html; R. Ramirez; Stakeholder analysis and conflict management in Concept: Society, chapter 5.

Against this backdrop, the compiled list of stakeholders should form the basis for a tabulation of each stakeholder's interests in the project, and the likely impact of the project on the stakeholders. Interests of all types of stakeholders may not be easily defined. In some instances, stakeholder interests are hidden or in contradiction with the openly stated aims of the organizations or groups involved. Normally, relate each stakeholder to either the problems, which the project is seeking to address (if at conceptualization stage of the project), or the established objectives of the project (if the project is already under implementation). The questions in box 12 below may assist in identifying the stakeholder interests.

Checklist for drawing out interests

- *What are the stakeholder's expectations of the project?*
- *What benefits are there likely to be for the stakeholders?*
- *What resources will the stakeholder wish to commit (or avoid committing) to the project?*
- *What other interests does the stakeholder have which may conflict with the project?*
- *How does the stakeholder regard others in the list?*

The likely or actual impact of the project on the identified stakeholder interests should be assessed carefully and in simple language. Expected project impacts on various stakeholders' interests can be classified into positive, negative, uncertain and unknown. Table 3 provides a detailed example of a stakeholder table.

Table 3: Example of Stakeholder table for a proposed private sector Population project, Pakistan (simplified and adapted)

Stakeholders	Interests	Potential project impact	Relative priorities of interest
Secondary Stakeholders			
Ministry of Population Welfare	* Achievement of targets * Control over funds & activities * Avoid liability for any negative reactions to contraceptive promotion	(+) (-) (-)	3
Pharmaceutical companies, & distributors	* Sales volume * Profits * Public image	(+) (+/-) (+/-)	= 2
DFID (formerly ODA)	* Institutional learning * H & population objectives * Short-term disbursements * Conserving staff inputs * Avoid liability for any negative reactions to contraceptive promotion	(+) (+) (-) (?) (-)	= 2
Primary Stakeholders			
Lower-middle income groups	* Reproductive choice * Cheaper contraceptives	(+) (-?)	= 1
Women	* Reproductive choice * Enhanced health * Status	(+) (+) (-/+)	= 1

"External" stakeholders			
Islamic clergy	* Social and religious influence	(+/-)	4
Traditional birth attendants	* Private incomes	(-)	5
Explanatory note: As a private sector project, the Ministry may perceive a loss of control over resources. Several of the secondary stakeholders with positive interests in the project are wary of the social and religious influence of the clergy on public opinion (and therefore their image). The clergy are identified as a stakeholder group posing potential risks to the project.			

Source: ODA, (July 1995); Guidance on how to do a stakeholder analysis of AID projects and programmes

c. Assessing the Influence and Importance of Stakeholders

Key stakeholders are those individuals, groups or organizations who can significantly influence, or are important to the success of a project. ***Influence*** refers to how powerful a stakeholder is. ***Importance*** refers to those stakeholders whose problems, needs and interests is a priority of the financier or donor. Normally, if the identified important stakeholders are not assisted effectively then the project cannot be considered successful. When influence and importance are combined, and a matrix diagram applied, stakeholders can be classified into different groups. These different groups assist in identifying assumptions and risks, which need to be managed through project design. Before venturing into the outline of a matrix, ways of assessing influence and importance are addressed.

i. Assessing Influence

Influence is defined as the power, which stakeholders have over a project, namely:

- To control what decisions are made,
- To facilitate project implementation, or exert influence which affects the project negatively.

Influence is perhaps appropriately understood as the extent to which people, groups or organizations (i.e. stakeholders) are able to persuade or coerce others into making decisions, and following certain courses of action.

Power may derive from the nature of a stakeholder's organization, or their position in relation to other stakeholders (e.g. line government ministries which control budgets and other departments). Other forms of influence may be more informal (e.g. personal connections to ruling politicians). It may also be necessary to consider stakeholders whose power, and therefore influence, will increase because of resources introduced by the project. Assessing influence is difficult and involves interpretation of a range of factors. Some of the factors that may be involved, under influence, are listed in box 13 below.

Variables Affecting Stakeholders' Relative Power and Influence	
Within and between formal organizations	***Informal interest groups and primary stakeholders***

1. Legal hierarchy (command and control, budget holders)	*1. Social, economic and political status*
2. Authority of leadership (formal and informal, charisma, political, familial or cadre connections)	*2. Degree of organization, consensus and leadership in the group*
3. Control of strategic resources for the project (egg. suppliers of hardware or other inputs)	*3. Degree of control of strategic resources significant for the project*
4. Possession of specialist knowledge (egg. engineering staff)	*4. Informal influence through links with other stakeholders*
5. Negotiating position (strength in relation to other stakeholders in the project)	*5. Degree of dependence on other stakeholders Assessing importance to project success*

ii. Assessing Importance

Importance indicates the priority given to satisfying stakeholders' needs and interests through a project. Importance is likely to be most obvious when stakeholder interests in a project converge closely with those of the government and or the sponsoring party. In general terms, these objectives, which are defined in relation to a project, can be taken from the logical framework's goal and purpose. Importance is distinct from influence. There will often be stakeholders, especially unorganized primary stakeholders, upon which the project places great priority (e.g. women, resource poor farmers, slum dwellers, ethnic minorities etc). These stakeholders may have weak capacity to participate in the project, and limited power to influence key decisions. A checklist for assessing importance to the project is provided in the box below.

Checklist for Assessing which Stakeholders are Important for Project Success

- *Which problems, affecting, which stakeholders, does the project seek to address or alleviate?*
- *For which stakeholders does the project place a priority on meeting their needs, interests and expectations?*
- *Which stakeholder interests converge most closely with policy and project objectives?*

d. Drawing out Assumptions and Risks Affecting Project Design and Participation

i. Identifying Assumptions and Risks about Stakeholders

Logical framework approach to planning stresses that the success of a project depends partly on the validity of the assumptions made about its various stakeholders, and the risks facing the project. Some of the project risks will emanate from conflicting interests of the various stakeholders. Process projects are often affected by stakeholder interactions and responses to project activities. Planners must, therefore, identify and assess the importance of the most plausible assumptions about each key stakeholder, which are necessary for the project to succeed.

In assessing the influence and importance of key stakeholders, some risks will emerge. Generally, risks will be evident from those stakeholders who have high influence, but whose interests are not in line with project objectives. These key stakeholders may be able to unnecessarily delay the project or block it completely. If this scenario is probable, the risk constitutes a killer assumption. In

order to systematically go through the assumptions and risks, which need to be specified for each stakeholder, the checklist in the box below will act as a useful guide.

Checklist for Drawing Out Assumptions About and Risks Deriving from Stakeholders

- *What is the role or response of the key stakeholder that must be assumed if the project is to be successful?*
- *Are these roles plausible and realistic?*
- *Are there negative responses, which can be expected, given the interests of the stakeholder?*
- *If such responses occur what impact would they have on the project?*
- *How probable are these negative responses, and are they major risks?*
- *In summary, which plausible assumptions about stakeholders support or threaten the project?*

ii. The Management of Risk in Projects

The risks identified and assumptions made are a useful tool in stakeholder analysis and facilitate the contribution of stakeholder analysis in determining the hierarchy of objectives in any project formulation that applies a logical framework. Specific attention should be paid to project outputs and activities, which should reflect the expanded and refined analysis of risks. As an example, the necessary assumptions for project success may include the need for outputs such as the building of relations between project sponsors, establishing or strengthening the arrangements which (a) are required for a wider coalition of support, and (b) will enhance the capacity of primary stakeholders (including gender considered parties) to participate more effectively.

iii. Identifying Appropriate Stakeholder Participation

Defining who should participate, in what ways, at what stage of the project cycle, contributes to a well-designed project. The use of a matrix to clarify the roles to be played by all stakeholders at each stage of the project cycle is important. The matrix can be drawn up for individual stakeholders in turn, but a summary matrix should be prepared to provide the overall picture. Such matrices can be used as a basis for negotiations between donors and/or governments and individual stakeholders. In many situations, it will be useful to draft a participation matrix and if necessary undertake any negotiations before the logical framework is finalized. Stakeholder analysis contributes to the process of deciding how the key stakeholders are to be included in the project. An example of a participation matrix is given below.

Table 4: Format of Summary Participation Matrix

Type of participation **Stage in cycle**	**Inform**	**Consult**	**Partnership**	**Control**
Identification				
Planning				
Implementation				
Monitoring & Evaluation				

Here is an exercise for you.

1. Do you consider the Nile Basin Initiative (Confidence Building and Stakeholder Involvement) as an entity best placed to convene stakeho... countrie... answer

2. Identify the stakeholders by category and, their possible interests and impacts in your planned hydropower project.

Compare your findings with that in Appendix C

.

Utilization of the Findings of a Stakeholder Analysis

The findings from a stakeholder analysis are recorded in the tables and matrix diagrams during the analysis stages. The risks and assumptions arising from the analysis should be included in the logical frame at the stage of conceptualizing the projects. The analysis contributed to a participation matrix that should be used to explain project design. These records of the analysis are the basis for designing and eventual revisions in the life of a project. It is imperative that the findings of a stakeholder analysis be utilized, with different amounts of detail, in (a) the project concept note and (b) the project document. The main findings of a stakeholder analysis can be presented in a table showing only the key stakeholders and their interests.

REFERENCES

1. British Department for International Development (DFID), formerly ODA (1995); Guidance Note on how to do Stakeholder Analysis of AID projects and programmes
2. Chevallier, J. (June 2001); Stakeholder Analysis and Natural Resource Management. Carleton University, Ottawa, Canada.
3. Cernea, M. M. (August 1997); The Risks and Reconstruction Model for Resettling Displaced Populations. The World Bank, Washington DC, USA.
4. Cole, G. A. (2000); Strategic Management: Theory and Practice
5. Food and Agricultural Organization (FAO) of the United Nations (2001); Socio-economic and Gender Analysis Programme: Field Level Handbook. Rome, Italy.
6. Freeman, R. E. (1984); Strategic Management: A Stakeholder Approach.
7. Freeman, R.; Gilbert, D. (1987); Managing Stakeholder Relations. In Prakash, S.; Falbe, C. (eds.); Business and Society: Dimensions of Conflict and Cooperation. Lexington Books.
8. Grimble, R. et al. (1995); Trees and trade-offs: A Stakeholder Approach to Natural Resource Management. International Institute for Environment and Development, London, UK. Gatekeeper Series 52.

9. Grimble, R.; Wellard, K. (1996); Stakeholder Methodologies in Natural Resource Management: A Review of Principles, Contexts, Experiences and Opportunities. Paper presented at ODA NRSP.
10. International Hydropower Association (IHA), (2003); White Paper: The Role of Hydropower in Sustainable Development.
11. Mintzberg, H.; Ahlstrand, B.; Lampel, J. (1998); Strategy Safari: The Complete Guide through the Wilds of Strategic Management.
12. "Methodology For The Stakeholders Analysis, Longxi-Hongku Protected Area"
13. Mitchell, R.; Agle, B.; Wood, D. (1997); Towards a Theory of Stakeholder Identification: Defining the Principles of who and what counts. Academy of Management Review, 22(4).
14. Ramirez, R.; Stakeholder Analysis and Conflict Management in Concept: Society chapter 5. IDRC Books.
15. Susskind, L.; Cruikshank, J. (1987); Breaking the Impasse. Basic Books, New York, N.Y., USA.
16. United Nations (October 2004); United Nations Symposium on Hydropower and Sustainable Development – Beijing Declaration.

Section 4: Sustainable Livelihood Strategies in relation to Power Projects in the Nile countries

(By Dr. Amos Enock Majule)

1.0 BACKGROUND

1.1 Introduction

The Nile basin covers 3 million sq. km. an area which is one-tenth of Africa's total land mass. It serves as home to world-class environmental assets, such as Lake Victoria and the vast wetlands of the Sudd. It also serves as home to an estimated 160 million people within the boundaries of the basin, while nearly twice that number, roughly 300 million live within the ten countries that share the basin. Despite the extraordinary natural endowments and rich cultural history of the Nile Basin, its people face considerable challenges and among them is poverty and it is estimated that half of the Nile riparian countries are among the world's ten poorest. Population is expected to double within the next 25 years, placing additional strain on already scarce water, land and other natural resources. Yet the Nile holds significant opportunities for win-win development that could enhance energy availability, food production, transportation, industrial development, environmental conservation, and other related development activities in the region. Cooperative water resources management might also serve as a catalyst for greater regional integration, both economic and political, with benefits far exceeding those derived from the river itself.

1.2 Poverty and environment concepts

In order to have development to the Nile Basin people concepts such as poverty, environment and sustainable livelihood needs to be clearly articulated. The concepts poverty and environmental degradation have a cause-and-effect relationship. While environmental degradation, on the one hand, leads to widespread poverty, the latter alternately causes environmental degradation as it undermines people's capacity to manage resources wisely. Several studies have outlined that poverty particularly food insecurity and income poverty are crucial problems that face African countries. Thus by attacking the root causes of these problems, the problem of alleviating poverty could be greatly reduced.

Unlike many approaches to poverty assessment there is no a priori definition of what are basic necessities - they are defined during the survey process itself (Davies, 1997). Poverty is broadly defined as "the lack of basic necessities" (Davies, 1997), and is now widely viewed as encompassing both income and non-income dimensions of deprivation (URT, 2000; Cooksey and Likwelile, 2002). Nevertheless, the most commonly used way to measure poverty is based on incomes or consumption levels. A person is considered poor if his/her consumption or income level falls below some minimum level necessary to meet basic needs. This minimum level is usually called the *"poverty line"*. A poor person is characterized as poor when the standard of living falls below the "*poverty line*" (Mtatifikolo, 1994). What is necessary to satisfy basic needs varies across time and societies. Therefore, *poverty lines* also vary with time and place, depending on the level of development, societal norms and values.

In most east African countries, poverty is defined in the Poverty Reduction Strategy Paper (PSRP) as "the state of deprivation prohibitive of decent human life". The definition thus includes both inadequate income as well as deficiencies in non-income human development attributes. Generally, poverty is a rural phenomenon and it is estimated for example in Tanzania about 85% of the poor live in rural areas and 59% of the people living in rural households are categorized as being poor and 44% being very poor. In other words, poverty is much deeper and severe in rural than urban areas.

The eradication of poverty has therefore become a dominant theme of development for both researchers and policy makers in many developing countries. Poverty alleviation as one of the central concepts is a complex issue than its everyday use would suggest.

1.3 The concept of sustainable livelihood

The term "sustainable livelihood" was first used as a development concept in the early 1990s. According to Chambers and Conway (1991) sustainable livelihood is defined as follows:

A livelihood comprises people, their capabilities and their means of living, including food, income and assets. Tangible assets are resources and stores, and intangible assets are claims and access.

A livelihood is environmentally sustainable when it maintains or enhances the local and global assets in which livelihood depend, and has net beneficial effects on other livelihood.

A livelihood is socially sustainable which can cope with and recover from stress and shocks and provide for future generations.

Sustainable Livelihood Approaches (SLAs) are cantered on people and their livelihoods. They prioritise people's assets (tangible and intangible); their ability to withstand shocks (the vulnerability context); and policies and institutions that reflects poor peoples priorities rather than those of elite.

This paper is intended to contribute to an understanding of the needs to have sustainable livelihoods systems to the Nile Basin communities based on different power options proposed by the NBI project.

2.0 POWER DEVELOPMENT IN THE NILE BASIN

The Nile Basin Initiatives (NBI) has identified the development of power being one of the strategies to address energy problems, environmental conservation (through protection of forests) and poverty alleviation through direct use of power in various activities as well as promotion of livelihood activities, which are not directly associated with power use. In most cases, the different power options, which are being proposed particularly in the NELSAP countries, are likely to have both negative and positive impacts to the livelihood of the people. Those positive impacts need to be enhanced while negative impacts needs to be mitigated and if possible be avoided. For example hydropower projects which require damming may necessitate resettlement of people and this may have serious implications on the livelihood of people economically, socially and culturally. For example a study on Ruhudji River basin in Tanzania where there is potential site for damming has been noted to be a ritual site for Ruhudji community (Yanda et al, 2002). Other power options such as geothermal, natural gas, diesel powered plants may also require re-allocation of people into new settlement area in order to pass transmission lines, pipe lines as well as expansion of mining areas particularly with coal.

In light view of these mentioned impacts, future livelihood of the people likely to be affected needs to be clearly understood and then integrated in the planning process. A good example of integrated planning that can be sited is Kihansi Area Conservation Plan in Tanzania (IRA, 2001). At Kihansi River Basin, there is a hydropower plant which supply electricity. Displaced people were allocated new farmlands and were compensated. Other services like health, road, school, agriculture development services were also provided as means of alleviation poverty. Village also established environmental committees to ensure conservation and protection of environment. This was done in a participatory manner through stakeholder's involvement. Since power development in the region is seen to be potential, integrated planning and stakeholders' involvement needs to be ensured if sustainable livelihood is going to be attained.

3.0 LIVELIHOOD ACTIVITIES IN THE NILE BASIN

Recognizing the need to take concrete steps to realize the development potential of the Nile while the dialogue on a permanent legal and institutional framework continued, the Nile riparian states in 1999 took a historic step towards cooperation in the establishment of the Nile Basin Initiative (NBI).

The NBI is a transitional institutional mechanism that includes all riparians and provides an agreed basin-wide framework to fight poverty and promote economic development in the region.

The NBI is guided by a shared vision "to achieve sustainable socio-economic development through the equitable utilization of, and benefit from, the common Nile Basin water resources" and a set of policy guidelines, which provide a basin-wide framework for cooperative action.

Agriculture plays an essential role in the livelihoods of people in the Nile Basin countries. For example, agriculture contributes over 50% of the GDP and supports livelihood of over 80% of Tanzanians living in the rural areas. The majority of the people are involved in subsistence farming depending solely on rainfall which is unpredictable and not sufficiency. Livestock keeping is another activity and this is constrained by several factors including diseases, theft, inadequate grazing during wet season due to cropping and other related factors. Fishing in Lakes and Rivers also provide some income and food to the people of the Nile. However crude fishing practices have been reported to be a threat to fish populations and human health (Yanda and Majule, 2004). Other non- farm income generating activities include for example tourism (Mara, Kagera Basins) and large and small-scale mining activities.

3.0 MAJOR FACTORS AFFECTING PEOPLES LIVELIHOOD

The agricultural sector being the major livelihood activity in the Nile Basin countries is constrained by several factors ranging from technological, socio economical, environmental and political factors. Technological factors include for example inadequate appropriate soil and water management practices, use of low quality seeds and inefficient utilization of water for agricultural production. Socio economical factors include high cost of agriculture inputs, poor post harvest management and inability to access improved technologies. Environmentally, smallholder agriculture is severely constrained by rainfall failures, climate variability and change including the EL Nino and southern oscillation effects, which drastically reduces crop yields triggering severe drought and famine. Politically, structural adjustment programs (SAPs) in all countries have generally been associated with a removal of subsidies and an increase in input prices (e.g. seed and fertilizer), retrenchment in the public sector and an expanded role for the private sector. Case studies in many places have indicated that the livelihood of the people is affected by several factors at various levels. Table 2 provides an assessment of problems in two villages in the Bahi wetlands of Tanzania.

Table 1: A List of Major Problems and their Ranking

Major problem	Ngaiti		Kitalalo	
	Score	Rank	Score	Rank
Communication	11	1	-	-
Health services	10	2	-	-
Domestic water shortage	9	3	8	1
Lack of experts	8	4	5	2

Degradation of forestry	**7**	**5**	**4**	**3**
Lack of input	**5**	**6**	**5**	**2**
Limited credit	**5**	**6**	**8**	**1**
Food insecurity	**4**	**7**	**8**	**1**
Low soil fertility	**4**	**7**	**4**	**3**
Lack of water for livestock	**2**	**8**	**2**	**4**
Marketing	**1**	**9**	**1**	**5**
Lack of land	**0**	**10**	**0**	**6**

Source: Yanda et al. (2004)

3.0 PROPOSED LIVELIHOOD ACTIVITIES PER OPTION

Although the majority of the people living in the Nile Basin depend on agriculture for their livelihood, it is wise to propose both farm and non-farm income generating activities that with sustain their livelihood. Table 2 provide a nutshell of the list of activities to be considered during the implementation of the power projects in different areas.

Table 2: A sample of proposed list of livelihood activities to be promoted in the basin

Power option	Farm related	Non- Farm related
Hydropower projects	• Sustainable agriculture • Sustainable livestock keeping • Sustainable fishing • Silviculture • Flowers production (non food crops) • Improve marketing of crops • Introduce cash crops	• Employments • Promotion of cottage industries • Small scale processing • Promote ecotourism • Promote small scale mining activities • Improve health, education, communication network systems • Improve credit facilities • Improve marketing of
Diesel Power Plants and other power options	• Small scale irrigation using water from shallow wells, charcoal dams • Sustainable livestock farming • Silviculture (fish ponds) • Bee keeping	• Employments • Promotion of cottage industries • Small scale processing • Promote cotourism • Promote small scale mining activities • Improve health, education,

		communication network systems • Improve credit facilities

The list provided above is not exhaustive but provide a picture of what needs to be considered during the implementation of power projects. It should however be realised that the kind of livelihood activity to be implemented depends upon several factors ranging from political, environmental and social.

4.0 ENSURING LIVELIHOOD SUSTAINABILITY

Many multi-lateral, bi-lateral, and non-governmental agencies believe that using a sustainable livelihood is a sensible and practical way of thinking about planning and implementing development. The UK Department for International Development (DFID) was one of the first proponents of SL approach. Some issues that need to be considered in order to have a sustainable livelihood strategy includes;

- Understand some key problems affecting people's livelihood in the basin. These can be social, cultural, political and environmental related problems,
- Allow people to rank these problems at their own thinking,
- Select relevant strategies that are implementable and integrate these into the project
- Allow people to evaluate the impact of implemented livelihood strategy.

This will make the local community feel that the livelihood being implemented is their own property. In other words, top down approach should not have a room if sustainable livelihood is to be attained.

5.0 CONCLUSIONS

Agriculture and livestock keeping are major social economic activities for the majority of rural people living in the Nile Basin countries. The current agricultural and livestock keeping practices are constrained by several factors ranging from socio-economical, environmental, political, technological and cultural and these hinder the development of agriculture and livestock. Energy is also one of the major constrain which affects both farm and non-farm livelihood strategies. Addressing the energy problem in the Nile Basin is one of solution to poverty alleviation due to the fact that power and power sources such as dams can be used for multipurpose activities. For sustainability of different livelihood activities, a participatory planning of macro and micro power projects is necessary if poverty eradication is to be achieved. Finally, for sustainable running of power projects, the economy of the people need to raised because this will attract more people to use power and pay as required.

REFERENCE

Cooksey, Brian and Servacius Likwelile (2002). "Poverty research in Tanzania: Guidelines for preparing research proposals" REPOA Special Paper, No. 12, Dar es Salaam: Mkuki na Nyota Publishers.

Davies, Rick (1997). "Beyond Wealth Ranking: The Democratic Definition and Measurement of Poverty" A briefing note prepared for the ODI Workshop *Indicators of Poverty: Operational Significance*, held in London, on 8 October 1997. (available at http://www.mande.co.uk/doc/democrat/htm).

Mtatifikolo, F.P. (1994), "*Implications of public policies on poverty alleviation: The case of Tanzania*", **REPOA Special Papers**, No. 4.

Robert, C and Gordon, C. (1991). Sustainable Rural Livelihoods: Practical Concepts for the 21st Century. Institute of Development Studies UK. **ISBN:**0-903715-58-9.

United Republic of Tanzania - URT (2000). *Poverty Reduction Strategy Paper (PRSP)*, Dar es Salaam: Government Printers.

Yanda, P.Z and Majule, A.E. (2004). Baseline Studies on Socio Economic and Cultural Aspects On The Mara River Basin. Consultant Report submitted to World Wide Fund for Nature (WWP) Dar es Salaam, Tanzania.

Yanda, P.Z., Majule, A.E and Mwakaje, AG. (2005). Wetland Utilisation, Poverty Alleviation and Environmental Conservation in Semi Arid Areas of Tanzania – *The Case of Singida and Dodoma Regions.* Research Report Submitted to Research on Poverty Alleviation (REPOA), organisation, Tanzania.

Section 5: Resettlement Issues in Relation to Power and Hydropower Projects in the Nile Basin

(Dr. Ndalahwa F. Madulu)

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Abstract:

There has been a rapid increase in water use conflicts in many parts of the world. Access to water, equity are becoming issues of major concerns around the world. The purpose of this paper is to assess the resettlement issues as related to the development of hydropower projects in the Nile Basin. The Nile Basin countries have identified hydropower plants as one way of meeting the energy needs for economical development in the region. Construction of hydropower dams has revealed many socio-economic and environmental problems. Observations from hydropower project in Tanzania and elsewhere demonstrate that although hydropower projects stimulate socio-economic development both at the local and national levels; community issues have largely been ignored. Understand and respect to the people's socio-cultural attachments to land is important issues which could contribute to sustainability. Over time there has been increased emphasize on the link between hydropower provision on the one hand, and ecological and environmental protection, and ensuring socio-economic development on the other. The major obstacles, however, has been inadequate attention to institutional dynamics, demographic change, resettlement issues, incentives to the end uses, and consumers demand. This paper has attempted to discuss these linkages and recommend for establishing of machinery for informing and consulting local people in order to reconcile differences between project management and local communities' interests and needs. The paper concluded by emphasizing that despite the importance of hydropower projects, it is important to ensure that the local communities benefit from the projects. This is important because local communities bear the risks and many lasting social and environmental implications. While resettlement is unavoidable, the social and cultural inheritance of local people needs to be respected. It is important to ensure that all stakeholders become advocates and supporters of the NBI hydropower projects rather than opponent or enemies who might sabotage the project from time to time. Recognizing the local communities' entitlements and the importance of sharing benefits, the paper suggests the use of mutually agreed

mitigation measures in order to ensure public trust and confidence among all stakeholders. Deliberate efforts to harmonize local communities' needs and interests to NBI objectives and strategies need to be put in place.

1. Introduction

A close to 70,000 people were affected by the Urrá Dam in Columbia, including people and peasant communities living upstream from the dam site; peasant and fishing communities of the lower Sinú River, and the indigenous peoples located downstream. The 73-foot-high dam, which blocks the upper Sinú River, flooded 7,400 hectares of tropical rainforest. …. Construction of the project's access road began in 1979 "the road brought rapid colonization, diminishing of the fauna due to hunting and chainsaws; and everybody began to compete for lumber cutting. People began to abandon the traditional economy and values in exchange for an economy dependent on lumber cutting and money. This has been a very painful process as it has also originated internal conflicts in the community." When the Emberas took their case to the Constitutional Court, Colombia's highest judicial court decided in their favor, forcing the government and company to negotiate with them over their losses. …. On April 19, 2000, an agreement was signed which was to have guaranteed that steps be taken to ensure the survival and well-being of the Embera (World RiversReview, Volume 16,Number 4 / August 2001).

There has been a rapid increase in water use conflicts in many parts of the world. Access to water, equity and the response to the growing needs are among the major concerns of the world community todate. This affects relations within and between nations; urban and rural populations; upstream and downstream users; between various interest groups (agricultural, industrial, pastoral, and domestic sectors; and between human water needs and the requirements of the environment. In Tanzania, for example, increasing conflicts have been reported in the Usangu plains between irrigated agriculture and pastoralism on the one hand, and irrigation and hydropower production on the other. In the Kihansi River basin, conflicts have been noted between hydropower production and biodiversity conservation (Madulu, 2003).

The demand for water has been growing rapidly in response to increasing populations and diversifying economies. The implications from these changes include the depletion of ground water resources, declining water quality, and increasing surface water extraction has brought sustainable water resource management to the top of the global development agenda. Although increasing competition for water suggests an expanding scope for conflict, it also provides an incentive for new forms of cooperation and innovation.

Hydropower plants provide approximately one fifth of global electricity supply. Around a third of the countries in the world rely on hydropower for more than half of their electricity needs. Between 1973 and 1996, hydropower generation in developing countries grew from 29 to 50 percent of world production. Many of hydropower projects focus on the construction of dams of various sizes. In many cases, construction of large dams as well as hydropower stations has revealed many socio-economic and environmental problems including increased water resource use conflicts. Such situations call for a closer analysis of the pros and cons of large dams and hydropower as the best and affordable option to provision of electricity to the rural and urban poor.

The major obstacles that hinder dam projects include inadequate attention to the institutional dynamics, demographic change, resettlement issues, incentives to the end uses, and consumers demand. In addition to these obstacles, limited attention was paid in the past to environmental and ecological impacts and to the damages caused by hydropower development to river basins eco-

systems. No attention was also put on the socio-economic and cultural issues of the population inhabiting the river basins where the dams were constructed. Indigenous people's lives were largely affected by the projects.

The communities in dam vicinities are engaged in various socio-economic activities for their day to day living. Some of these activities are environmentally unfriendly. To ensure sustainability of the hydropower projects, the local communities need to be committed to maintain a healthy environment and to sustainably use a wide range of natural resources in their environment. Such communities need to be facilitated in their efforts to lay out a range of measures for management, control and development of the natural resources in general; and water in particular.

There is evidence of increased awareness in recent decades that emphasize on preservation of eco-systems, and protection of the environment at local, regional and global levels, and the need to ensure that socio-economic development is pursued in a socially and culturally responsible and environmentally sustainable manner. For example, The National Environmental Management Council (NEMC) established Environmental Impact Assessment Guidelines and Procedures since 1997 to guide developers carry out development projects in an environmentally responsible way (NEMC, 1998). These Guidelines and Procedures hold particular importance because they have addressed issues of public participation and access to information in environmental decision-making processes in respect of projects with likely environmental impacts.

The Nile Basin countries have identified the development of hydropower plants as one way of meeting the energy needs for economical development in the region. It is estimated that nearly 80% of the people in the Nile Basin countries currently have no access to modern energy services. The lack of access to reliable power has an impact on both socio-economic and industrial development. There are also social risks associated with the development of hydropower plants in the Nile Basin.

The purpose of this paper is to assess the resettlement issues as related to the development of hydropower plants in general. It is assumed that this paper will open discussion of all the options and alternatives that could ensure that the local communities live in harmony with the power development projects in the respective areas. The paper will also provide a learning experience for the various stakeholders on the issues and approaches relevant to resettlement issues that they could be integrated into power and power connection projects currently under preparation.

2. Population Dynamics and Settlement Patterns

Migration of population is largely influenced by pull and push factors that operate in areas of origin and destination (Lee, 1966). In most cases, however, migration is influenced by economic factors. It has been observed that establishment of development and resource extraction project like roads, railways, mining activities, industries and hydropower projects play a role of pull factors to influence migration and eventually rapid population growth (Madulu, 1998; 2003).

The proposed project is likely to stimulate rapid population growth and expansion of settlements, and thereby demanding more land. To what extent do the existing land tenure systems flexible enough to accommodate the in-migrating population? What would be the social, economic,

cultural, and demographic implications? These questions justifies the need for a study to get a better understanding of the situation on the ground and assessment the potential impact of migration to the existing population and natural resources consumption in the project areas. Evidence from hydropower projects areas the like Mtera, Kidatu, Nyumba ya Mungu and Kihansi in Tanzania have indicated that opening up of an area for hydropower production often attracts migrants, hence, stimulate rapid population growth (Madulu, 2002**).**

It is also important to examine the age and sex distribution of the population and whether the existing patterns are common to all project areas in the Nile Basin. This assessment would assist to assess the implications of population dynamics on the project. Population structure is largely determined by age and sex distribution. The populations in the project areas are dominated by young people, reflecting a high growth momentum in the near future. There is need therefore to assess the current population characteristics and project the potential impacts and future implication in terms of natural resource use and management in the project areas.

During the dam construction period, rural to rural migration would be anticipated. Experience from the Kihansi projects indicate that some migrants started moving into the proposed project areas even before the project implementation start (Mung'ong'o, 2002). The opening up of the Nile Basin by construction of hydropower dams including access roads would encourage migration, specifically in search for employment in the construction sites and for provision of various services to the construction workers. From the Kihansi Hydropower Project it was importation of migrant labour and stimulation of rural-rural migration into construction sites were observed (Kiwasila, 1997; Madulu, 1998). The influx of people in the project area stimulates rapid population increase and changes in the population size and structure as observed in Table 1.

Table 1: Population distribution by villages (1978 -1997)

Village	Population			Growth rates[20]	
	1978	1988	1997	78/88	88/97
1. Igeleke	1200	1734	2494*	3.7	4.2
2. Kibengu	1676	2273	2635	3.1	3.4
3. Ilogombe	886	1151	1630	2.7	3.9
4. Mwatasi	2289	3092	3190	3.1	0.3
5. Nyawegete[21]	-	1308	1455	-	1.2
6. Masisiwe	2496	1508	1689	-4.9	1.3
7. Mbawi[22]	-	2023	2186	-	0.9
8. B-ng'ombe	3103	4248	6371	3.2	4.6
9. Ng'ingula	2128	1579	2025	-2.9	2.8
10. Kipanga	2194	2372	2569*	0.8	0.9
11. Ihimbo	1269	2031	1790	4.8	-1.4
12. Uhafiwa	913	1106	1260	1.9	1.5
13. Mapanda	2278	3293	3821	3.8	1.7
14. Ukami	2035	1734	2494*	-2.6	4.8

[20]Based on the assumption that the 1997 village population records were correct.

[21]During the 1978 census, Nyawegete was a sub-village of Ng'ingula village.

[22]This was a sub-village of Masisiwe village during the 1978 census.

Total	22467	29287	35510	2.7	2.2

Source: Madulu (2003), Survey data (1997). Note: Figure marked "" are estimates.*

The data in the table demonstrate that villages that are close to the dam site and those which had construction workers' camps experienced rapid population growth due to influx of migrants. Such changes may have implications on the natural resource use and environmental management in the project area. Similar demographic changes could be anticipated in the NBI hydropower project areas during project implementation. There is therefore need to assess the population dynamics in the project areas in order to predict the magnitude of future migrations on the basis of the current causes of migration (i.e. the push and pull factors).

Rapid population growth in the hydropower development areas increases resource depletion, threatening sustainability of available natural resources to a certain extent. The hydropower construction activities require a huge labour force drawn from within and outside the catchment areas. Such migrant population have adverse impact on the local communities' lifestyle as they interact and impose new demands and requirements including food, water, fuel wood, housing, social services, sexuality, and drinking habits. The abrupt change in village population may affect the socio-cultural values of the local communities and might stimulate sexual activities and prostitution in the areas. It is important to understand the anticipated health risks that might emerge due to migration. Prostitution, both formal and informal, might increase in the nearby villages due to the influx of migrant workers and in some cases fishermen.

Hydropower projects do have impacts on settlements patterns. There are many villages that are located close to the proposed project sites. Such villages are officially registered and have permanent settlements. There are people who claim ownership of the land in the projects areas. The implementation of hydropower projects in such areas would probably increase the tension between the project management and the local population, hence, necessitate resettlement and compensation. In many cases resettlement has been used as a strategy to reduce conflicts between hydropower projects and settlements (TANESCO, 1998a).

According to Mungóngó (2002), local people normally go to work in the proposed dam site in the Ruhudji basin. This behaviour is a demonstration of dissatisfaction with the decision to evict people from their land (Madulu, 2002). There is a notable tendency of people to migrate back to the old settlements, necessitating establishment of a new sub-village around the abandoned old settlements (Yanda et.al., 2002). The current situation in the Ruhudji basin demonstrates the prevailing customary land tenure systems which is contrary to the picture depicted from the EIA recommendations (Mungóng'o, 2002). The return of people and the claim of ownership of the land demonstrate a potential conflict area which would increases the tension between the project and the local population.

Both population dynamics and settlement patterns have impacts on the environment. Rapid population growth leads to increased demand for natural resources, land use conflicts and unsustainable resource use within the catchments. The implications of such impacts on the flow of the river may affect the project's sustainability. Changes in settlement patterns also have an impact on land use in the catchments. Land use conflicts such as expansion of settlements in agricultural

and grazing areas, and deforestation are eminent. Settlement expansion requires more resources from the catchment and could lead to deforestation. The implications of such conflicts on the environment when combined with rapid population growth need to be established.

As the hydropower projects develop in the Nile Basin, we should expect significant impacts on the settlement patterns and population dynamics. Observations from Kihansi in Tanzania has documented the return of people into areas which they were removed during the villagization programme increasing cultivated area and the potential burden to the project through compensations (Madulu, 1998). The opening of the study area for hydropower production stimulated in-migration, hence, rapid population growth. The implication of this trend to the project includes competition for land, land use conflicts, environmental degradation, and increased demand for water. To what extent would these changes affect the proposed project is a question of further investigation.

3. Assessment of Socio-Cultural Risks of Hydropower Projects

Risks assessment involves the advantages and disadvantages that the people would have in relation to the establishment of the hydropower projects under the NBI. Rights and risks, therefore, need to be identified and addressed explicitly. Risk assessment of the hydropower projects could contribute to the understanding of local people's and stakeholders' perceptions of the project. It would also allow for identification of the worries and fears that might act as killing factors to the project. This understanding is intended to improve project success and minimize conflicts. Risk assessment in the Nile Basin could be done thought involvement of all stakeholders at community level in the identification of risks and potential mitigation measures. Stakeholders involve all those who would be directly or indirectly affected by the projects.

The implementation of the hydropower projects comprises five salient stages; namely: construction of access road; construction of a storage dam; construction and installation of power plant; election of transmission line; and construction of a tunnel for channelling water to the power plant. Each of these stages have specific socio-economic, ecological and bio-diversity risks on human and biological resources. The effects could be manifested directly through habitat destruction, resettlement of population, and improved access which stimulate population migration; and indirectly through induced economic activities and livelihood changes. It is important to note that the risks and socio-economic and cultural impacts of the hydropower projects would not only affect the core area[23], but also the peripheral areas.

Ehrlich and Ehrlich (1990) argued that the linkage between population, environment, and natural resources exploitation is demonstrated by the association between consumption, technology used, and population. Population produces a driver's force to environmental change, and in turn, the changing environment transforms the population characteristics and dynamics in terms of its socio-economic development, health status, and the general social wellbeing. In other words, the population receives the forces from the changed environment and reacts accordingly.

[23] Core areas mean areas that have direct impact from the hydropower project. These include the whole catchment area upstream and downstream of the dam.

Experiences from the Kihansi hydropower project in Mufindi District seem to suggest that conflict and social transformation at local level emerge when the project construction starts to materialize (Madulu, 1998). Though operating in different situations, the Kihansi experiences could be used as a learning ground for the hydropower projects in the Nile basin because there are similarities especially in the socio-cultural and environmental implications. The major similarities will be on culture of the local population and on the fear of losing land when the project implementation starts. Basing on consultations with different stakeholders, the need to describe the main concerns of the local population and other stakeholders regarding risks of the project is eminent. From literature, the major risks anticipated as a result of the implementation of hydropower projects include the following:

3.1. Loss of land and land tenure issues:

The socio-economic trends in the Nile Basin are to a large extent a function of the interplay between the physical landscape and human activities. Landscape shapes not only man's use of the land but also influences land use activities that shape the landscape in turn. In turn, the use of the land is determined by the tenure system operating in the area. In other words, land tenure system has an influence on the landscape. There is scanty information so far on the linkages between land tenure and landscape on the proposed project sites. To understand the linkages, and more important to explore the potential impact of land tenure systems to the sustainability of the proposed hydropower projects, it is important to initiate studies in this field. Issues to be investigated include:

- Procedures of acquiring and disposing land.
- Proportions of land owned by individuals, community, village government, and institutions (churches and schools).
- The extent of land scarcity is in the local community
- Suitability of the land to agricultural production and settlement.

The proposed projects are likely to place demand for land from the surrounding villages. Part of the land that will be claimed by the project is under use by the villagers. This will eventually lead to loss of farmland, and therefore necessitating compensation. Unless the land tenure system in the area is known (ownership, acquisition and disposal procedures) there will be difficulties in compensating the local people. Furthermore a clear understanding of the land tenure system operating in the area will make it easy to allocate and reallocate land for different uses.

The implementation of the hydropower projects in the Nile basin would influence loss of land especially in the valley bottoms and along transmission lines. To deal with this issue, there is need for a closer look into the socio-cultural settings and land tenure systems in the area. The main argument here is that while the local population have no documented evidence for their ownership of land, the hydropower projects will eventually obtain legal status for the areas under the project. If that is the case, the local people would definitely lose their traditional control over that land. That means the loss of land to the local population is eminent. In the Kihansi catchment area, for example, local people use the valleys bottoms *(vinyungu)* for dry season cultivation (Madulu, 1998).

The Tanzania Electricity Supply Company (TANESCO) estimated that about 1.3km² of the proposed reservoir area was previously used for dry season cultivation (TANESCO, 1998a). The inundation of land and the alteration of riverine ecosystem affect the land size and related resources available to the local population and their productive activities. Moreover, the implementation of hydropower projects affect downstream rice cultivation and fishing activities as less water flows down within the river regime due to damming (Madulu, 2003).

3.2. Socio-economic and cultural impacts:

Among the major worries of hydropower projects, is the uncertainty of having economic benefit or kickback effects from the project extended to peripheral villages. Being far from the immediate impact zone, residents of the periphery villages are neglected despite of their valuable contribution to the conservation and protection of the environment and water sources flowing into the main rivers. Evidence from peripheral villages surrounding existing hydropower dams (e.g. Mtera, Kidatu, and Kihansi) demonstrate clearly that promises that were made during feasibility and construction phases are rarely adhered to by the hydropower management (Madulu, 2003).

The sustainability of hydropower projects requires concerted efforts and cooperation of all stakeholders, including those from peripheral villages. It is likely that the migrant population who increases the burden on the existing social services including schools and health facilities, especially during the construction periods originate from those peripheral settlements. Such a change increases the pressure and congestion in the available social services. To limit or even reduce such in-migration trends, there is need to extend at least limited services to the peripheral villages. In other words, peripheral villages should also be considered as stakeholders and beneficiaries of the hydropower projects.

The opening of the catchments to migrants not only increases the burden on the existing water resources, but also increases crime incidences in the project area and surrounding villages. Other risks from migrant population include cultural transformation, marriage breakdown, and other socio-cultural malpractice like theft, adultery and alcoholism (Kiwasila, 1997). This implies that hydropower projects come with a risk of losing social cohesion within the local communities residing around construction sites. This risk could lead to social disharmony and lack of security, necessitating establishment of more police posts in the villages.

3.3. Health and Socio-cultural Risks:

The abrupt change in village population affects the socio-cultural values of the local communities, and stimulates more sexual activities and prostitution in the areas. The anticipated health risks include increased malaria infection, water-borne diseases, and STI incidences including HIV/AIDS. Prostitution, both formal and informal, is expected to increase when hydropower projects are initiated. The majority of the migrant labourer migrate without their sexual partners, hence increases the chances for sexual partner sharing in the nearby villages. This situation increases the health risks especially STIs, unwanted pregnancies, and marriage breakdowns. In the Lower Kihansi Hydroelectric project in Tanzania, the implementation of a public health component of the environmental management plan helped to decrease prevalence of HIV by 50% in the targeted group versus the non-targeted group after eight years of implementation (Mercier, 2003).

In many cases, existing health facilities are overloaded as more and more migrant workers and their families come into the construction areas. Such situations necessitate construction of new health facilities or expansion of existing facilities to cope with the increasing demand (Yanda et al, 2002). Mercier (2003) reported that large infrastructure construction works presents specific health risks generated by the sudden surge in human presence from migratory workers and because of the intrinsic health and safety hazards associated with construction. The observed health risks might necessitate concerted education campaigns which should be integrated within the project implementation plans from the early start to the end of the project.

3.4. Destruction of properties and transport networks:

The implementation of hydropower projects necessitates destruction of property in some case due to inundation. The destruction of property and resources could include loss of land used for wet and dry season cultivation, some woodlots, and road networks and bridges (TANESCO, 1998a; Yanda et.al. 2002). The loss of these valuable properties would affect the people's wellbeing, hence, need immediate remedial measures. Since the construction of hydropower projects takes long period to complete, various activities at the local level would probably affect the environments of the local population. For example, the destruction of road networks makes communication between villages difficult. This obstacle would need immediate attention and planning because they would have significant implications to the local population's socio-economic development.

The implementation of the hydropower projects also involves construction of access roads to the dam, tailrace outlet, switchyard and power station. While construction of access roads ease transport in the project area, it contributes to land loss in all villages where the road passes (TANESCO, 1998b; Yanda et. al., 2002). The construction of access roads accelerates migration, hence, increasing population pressure over the land and other natural resources. Further, the roads increase access to markets, therefore stimulating diversified agricultural activities and change in agricultural production system in the catchment areas.

The mere opening up of an area by ensuring reliable transport networks is a sufficient reason to justify future demographic change and mobility. One should note that economic reasons play the most important role in facilitating migration (Lee, 1969). In many hydropower project areas population movements is basically determined by economic reasons and would be prevail as long as the economic opportunities persist. Such economic opportunities include employment, business, and diversified agricultural undertakings.

3.5. The transmission line:

Among the main risks of hydropower projects is the problem of compensation to villagers' properties in areas earmarked for the election of transmission lines which in many cases, pass through people's farms and destroy people's properties. The laying of transmission lines necessitates compensation to the affected people. It entails resettlement of the population in some cases. It should be noted that the New Village Land Act (URT, 1999) gives value to the land, hence, the affected people need to be compensated in accordance with the operating market value of the land in question. In the past, only people's properties qualified for compensation, excluding land which was considered to be the government property. This might not be the case for the

hydropower projects planned by NBI because serious consideration is needed to put the land issue into the compensation formula. This issue needs very careful analysis before actions are taken to avoid corruption practices in the compensation exercise.

3.6. Use of explosives:

The question of supply and storage of explosives is another potential source of risk to the local population. This might cause accidents especially when rocks are being blasted using the heavy duty explosives. The blasting might also affect the housing structures by causing clacks on the walls.

3.7. Ecological Impacts:

Dams might have widespread and far-reaching ecological impacts due to the blocking the rivers, resulting into a series of terrestrial, aquatic and riparian impacts that not only affect ecosystems and biodiversity downstream, but also have serious consequences on the people's livelihoods. One of the ecological impacts of hydropower projects is the potential loss of grasslands and forests in areas that are sub-merged by water. Some of these areas are used for grazing purposes. The loss of pasture land could also be facilitated by agricultural expansion when some people are resettled from the hydropower project areas.

A baseline study for the proposed Ruhudji River Hydropower project indicated that about 13.5 km² of land and about 7 km² of the montane grassland will inundated when the reservoir is constructed, and about 15 km of free flowing aquatic environments will be lost by inundation, affecting the fish and other tree species that are specific to the area (TANESCO, 1998a). Experience from the Kihansi Hydropower Project has shown an increased global concern on biodiversity conservation whenever hydropower projects are initiated (IRA, 2001). In the Ruhudji area, for example, there are evidences of wildlife crossing the river in search of foliage close to Zanziberi, the proposed dam site. The construction of the dam may block the wildlife migratory routes and affect the wildlife habitat. Given the expected impacts on the ecosystem, there is need for undertaking a post-mortem to observe the overlooked ecological aspects of hydropower projects.

It should also be noted that a number of common property resources such as grazing land, woodlots and forest plantations are largely being affected when a hydropower project is put in place. Moreover, many hydropower projects tend to dry the rivers between the dam intake and the tailrace outlet. The drying of the rivers could also have environmental and biodiversity implications.

3.8. Pollution:

As population increases due to migration, there are possibilities of adopting intensive agriculture which demand the use of chemical fertilizers, especially when changes from traditional small-scale production to commercial land use practices occur. Such practices could lead to water pollution as surface runoffs could flow back into the dam and rivers. The anticipated changes in land and water uses could influence the downstream water quality due to increased use of fertilizers, pesticides and herbicides. Construction of hydropower projects needs a lot of machinery and a significant

amount of rock wastes are produced during construction. The disposal of rock materials seems to have environmental and biodiversity implications.

3.9. Loss of archaeological sites:

Archaeological studies have demonstrated areas of significant archaeological importance within the areas identified for hydropower project development. Some of the areas like the Ruhudji and Kihansi basins seem to have been exposed to intensive resource use in the past due to iron smelting activities (Yanda et.al., 2002). There is a potential for the hydropower projects to accelerate the destruction of such archaeological sites. Similarly there is a risk of losing areas of cultural importance like sacred sites, artefacts and historical buildings, burial sites and architectural elements. Destruction of important archaeological and sacred sites in the proposed dam sites could necessitate mitigation measures prior to project implementation.

*3.*10. Food security and nutritional status*:*

The construction of dams would also inundate some ritual sites that have remained intact for many years. There is also a risk related to food insecurity. Given the areas covered with water after dam construction, there seem to be much destruction of community productive bases like dry season cultivation plots along the river vallies. The denudation of such plots which contribute to the household food basket could give rise to food shortages. Though this is not a major threat, it could be accelerated as the demand for foodstuff increases in the hydropower project area largely due to migration.

4. Observations

Observations from other hydropower project areas in Tanzania and elsewhere, demonstrate that hydropower projects acts as stimulus for socio-economic development both at the local and national levels. However, worldwide assessment has shown a critical need for improving human welfare and environmentally sustainability in all hydropower projects (WCD, 2000). This situation calls for consideration of the human, biophysical, and environmental factors that could result into serious conflicts between local communities and hydropower project developers on the one hand, and between the local people themselves on the other

4.1. The Land Question and Resettlement Strategies

Assessment of rights and risk of stakeholders in any hydropower project aims at ensuring sustainable development. A close analyses studies done in many of the hydropower project areas in Tanzania seem to suggest that community issues have not been well addressed or have been ignored (TANESCO, 1998a).

One needs to understand and consider the people's socio-cultural attachment to land and the traditional land tenure systems. It should also be noted that, the presence of uncultivated land in an areas proposed for hydropower development does not necessarily mean that the land is not owned. The piece of land in question could be under long fallow, maintained as sacred area for

worshipping, has archaeological importance, or could be owned as a common property resource. Land containing ancestral graves would remain important to the local communities even if the physical landmarks have disappeared (Madulu, 2002).

The assumption that land which is sparsely populated or uncultivated belongs to nobody and poses no threat to resettlement and compensation could be misleading and conceal a number of factual observations. Such views give a wrong impression and could lead to serious conflicts between developers and local communities.

> *The World Bank has been the largest single source of funds for large dam construction worldwide. Under its stated aim of alleviating poverty, it has promoted and funded dams that have displaced more than 10 million people from their homes and land, caused severe environmental damage, and pushed borrowers further into debt (WCD, 1999)*

The New Land Act (URT, 1999) puts a value to land and recognizes the traditional land tenure systems. The hydropower projects initiated by the NBI would operate under conditions of the New Land Act (URT, 1999) that recognizes compensation to land as a valuable commodity (Madulu, 2002). In order to solve land conflicts and management issues, it is advisable to make a closer look into the new Land Act (URT, 1999) and see whether such land falls in a no-man's land, and does not deserve compensation. Mung'ong'o (2002) reported presence of sacred graves that are illustrated by small pockets of montane forests that are left as scared areas. Other items that might be jeopardized include different materials like availability of wild fruits and vegetables, woodlots and grazing areas. All these aspects need to be included in the compensation equation. What is important here is to listen and analyze the local population claims and grievances and search for appropriate mitigation measures to implement.

Generally, the assessment of the impacts of hydropower projects on resettlement issues need to be based on facts that consider socio-cultural and economic aspects of the local population. First, it is important to note that the implementation of the projects would influence changes in population size and would affect the day-to-day lifestyle of the local communities. Second, the risks of the local population would, not only originate from the loss of properties, but also from potential changes livelihood patterns and way of life. Third, the compensation procedures laid down in the Land Acquisition Act of 1967 specifies criteria for compensation for lost land and property. These procedures seem to lack a human face. Fourth, the New Land Act (URT, 1999) would be a best tool to assist in dealing with compensation issues. The return of people to their ancestral land might be a relevant risk to the hydropower projects in solving emerging land use conflicts. Evidence from the Kihansi Hydropower Project has shown that the people moving back to their ancestral land, often claim compensation when they see new developments taking place (Kiwasila, 1997; Madulu, 1998).

4.2. What should be done?

There are issues that the hydropower managers and project implementers in the Nile Basin need to address. These issues include:

- Establishing of machinery for informing and consulting local people at an early stage in the project cycles. This effort would assist to reconcile differences between the project management and governments on the one hand, and local communities and other stakeholders on the other.

- There is also need for better flow of information between the project management and the local people even during the exploratory studies. This issue would assist to educate the local communities and avoid taking them into the project implementation stage by surprise.
- Through local community involvement at all stages, areas of natural habitats that have important biological, archaeological, socio-cultural, economic value would be identified early and remedial measures put in place in well advance.
- Compensation of various properties and community owned facilities could be effected through strengthening local authorities and administration to provide social and administrative services.

It is obvious that the implementation of the hydropower projects in the Nile Basin would impose new demands on the local government bodies. These demands would be evident in the realms of planning, taxation, policing, judiciary, education, health, sanitation and water supply. To facilitate smooth implementation of the hydropower projects, efforts need to be done to support the respective local governments to strengthen their capacities to provide the necessary services to the local communities and project staff. The local government could be involved in making decisions regarding changes in land ownership and location of socio-economic facilities. Actually, local government have a statutory planning role in all significant developments occurring in their areas of influence.

5. Conclusion and Recommendation

Despite the importance of hydropower projects to the national and local economies, it is important to ensure that the local communities in the project area also benefit from the projects. This is important because the local communities are the ones who bear the risks and socio-cultural costs. The decision to dam a river, for example, would have many lasting social and environmental implications to the local population. Experiences from Tanzania have shown that hydropower projects neglect the local community needs and responsibilities. This situation is even worse when the local communities are resettled somewhere else. The number of villages which have been supplied with electricity, for example, is very limited regardless of their importance in sustainable management and conservation of water resources in the respective basins. In some areas, even the manual and/or untrained labourers who work in hydropower projects are imported from other areas, denying employment opportunity to the local population. This should not be the case for the hydropower projects envisaged by the NBI in order to capture support from the local population.

This paper has made an attempt to explore a number of issues that might operate as killing factors to the hydropower projects in the NBI if no mitigation measures are timely put into effect. The success of hydropower projects would largely depend on local communities' perception of the projects. It has been observed that the most notable risk of local communities it is *the fear of losing land*. This needs immediate and deliberate strategies to address it. While resettlement is unavoidable in many cases, the social and cultural inheritance of these people should be respected. Measures to mobilize and educate local communities in sustainable resource utilization and management need a renewed thrust. This strategy will ensure people's participation in the implementation of the hydropower project in the Nile basin. Local communities need to be considered to be important shareholders of the hydropower projects both in the sustainable management of water resources and in the sharing the benefits of the projects. In other words, local communities should be treated as potential collaborators who have a stake in the costs and benefits of the projects.

The study has also noted the potential for rapid population increase in the hydropower project areas. This should be taken as a potential threat to resources availability and their sustainable use. High population growth would emanate from both natural increase and migration depending on the nature and type of social economic changes that would take place in the catchments. The NBI is advised to devise measures and strategies that would ensure a close monitoring of population migration in the respective catchments. Minimal social services could be developed in all catchments/core villages and in some of the peripheral

villages. This strategy would help to filter migrants and spread the impacts of population pressure over a wider area, hence, reduce the severity of the risks to specific locations.

Recognizing the local communities' entitlements and the importance of sharing benefits through joint negotiations, the paper suggests the use of mutually agreed and legally enforceable mitigation measures. Ensuring public trust and confidence among all stakeholders requires commitments to the common goal of ensuring sustainability. Efforts should be made to ensure compliance with applicable regulations, criteria and guidelines at all stages of the project implementation. It is important to ensure that all stakeholders, including local communities in particular, become advocates and supporters of the NBI hydropower projects rather than being looked as opponent or enemies who might sabotage the project from time to time.. Deliberate attempt to educate villagers about the NBI objectives and strategies to harmonize local communities' needs and interests to that of the NBI need to be put in place. This could be facilitated by employing participatory approaches and by allowing local communities to define their priorities and development needs and develop strategies to attain them.

6. References

Ehrlich, P.R. and A.H. Ehrlich (1990), *The Population Explosion*, Simon and Schuster, New York.

Goldsmith, E and Hildyard, N (1973) The Social and Environmental Effects of Large Dams. Volume 1: Overview. Wade Bridge Ecological Center.

IRA (2001) Kihansi Area Conservation Plan. Inception Report. A report prepared for NORPLAN Tanzania.

Kim, M.A. (2001) Colombian Indigenous Dam Activist Kidnapped, World RiversReview, Volume 16,Number 4 / August 2001.

Kiwasila, H (1997). H.L (1997), A Socio-economic Study for the Lower Kihansi Hydropower Station. A reconnaissance study in three catchment Villages in Mapanda ward. A report to CMP.

Lee, E.S. (1966), A Theory of Migration, Demography, Vol. 71 No. 2 pp. 219-249.

Madulu, N.F. (1998), Main Socio-Economic Study for Kihansi River Catchment Management Plan. IRTA/CST98.1

Madulu, N.F. (2002), Rights and Risk Assessment Study, Swedpower/Ruhudji Hydropower Investigation Studies

Madulu, N.F. (2003), *Socio-Economic Assessment of Water Needs Use in the Upper Kihansi River*, in WARFSA/WATERNET (2003), Proceedings of the 4th WaterNet/Warfsa Symposium on "Water, Science, Technology & Policy Convergence and Action by All", Gaborone, 15-17 October 2003 (pp. 175-183).

Mercier, J.R. (2003) Health impact assessment in international development assistance: the World Bank experience. *Bull World Health Organ*, 2003, vol.81, no.6, p.461-462. ISSN 0042-9686.

Mungóngó, C.G. (2002), In Yanda, P. et. al. (eds.), Man and Landscape in the Ruhudji, Proceeding of a Workshop to Formulate Research Agenda, Workshop organized by the Institute of Resource Assessment, National Museum of Tanzania and Department of Earth Sciences (Uppsala University).

NEMC (1998) Tanzania Environmental Impact Assessment Procedures and Guidelines: Draft Guidelines, Dar es Salaam.

TANESCO (1998a), Tanzania Power IV Project Feasibility Studies for Hydropower Project: Ruhudji Hydropower Project: Environmental and Social Impact Assessment, Final Report, , SwedPower/NorConsult.

TANESCO (1998b), Tanzania Power IV Project Feasibility Studies for Hydropower Project: Ruhudji Hydropower Project, Final Report, Vol. RUH. 1, SwedPower/NorConsult.

United Republic of Tanzania (1999) The New Land Act, Government Printers, Dar es Salaam.

Yanda, P., Stromquist, L., Majule., D. Mwamfupe (2002), Man and Landscape in the Ruhudji (2002) Proceeding of a Workshop to Formulate Research Agenda. Proceeding of a Workshop to Formulate Research Agenda. Workshop organized by the Institute of Resource Assessment, National Museum of Tanzania and Department of Earth Sciences (Uppsala University), (In press).

World Commission on Dams (1999) The World Bank's Legacy: $75 billion has funded misery and destruction worldwide, A Press Reliese, http://www.irn.org/wcd/wcdbriefing.pdf

World Commission on Dams (2000), Dams and Development: A New Framework for Decision Making, The Report of the World Commission on Dams, Earthscan, London and Sterling, VA, (http://damsreport.org/docs/report/wcdreport.pdf).

Appendix A: Participants' expectations

:

Define the roles and responsibilities of various stakeholders in the power industry.

How to cultivate confidence and support for regional power trade from all stakeholders.

Understand steps taken to get maximum participation of all stakeholders.

How to ensure stakeholder involvement does not derail what otherwise a beneficial project.

What are the scientific methods, if any, that are globally accepted to assess whether stakeholders' involvement has been successfully carried out and that it was not just a public relations exercise?

What areas should be explored to enable the building of confidence?

What are the major roles of players in the building of confidence?

Who are the major stakeholders and what are their roles?

Why the Project is named CBSI?

Provide strategies to ensure contributions of power projects towards poverty alleviation.

Issues of resettlements in relation to power projects are clearly addressed.

Improved understanding of the social impacts of energy demand.

Sharing experiences with power experts from different countries in the basin.

Recognition the importance and role of the stakeholders.

How to address social problems through consultation with the local people.

Understanding the relationship between consumer element and willingness to pay.

Understanding the relationship between poverty and energy.

How to close the gap between the rich and the poor towards poverty alleviation.

How to produce enough energy in order to provide the energy for many people.

Appendix B: Challenges and Possible Solutions

Challenges	Possible solutions
• How to identify segregated consumer groups/Selection approach. • Political interference • Inadequate number of organised consumer groups. • Level of knowledge/understanding. • Apathy about government projects. • Suspicion on use of information • Reliability of the information given. • History of unfulfilled expectations/Reputation of earlier studies. • Anticipated project benefits • Commercialisation of giving information. • Exaggeration of what the consumers have in order to influence the project. • Over-justification of the need of the project. • Limited resources (financial, human and time) to capture consumers' view.	• Thorough analysis of consumers • Seek secondary data to verify claims. • Interview more consumers • Simplify the questions • Give the consumers an assurance • Clear explanation on the use of information. • Help create ownership/benefits • Scaling down the results • Devise cheaper means

Appendix C:

Stakeholder Analysis of Electricity Tariff Setting Process in ShangriLa

Background

1. ShangriLa is a country with a population of 11 million. It has a relatively high level of electricity coverage (50%) compared to its neighbors, but the quality of electricity supply has declined in recent years, particularly in the urban centers in the South of the country. This has translated into frequent blackouts and brownouts. It has a dam which has been run down in recent years to very low levels, in part in response to the demand from its growing urban population for inexpensive sources of electricity. The dam has been run down to such low levels, that it is not clear if it will recover and as a result the country is increasingly reliant on thermal energy sources which are more expensive. As a result, the Government has committed to undertaking tariff reform to keep pace with thermal prices. Complicating issues is a large foreign factory that had a long-term contract for electricity at rates well below the consumer rate. The factory has threatened to close if its low-rate does not continue in a new agreement.

Identification, Profiling and Analysis of Key Stakeholders

2. Stakeholder analysis can assess the formal role, interest, degree of influence and level of organization of stakeholder institutions. Its purpose is to understand how the actors involved in making or influencing policy affect the outcomes of the policy. It can also gauge incentives for individuals within institutions, that influence how policies are implemented in practice. For example, while the formal incentives for a utility may be to provide the best service to all customers at the lowest price, individual incentives within an organization may differ and tend to affect how a given reform is translated into reality.

3. Figure 3.5 and 3.6 provide a graphic illustration of the influence various stakeholders have on tariff reform (specifically increasing tariffs to cover costs), as well as their degree of support or opposition to tariff increases. The electricity distribution company, the electricity generating company, the Ministry of Finance and some development partners are the main proponents of tariff reform in ShangriLa. Recent tariff increases were viewed as imperative due to the rising cost of generation, caused largely by the rising proportion of thermal power in the generation mix and the need to expand supplies to meet growing demand and political objectives of expanding access.

Although both electricity regulator (PURC) and the government acknowledge that tariffs must be rationalized to economic and cost-reflective levels, concerns about the likely impact of tariff reforms on end-users have led to some resistance from these two major stakeholders against the steep increases in tariffs proposed by the utilities.

4. Further, some groups of consumers have more direct influence over reform because they have power and are well organized – high consumption industrial customers for example because they generate a significant share of the utilities' revenue. The power generating company has historically been perhaps the most influential stakeholder in tariff reform because it proposes the initial tariffs which form the basis for subsequent negotiations, was able to bypass the Ministry of Energy and report directly to the President, and generated substantial foreign exchange from sales to the large foreign factory. As the percentage of the electricity generator's revenues from the large foreign factory and thus foreign exchange have decreased, it has seen the personal emoluments accorded to its staff decrease, and thus has pushed harder to recover costs from other areas such as consumer tariffs.

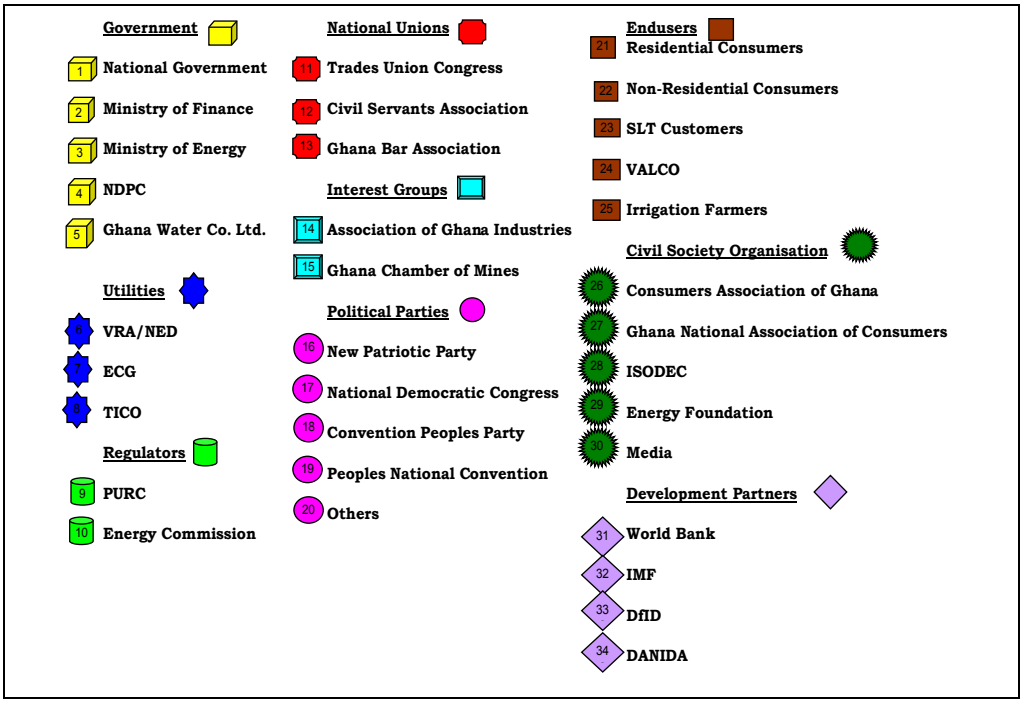

Figure 0-5: Key **Stakeholders in Tariff Setting Process**

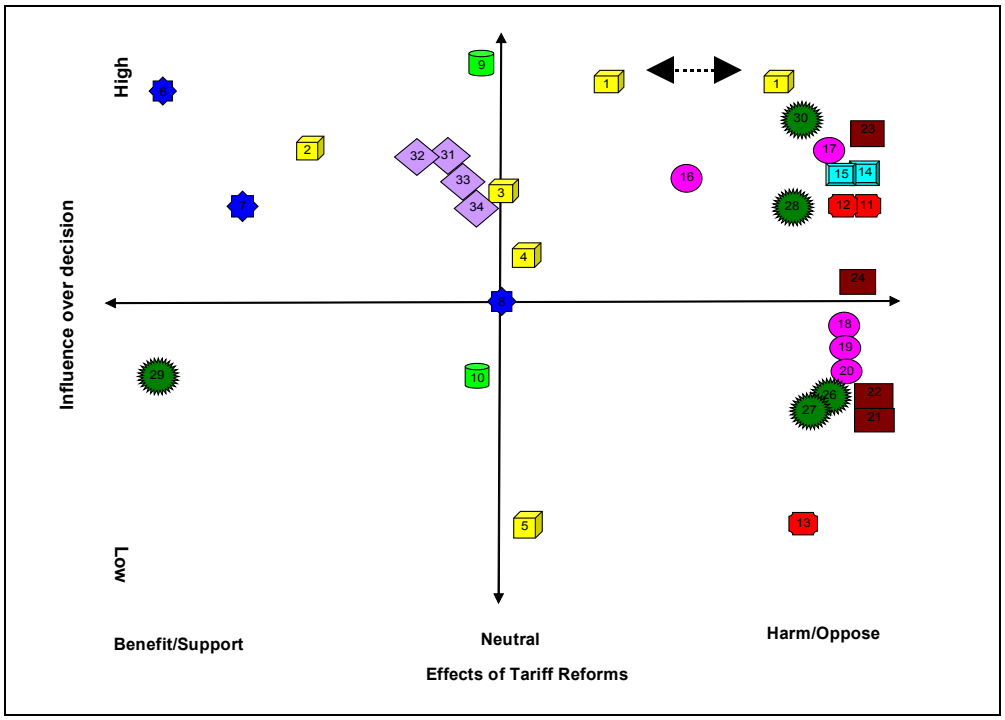

Figure 0-6: Interests and Influence of Key Stakeholders in Tariff Reform

5. More dispersed customers – such as residential customers - have less direct influence over tariff reform in between electoral periods. Their primary avenue of influence stems from their votes around electoral periods. As a result, the central government (number 1 in the Figure) tends to move away from tariff increases close to electoral periods, or may try to influence the regulator, who remains dependent on the Government for the majority of its operating budget, to delay increases. The perceptions of these less organized consumers are heavily influenced through the media, and in particular through the large number of FM radio stations. Among the residential consumers, it is important to note that the majority fall within the middle tariff band (50 – 300 kWh) which currently pays tariffs below average cost. These are also likely to represent the bulk of voters in densely populated urban areas who may therefore have a fair degree of influence in voting. Alternative avenues of influence consist of only two consumer associations with a small staff and low level of funding who therefore only have a limited power, though they do represent consumers at PURC public hearings.

6. Opposition political parties, unions, and associations have often vehemently opposed tariff increases in the public press. Three groups that have had a fair degree of influence over the public discourse on tariffs are the Civil Servants Association which has branches in all regional capitals, the Association of Ghana Industries which has the clout of the large industrial consumers behind it, and the Trades Union Congress, which has a membership of 600,000. This contrasts with both the consumer organizations, and with the group for which there is no formal representation – rural consumers both on and off grid. Resources going into electricity sector losses could equally be used to make energy more available – in a variety of forms – for those consumers who do not have

access in rural areas. However, at present the decisions on keeping tariffs low for existing customers are influenced by these interest groups that are both organized and influential.

7. Although opposition to tariff increases has often been vocal, tariffs have nonetheless continued a gradual climb to cost recovery levels. It should be noted that symbols are based on a qualitative ranking emerging from a review of documents and interviews; they are projected relative to each other. Annex 4 contains a summary table detailing the profile of all the stakeholders involved in the rate setting process.

8. Based on discussions with staff of ECG at various levels, two factors may influence the degree to which local staff implement the move towards greater cost recovery; first, some staff felt that they were working for VRA because they viewed VRA's tariffs as increasing faster than ECGs; second, with the exception of rural collectors, front-line staff only feel the brunt of tariff increases through more angry customers, more illegal connections and higher arrears. As their remuneration is not directly tied to collection rates, higher tariffs only mean more work for them. Changes in incentive structures couples with further income analysis to determine whether tariffs are too high as a percentage of income could address this issue.

9. The stakeholder analysis thus highlights the importance of supporting organizations that allow for less well organized stakeholders (rural consumers, residential consumers, those not yet connected) to have a say in the tariff policy process. This includes support for consumer organizations to ensure that the more powerful and organized groups are balanced by those who may be less visible, but equally affected by the policy. Further, the media and FM radio stations in particular play a critical role in shaping the policy debate. Hopes of achieving a better popular understanding of the rationale behind tariff policy can only be attained by working through the media network Finally, as the incentives and accountability of the government owned utilities are not clear, they tend to have a non-commercial culture which can inhibit their efficient collection of revenues.

10. Finally, tension exists between political incentives and the incentives of a commercially-oriented utility for the following reason. The capital costs of system expansion can be substantial. The way to ensure the greatest returns from those costs (even if they are in grant form from donors) is to maximize the density of connections rather than spreading connections over broader physical or regional areas. This also reduces costs of service provision and maintenance for the distribution utility. However, through the SHEP program, the political incentive and the incentives inherent in poverty alleviation targets, is to extend electricity to as many communities as possible – rather than to concentrate the density of currently connected communities. This means that while access is increasing, it is largely to increasingly low consumption dispersed customers. This leads to a trend described elsewhere in this report of new consumers being lower consumption (lifeline), more rural, and potentially more dispersed than existing customers. Even now, this creates upward pressure on tariffs for other categories of consumers and increases in cross-subsidies. Such tension may become more explicit as the electricity sector further commercialises its operations.

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