

COMMUNITY ENVIRONMENTAL ASSESSMENT IN RURAL KENYA –
DECISION MAKING FOR A SUSTAINABLE FUTURE

By

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A thesis to be submitted to the Faculty of Graduate Studies in
partial fulfillment of the requirement for the degree of

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Abstract

Community Environmental Assessment (CEA) involves the adaptation of traditional Environmental Impact Assessment (EIA) practice to include various approaches to assessing development and utilizes more adaptive tools for involving the public and for facilitating the assessment of small local projects. Such local approaches to EIA have developed over the past decade or so as part of the shift in international development work toward more bottom-up approaches to development.

This research explored CEA processes that had been undertaken in rural Kenya using a qualitative multi-case study approach. Two CEAs conducted for rural water supply projects were chosen as detailed case studies for this research – Mwasima Nuru and Chumvi. The Mwasima Nuru project was constructed to meet the water needs of 12 small communities in the Taita Hills region of eastern Kenya and the CEA had been conducted one and a half years prior to this research. In contrast, the Chumvi CEA was conducted just months before the research and the project, located on the western slopes of Mt. Kenya, had yet to begin construction.

Semi-structured interviews, through the help of local interpreters, were undertaken with community CEA participants as well as non-participants. Participants were asked to reflect on their involvement in CEA activities and what changes in thinking and behaviour developed as a result. Non-participants were given an opportunity to share indirect experiences they had with the CEA process. Along with these community interviews, professional interviews and document reviews were conducted in order to determine opportunities for increased community benefits and future advancement in CEA practice.

In terms of process, findings indicated that while CEA process excelled in areas such as the setting for CEA activities and PRA methodology (transect walks, community mapping, & informal interviews), it faltered in others. Giving appropriate notice to communities, the high cost of assessments, the way in which results were presented back to communities, the consideration of project alternatives, and training opportunities for community members all presented themselves as weaknesses in the CEA processes considered.

Outcomes were also considered against the backdrop of transformative learning theory – a comprehensive theory of how adults learn. The research revealed that CEA participants learned much, in terms of instrumental learning, such as gaining new information and skills in regards to soil erosion, tree planting, and pipeline maintenance. In contrast, few participants reported communicative learning outcomes. Those who did described how their understanding and behaviours changed in regards to issues such as environmental sustainability, creation stewardship, and group unity. These outcomes might be based in part on the fact that CEA processes were found to be geared more towards facilitating instrumental, as opposed to communicative, learning outcomes.

Finally, recommendations are put forth to give future CEA practitioners guidance on how CEA processes may be improved in order to better meet the needs of rural Kenyan communities. Eleven key points for consideration are outlined which highlight a number of strategies that aim at improving community participation and learning. The recommendations include: using alternative community representatives to enter a community, minimize donor perception of the CEA team, establishing a price for the use of traditional knowledge, giving adequate notice to participants, inviting youth & women,

obtaining a commitment from community participants to inform the larger public, application of learning methods to small group work, build political capabilities, ensure management capabilities, incorporate mitigation measures in funding requirements, and providing a pictographic representation of the CEA report.

Rural Kenyans will benefit from the implementation of such recommendations through being empowered to take a more central role in decision making processes that affect their communities. Such adaptations to CEA process should lead to more democratic decisions and should enhance the environmental sustainability of small scale community projects enabling local peoples to more readily combat poverty.

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Table of Contents

Abstract	i
Acknowledgements	iv
List of Tables	viii
List of Figures	viii
List of Plates	viii
Glossary of Terms	ix
CHAPTER 1: Introduction	1
1.1 Background	1
1.2 Purpose & Objectives	4
1.3 Research Design and Methods	5
1.4 Justification for Research	6
1.5 Organization	6
CHAPTER 2: Community Environmental Assessment and the Role of Learning and Participation	7
2.1 Improving Rural Development	7
2.1.1 Overview	7
2.1.2 Local Participation in Decision Making	8
2.1.2.1 Participatory Methods	12
2.2 Environmental Impact Assessment	14
2.2.1 Overview	14
2.2.2 EIA and Local Participation	17
2.2.3 Community Environmental Assessment	20
2.2.3.1 Definition	20
2.2.3.2 Characteristics	21
2.2.3.3 Potential problems	22
2.2.3.4 Examples	24
2.3 The Role of Learning	27
2.3.1 Overview	27
2.3.2 Transformative Learning	28
2.3.3 Transformative Learning in EIA	31
2.3.4 Cross Cultural Applicability	32
2.4 Experiences in Kenya	32
2.5 Framework for Evaluation	35
2.6 Summary	35
CHAPTER 3: Research Design and Methods	36
3.1 Introduction	36
3.2 Qualitative Research	36
3.3 Case Study Approach	37
3.4 Research Methods	37
3.4.1 Sources of Data Collection	38
3.4.1.1 Semi-structured Interviews	39
3.4.1.2 Document Reviews	41
3.4.1.3 Participant Observation	41
3.5 Threats to Validity	42

3.6 Data Analysis.....	43
CHAPTER 4: Outcomes in Community Environmental Assessment Processes	45
4.1 Community CEA Profiles.....	46
4.1.1 Mwasima Nuru CEA.....	46
4.1.2 Chumvi CEA.....	50
4.2 CEA Process.....	52
4.2.1 Notice.....	52
4.2.2 Participation.....	54
4.2.2.1 Representation.....	54
4.2.2.2 PRA Activities.....	57
4.2.2.3 Enjoyment.....	60
4.2.2.4 Empowerment.....	62
4.2.3 Accessing the Report.....	64
4.2.4 Mitigation Measures and Management.....	66
4.3 Learning in CEA Processes.....	69
4.3.1 Instrumental Learning.....	69
4.3.2 Communicative Learning.....	72
4.3.3 Other Educational Opportunities.....	74
4.3.4 Teaching Others in the Community.....	77
4.4 Benefits and Barriers of CEA.....	79
4.4.1 Barriers.....	79
4.4.2 Benefits.....	81
4.5 Summary.....	84
CHAPTER 5: Evaluating Community Environmental Assessment	88
5.1 CEA Practice.....	88
5.1.1 Adequate Notice.....	88
5.1.2 CEA Facilitators.....	89
5.1.3 The Value of Participation.....	92
5.1.3.1 Representation.....	92
5.1.3.2 Using Traditional Knowledge.....	96
5.1.3.3 Empowering Communities.....	98
5.1.3.4 Reaching Expectations.....	102
5.2 Improving Learning Outcomes.....	104
5.2.1 Instrumental vs Communicative Learning.....	104
5.2.2 Building on Past Experience.....	111
5.2.3 Improving Outcomes for Non-Participants.....	112
5.3 Barriers to CEA.....	113
5.3.1 The Cost of Participation.....	114
5.3.2 Limited Resources.....	116
5.3.3 Management Capabilities & Expertise.....	118
5.3.4 Donors and Visitors.....	119
5.3.5 Government and Politics.....	121
5.3.6 Community Profile: Tungu Kabiri.....	122
5.4 Summary.....	127
CHAPTER 6: A Path Forward.....	128
6.1 Strengths and Weaknesses of CEA.....	129

6.1.1 Strengths	130
6.1.1.1 Setting	130
6.1.1.2 PRA tools	131
6.1.1.3 Instrumental Learning	132
6.1.2 Weaknesses	132
6.1.2.1 Notice	132
6.1.2.2 Cost	133
6.1.2.3 Representation	133
6.1.2.4 Considering Alternatives	134
6.1.2.5 Training	135
6.1.2.6 Communicative Learning	136
6.2 Considerations for Community Involvement in CEA	138
6.2.1 Uninformed Participants	138
6.2.2 Minimal Representation	138
6.3 Learning Outcomes of CEA Processes	139
6.3.1 Instrumental Learning	139
6.3.2 Communicative Learning	140
6.4 Test New Approaches to Participation and Learning	141
6.5 Recommendations	141
6.5.1 Alternative Community Representatives	142
6.5.2 Minimize Donor Perception	143
6.5.3 Price for Traditional Knowledge	144
6.5.4 Adequate Notice	145
6.5.5 Inviting Youth and Women	146
6.5.6 Commitment from Participants	148
6.5.7 Small Group Work	149
6.5.8 Build Political Capabilities	150
6.5.9 Ensure Management Capabilities	151
6.5.10 Incorporate Mitigation Measures	152
6.5.11 Pictographic Presentation	153
6.6 Final Thoughts	154
References	156
Appendix A: Research Schedule	164
Appendix B: Community Interview Schedules	165
Appendix C: Professional Interview Schedule	170

List of Tables

Table 1: Community Interview Distribution.....	38
Table 2: CEA Instrumental Learning Outcomes	70
Table 3: CEA Report Card on Mezirow's (1994) Discourse Conditions.....	105
Table 4: Strengths & Weaknesses of CEA Processes.....	129
Table 5: CEA Recommendations.....	142

List of Figures

Figure 1: Kenya Map	49
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List of Plates

Plate 1: View from Mwazima Nuru water storage tank (overlooking Singila).....	49
Plate 2: Chumvi Landscape showing evidence of erosion and deforestation.....	51
Plate 3: Grass planted in Msisinenyi <i>shamba</i> to protect land from soil erosion.....	76
Plate 4: Tungu Kabiri Micro-Hydro Project Site.....	126
Plate 5: Tungu Kabiri center receiving electricity	126
Plate 6: Mwasima Nuru pipe damaged due to improper installation/protection	137
Plate 7: Mwasima Nuru pipe exposed due to soil erosion.....	137

Glossary of Terms

ACK	Anglican Church of Kenya
CEA	Community Environmental Assessment
CIDA	Canadian International Development Agency
EIA/EA	Environmental Impact Assessment/Environmental Assessment
EMP	Environmental Management Plan
FFS	Farmer Field School
NEMA	National Environmental Management Authority of Kenya
NGO	Non-Governmental Organization
PCCS	Pwani Christian Community Services
PMC	Project Management Committee
PRA	Participatory Rural Appraisal
RRA	Rapid Rural Appraisal
<i>shamba</i>	Swahili for <i>farm</i>
UN	United Nations
WRMA	Water Resources Management Authority of Kenya

CHAPTER 1: Introduction

1.1 Background

Development work and its relationship to environmental priorities has been a major topic of concern to conscientious global citizens and in turn to funding organizations. Over the years a number of approaches to development have emerged ranging from viewing rural communities as 'backward' to an appreciation of the need for community values and knowledge in decision making (Ellis, 2001). In the past, development work has relied on transferring knowledge and financial resources in order to better the lives of those less fortunate than people living in developed countries. However, progress in developing countries in alleviating poverty through such development approaches has proven difficult (Janvry, 2005). A participatory approach to development work has been suggested as a response to top down approaches due to the realization that community knowledge is much more valuable than originally thought (Chambers, 1994). While participation allows for local communities to become empowered, it also provides a check for development organizations so that they are held accountable for their actions (Williams, 2004). It has been argued that in order for developed nations to effectively provide lasting development opportunities, the values and knowledge of the local people must be understood and utilized (Eversole, 2005; Meredith, 1992).

The United Nations has also recognized a fundamental need for a community participatory approach to development that recognizes the importance of local input.

Section 10.5(d) of Agenda 21 the objectives from the Earth Summit at Rio read:

To create mechanisms to facilitate the active involvement and participation of all concerned, particularly communities and people at the local level, in decision-making on land use and management, by not later than 1996 (United Nations, 1993)

This example illustrates how, at an international level, community involvement in development projects is viewed as being crucial to success in future projects. This thinking is consistent with much of the research that has followed (Chambers, 1994; Davidson-Hunt, 2007; Holte-McKenzie, 2006; Janvry, 2005; Muraya, 2006; OECD, 1996).

The World Bank has also expressed its desire to adopt a community based approach. In a piece specific to a Sub-Saharan African context, the World Bank (2000, line 13) states that an objective for strengthening community participation is to allow community members to, “identify what incremental resources are needed and organize themselves to try and mobilize these resources”.

Kenya has experienced great benefit from the work of development organizations for many years. The vast number of rural communities and the willingness on behalf of the Kenyan government to allow development organizations into their country has provided ideal conditions for numerous development activities. However, as previously described, the common top-down approach towards development has not always been effective. In Kenya there has also been a realization of the importance of incorporating community driven objectives and values into development activities in order to provide longer lasting results and more sustainable projects. Examples of development activities and research in Kenya that have been driven with a community focus include, land use (Campbell, 2000), food security (Sutherland, 1999), natural resources (Lado, 2004), housing (Muraya, 2006), and health care (Maalim, 2006). However, there is still much to be learned about this relatively new approach since trials are still very recent.

As the research that Lado (2004) points out, this community based approach has proven successful in natural resource management. Environmental sustainability is critical to the long term health of projects and local environments when dealing with resource management. Therefore the participatory approach to development must incorporate environmental sustainability. It is also seen in cases where development is needed that there is often a link between poverty and environmental degradation (CIDA, 2005). This is not to say that poverty leads to environmental degradation, however, “the two are interrelated” and “poor populations are often the most effected” (CIDA, 2005, p. 1). Impoverished communities then must be informed on the importance of sustainability when making decisions in regards to resource based projects.

Community environmental assessment (CEA) in particular has formed out of the need to incorporate communities into development decision making and to provide a link to environmental sustainability. CEA is a framework that integrates thought from both community development and environmental assessment (Spaling, 2003). It combines characteristics from each to provide useful guidance in achieving environmental and development goals that are community driven. By doing so the community develops a capacity to independently manage their resources (Spaling) leading to a greater sense of confidence and self-reliance.

Participation is a key component of CEA. In this context participation is more than just being involved in the sharing or the receiving of knowledge from an elite set of agencies (Harrison, 2002). The community enters into a relationship where its participation involves the generation of knowledge (Davidson –Hunt, 2007) and where its values and needs help set the direction for an environmental impact assessment. This

type of participation enables a community to take on more responsibility while the role of the development worker fades (OECD, 1996).

Further, if community participation is to be meaningful, a pathway must be created for learning to occur among participants (Beekes, 2006). This learning is critical in developing capacity in communities to conduct environmental impact assessments and to ensure that the social dimensions of sustainability are achieved. Some researchers are now considering the individual learning that occurs through involvement in resource and environmental decision making by applying transformative learning theory (Fitzpatrick & Sinclair, 2003; Sinclair & Diduck, 2001). This theory has been applied to EIA processes to determine what learning outcomes are produced through participation and if such learning contributes to sustainable development. Such work has stressed the importance of community participation in order to achieve sustainable outcomes. This type of community interaction with the EIA process is central to the CEA framework.

1.2 Purpose & Objectives

The purpose of this research was to explore the role of participation and learning in community environmental assessment processes in rural Kenya.

The following objectives guided the research:

1. Determine strengths and weaknesses of CEA processes
2. Establish key considerations for community involvement in CEA
3. Explore the learning outcomes of CEA processes
4. To test new approaches to participation and learning in CEA

1.3 Research Design and Methods

A qualitative research approach, as described by Creswell (2003), was utilized in gathering data in order to explore the stated objectives. This approach was used due to the fact that in order to meet the research objectives more subjective and experienced based information would be required of research participants. As well, due to the emergent nature of CEA it seemed appropriate to use this approach. In addition, this research used a participatory approach to gathering data.

The strategy for inquiry in this research was a case study. A multiple case study, as opposed to a single case, approach was used to gather the appropriate data. Criteria were developed to help guide the process for choosing ideal sites to serve the research objectives. In addition, decisions on specific sites for the research were made in cooperation with my supervisor, advisory committee and local groups.

Specific methods applied included semi-structured interviews, document reviews (Creswell, 2003), and participant observation. Document reviews as well as interviews with staff from development agencies were used to gather information on how participation and learning were facilitated in the CEA process. Community members were also asked to give an autobiographical account of their experiences with CEA. As well participant observation was used to help determine effects of learning outcomes. Participant observation is one of many tools in the Participatory Rural Appraisal (PRA) toolbox as described by Chambers (1994). This set of tools has been popularized due to the realization that local people serve as the ideal source of knowledge when dealing with issues directly affecting their communities (Maalim, 2006). These methods will be described in detail in chapter 3.

1.4 Justification for Research

The research aimed to improve community presence in decision making processes and to contribute valuable knowledge to the CEA approach and how it progresses in the future as trends in development activity continue to become increasingly bottom-up. By focusing on participation and learning, key components of the process may become more clearly defined for EIA and other development workers. It is hoped that rural Kenyans will benefit most from this research as increased participation will empower them to organize themselves and the way they manage their natural resources. As well, by defining outcomes of learning, clarity will be brought to ideal conditions for effective learning to occur in the CEA context. The learning that occurs will allow rural communities to develop a capacity for self sufficiency in managing other natural resources within their realm of influence. Positive outcomes of this research will therefore be seen within the approach taken by development organizations as they facilitate CEAs, and in turn, for rural Kenyan communities as they are further empowered by this approach.

1.5 Organization

This thesis is organized into 6 chapters. Following the Introduction, chapter 2 presents relevant literature to the research objectives. Chapter 3 offers a detailed account of the research methodology adopted. Chapter 4 presents the results of this research followed by a discussion of these findings in chapter 5. Chapter 6 concludes by presenting conclusions and recommendations.

CHAPTER 2: Community Environmental Assessment and the Role of Learning and Participation

2.1 Improving Rural Development

2.1.1 Overview

Over the past number of years international rural development work has seen numerous trends (Ellis & Biggs, 2001). Throughout the 1950's an emphasis was placed on top-down approaches (Ellis & Biggs) where large funding bodies set development goals for rural communities. Although a transition to more bottom-up approaches has been seen in various projects, the top-down approach is still prevalent (Ellis & Biggs).

Ellis and Biggs (2001) conducted a research overview of over 50 years of development experience to chart trends. In the early 1960's the first challenge to the traditional community development approach was staged when the small farm was acknowledged as a key building block to effective progress (Ellis & Biggs). This acknowledgement emphasized the importance of the rural farmer in providing an economic base for a developing nation. Furthermore, this new emphasis on the rural farmer opened up doors to a participatory model for development work during the 1980's and 1990's (Ellis & Biggs).

The focus placed on the rural farmer realigned development agencies resulting in efforts to better meet rural community needs and thus attempting to minimize the amount of urban migration taking place in many developing nations. This urban migration had resulted for a number of reasons including: acceptance of welfare transfers, diversifying income by urban employment, and a lack of suitable resources in rural areas (Janvry, 2005). Welfare transfers served as a popular means for displacing poverty due to the ease of the method; however it was discovered that this method was ineffective in serving long

term needs of communities (Janvry, 2005). More effective methods were found by emphasizing income generation and social development through cooperative efforts with rural communities (Janvry, 2005; Harrison, 2002). Such efforts also focused on the need to transmit skills and self-reliance to local communities (Harrison, 2002). Cooperative action with indigenous peoples not only refocused efforts to more appropriate actions but built a capacity among locals to become more self reliant and minimize the role of the development worker (OECD, 1996).

Despite these espoused changes in development theory, it should be noted that in the early 1990's there still remained a top-down mindset in terms of how information was disseminated (Ellis & Biggs, 2001). Development workers still viewed themselves as an elite group that held necessary knowledge to alleviate poverty (Adomokai, 2004). It was not until development organizations adopted more participatory methods that included local people in the decision making process, that a truly 'bottom-up' approach to development began to evolve.

2.1.2 Local Participation in Decision Making

In part, due to the frustrations experienced by development organizations with top-down approaches, participatory approaches have been integrated into decision making processes (Harrison, 2002). For example Harrison (2002) notes that participation has, "evolved to address the perceived failure of development intervention and aid, blamed on a failure to transfer skills and responsibilities to local agencies" (p. 590). Janvry (2005) also notes that top-down development activities often settle for "easier" development tools as opposed to, "more difficult attempts at raising rural incomes through productive activities" (p. 78). Participatory approaches require that those with

power over the decision making process undergo a change of attitude with regards to the public by recognizing a need for their input (Harrison, 2002). A shift to this type of methodology has not been easy as there are many unknowns when reliance is placed upon 'non-professionals'. Proponents of many development projects have also expressed concern regarding the devolution of power (Adomokai, 2004). This concern is valid in that meaningful participation should consist of a power sharing relationship. Sherry Arnstein (1969), in her highly celebrated 'Ladder of Citizen Participation,' notes that the term 'citizen participation' is another way of portraying 'citizen power', which enables people to produce change. However, as Arnstein (1969) observes, there is such a thing as 'ritual participation' in which participants fail to be given any true power that affects final decisions. Likewise, Harrison (2002) notes that participatory language has become quite popular in terms of receiving funding for development projects, yet a gap exists between written policy and policy that is put into practice. When a participant finds himself or herself in this situation, where power is not properly equalized, the participant is left discouraged and powerless (Arnstein, 1969). Yet, when one is able to meaningfully participate, where power is appropriately devolved, there is great potential in the new collaborative decision making process.

Theoretically, participatory approaches share a commonality with what is called communicative rationality (Healey, 1997). Communicative rationality entails an acknowledgement of multiple ways of knowing, works to decentralize power and takes social interactions into account in hopes of relieving the distress of the oppressed (Healey). In the area of planning Herbert Gans argued, from a communicative

standpoint, that planners have “a moral responsibility to argue in favor of improving conditions for the disadvantaged” (Gans, 1969, as cited by Healey, 1997).

Essentially communicative rationality was a reaction to instrumental rationality (Healey, 1997) which dominated decision making in the modern epoch (Allmendinger, 2002). Instrumental rationality was born out of an age of scientific theory where this way of knowing came to dominate all other forms of knowledge (Allmendinger). Jürgen Habermas, the proponent of communicative theory, argued to push modernism ahead through supporting new forms of knowledge generation (Allmendinger). Communicative rationality can then be seen as the doorway to accepting a participatory approach, which leads to constructive dialogue and a breaking down of unequal power relationships (Allmendinger).

Public participation in decision making processes is one way of accepting and mediating other forms of knowledge. It recognizes that professionals do not always have the correct answers and additional input is needed to make informed decisions (Harrison, 2002). Communicative theorists saw experiential knowledge as being just as important as the data produced by elite scientists (Allmendinger, 2002). Traditional knowledge is one form of this experiential knowledge, although to date there is no agreed upon definition for the concept of traditional knowledge among those studying this broad topic (Berkes, 1999). One definition that has been used and seems to encapsulate the breadth of the concept has been offered by Owuor (2007) from research in Kenya:

Indigenous knowledge is a multifaceted bodies of knowledge, practices and representations that are maintained and developed by peoples with long histories of close interaction with the local environment (p. 23).

In a development context such knowledge is important in understanding the specific context of each community. This is seen in the fact that many indigenous communities have been interacting with the natural resources in their environment for many generations and have proven their ability to contain valuable knowledge (Harrison, 2002). Furthermore, they have proven themselves to be able to adapt to environmental changes through years of experience (Adomokai, 2004) which is an important aspect for development decisions.

Development work that has adopted a participatory approach has experienced value in incorporating local information with the western style scientific forms of data (Adomokai, 2004; Appiah, 2001; Lado, 2004; Homewood, 2004; Vanclay, 2003). For example, in a study by Lado (2004) in the Bungoma district of Kenya, local farmer's ethnobotanical knowledge was used to compliment scientific knowledge. Where the western style of classification for plants tends to class things morphologically, Kenyan communities rely more on metaphysical characteristics such as spiritual significance (Lado, 2004). Thus, by incorporating traditional knowledge into the classification system it was more likely that the indigenous people would better understand and use the management plan developed. Due to the fact that the plan would largely be maintained and monitored by indigenous people it made sense to develop the plan in this way. This approach led to a much stronger management plan that could be used by the community to reach sustainable development goals. Appiah-Opoku (2001) had similar findings in Ghana where local participation was quite helpful from the onset in identifying priorities through the implementation and monitoring phases of development projects. The Kenya Economic Pastoralist Development Association has also been successful in using

traditional knowledge in economic development. Through the integration of knowledge from Kenyan pastoralists with modern technical knowledge more sustainable pastoralism has been promoted leading to economic benefits for various pastoralist communities in the country (UNESCO, 2003). Similarly, the National Museums of Kenya incorporated such knowledge in their Indigenous Food Plants Programme in order to provide a database for indigenous food plants and nutritional values (UNESCO, 2003b). This aimed to combat poverty and increase the appeal of locally grown foods among indigenous peoples. These cases not only show the importance of a communicative rational, but also highlight the insufficiency of instrumental thought in community development.

2.1.2.1 Participatory Methods

To facilitate broader community involvement in development and development programs Participatory Rural Appraisal (PRA) research methods were designed and served as an additional challenge to the top-down mindset. Chambers (1994) describes these methods as those that “enable local people to share, enhance and analyze their knowledge of life and conditions, to plan and to act” (p. 953). This toolbox of methods consists of mapping, transect walks, participant observation and a number of others that allow a development worker to facilitate local people in expressing their knowledge (Chambers). The foundation in which PRA has been built upon stems from five fields of research: activist participatory research, agroecosystem analysis, applied anthropology, field research on farming systems, and rapid rural appraisal (Chambers). The PRA approach borrows specific philosophies and methods from each of these fields and has

itself come to include the following characteristics: activist in approach, appreciation of traditional knowledge, empowerment of locals, and cost effectiveness (Chambers).

Since their development in the late 1980's and the early 1990's PRA techniques have been used in many research and development projects. A.D. Maalim (2006), a researcher from Aga Khan University in Nairobi, Kenya used PRA methods in order to partner with Somalia nomadic peoples of northeastern Kenya in organizing nursing outposts. It was recognized that these people had specific knowledge necessary for the development process to be effective; as a result they were included in the entire process from start to finish (Maalim). Maalim facilitated the use of PRA techniques by the local people to generate seasonal calendars for diseases experienced throughout the year, relationship maps to understand community interactions, and maps to distinguish community movements throughout the seasons. The information generated was specific to the local people's knowledge and it allowed for the proper time, location and way in which medical services were provided.

A.J. Sutherland et al. (1999) used PRA tools in developing seasonal calendars for local people in Eastern Kenya. These calendars were put together in order to understand the available sources of food throughout the year so that efforts could be made to improve food security (Sutherland et al.). Holte-McKenzie et al. (2006) also used PRA tools to develop participatory monitoring and evaluation strategies with youth in Kenya. This was done in order to incorporate local knowledge and expertise in developing strategies to promote life skills in Kenyan youth. Again, we find that the participation of effected communities provides invaluable specific information that could not otherwise be obtained.

In addition to these various applications of PRA, these tools have also been applied to EIA in Africa. For example, Beebe (1995) gives a history of rapid rural appraisal techniques being used for gathering information in east African communities. These rapid rural appraisal techniques, as noted earlier, were building blocks for PRA tools which have then been adopted in EIA activities by various NGOs and researchers (SAIEA, 2005; Spaling, 2003).

Although there are many benefits to participatory approaches to development work, there still remains a large tendency to overlook the input of local communities altogether (Soini, 2001). Much of the reason for this is because of the elevated status that the western science approach has been given (Davidson-Hunt, 2007), which has been backed by an instrumental rationality (Allmendinger, 2002).

2.2 Environmental Impact Assessment

2.2.1 Overview

Environmental impact assessment (EIA) is a planning tool that serves as an important gateway for participatory decision making and sustainable development. EIA has its origins in the United States and was introduced through the National Environmental Policy Act (NEPA) of 1969 (McCaig, 2005). It has since become a major project development tool that has been adopted by countries all over the world (Sadler, 1996). In brief, EIA is, “a process for identifying and considering the impacts of an action” (Hanna, 2005, p. 3). It is part of a decision making process in which positive and negative impacts of a particular project are taken into account and potential alternatives are considered (OECD, 1992).

Since its beginning in 1969 EIA has come to encompass more than just natural environmental concerns. The World Health Assembly in 1982 recognized the importance that the environment had on human health and therefore promoted an integrated environmental impact assessment process which accounted for health impacts (McCaig, 2005). This integrated approach was further promoted by the 1987 Brundtland report, which saw the benefits in doing so for the sake of sustainable development goals (McCaig). Throughout the last 30 years EIA has come to incorporate many areas including the natural environment, human health, property, and social impacts (OECD, 1992). An inclusive definition of EIA has been offered by the International Association for Impact Assessment which defines it as “the process of identifying, predicting, evaluating and mitigating the biophysical, social, and other relevant effects of development proposals prior to major decisions being taken and commitments made” (Senécal, 1999).

Though many developing nations have adopted the use of EIA, the process of doing so has been very slow (Ebisemiju, 1993). Causes for this inhibition have been due to administrative, institutional and legislative deficiencies (Ebisemiju) primarily leading to problems during the screening, scoping, and monitoring phases of the EIA process (Paliwal, 2006). The research of Paliwal (2006) for example has outlined a number of weaknesses in EIA policy in India and suggested a number of needed improvements including: accountability from EIA experts/practitioners, proper management of baseline data, improvements to monitoring and implementation phases, capacity building of stakeholders, and overall inclusion of environmental concerns into policies. Kakonge (1993) has also reported on the difficulties that EIA has had in becoming accepted in

Africa. Many of the issues that arose in his research included similar items found by Paliwal as well as inadequate environmental legislation, shortage of qualified workers, and a shortage of financial resources. Additionally, numerous researchers have reported a lack of local participation as being a major deficiency to EIA policy in developing countries (Adomokai, 2004; Appiah, 2001; Chowdhury, 2006; Ebisemiju, 1993; Olokesusi, 1992; Pierce, 1990). Overall it has been noted that although developing countries are adopting EIA policies, there is still a divergence between accepted legislation and practice (Cherp, 2001; Ebisemiju, 1993).

While the governments of developing countries have struggled to make use of EIA procedures, project proponents and local indigenous people have also experienced difficulties. Many proponents have seen EIA as a barrier to rapid completion of projects as well as a source of increased costs (Meredith, 1992). While EIA has much to offer in terms of reaching sustainability goals, indigenous people commonly deal with issues of poverty and hunger, which often override concerns about the health of the natural environment (Adomokai, 2004).

Although there have been difficulties establishing EIA in developing nations, there have been improvements to development projects. Through her research on EIA in Dhaka slums, Chowdhury (2006) was able to demonstrate how infrastructure projects that underwent EIA processes showed considerable improvements compared to those that did not. The World Bank (1999) issued a review of EIAs conducted by the Bank in India from 1990 to 1997 and found that the quality of the EIAs gradually increased over time. After 20 years of experience in EIA, China also realized the value in conducting assessments and in 2003 new legislation was introduced in regards to strategic

environmental assessment in which EIA guidelines were incorporated into government plans and programs (Wang, 2003). As a result, after numerous positive reports such as these, international agencies have increasingly advocated for the use of EIAs in their internationally sponsored projects (Brown, 1996).

Brown (1996) contends that, in order to achieve better results in the developing world it is important to properly adapt EIAs to a developing world context. Brown (1996) and Spaling (2003) found that many developing nations have difficulty implementing EIA for the reasons already discussed, however primarily because EIA has developed from the social and political context of developed nations. From its foundations in NEPA, EIA has been promoted in order to achieve environmental integrity, but from the view of the developing world it has been seen as an “elitist attempt to force conservation measures on countries badly in need of economic development” (Brown, 1996, p. 495). While international organizations, such as the International Association for Impact Assessment (IAIA), have developed policies for EIA best practices (Senécal, 1999), these practices must be flexible enough to account for dramatically differing circumstances than those found in industrialized nations (Brown, 1996).

2.2.2 EIA and Local Participation

The ideal process of EIA is set up so that important considerations are taken into account prior to a decision being made on the acceptability of a specific project. That being said, by adopting a participatory approach to conducting EIAs, the public has much potential to impact project decisions. In fact, most EIA policies specifically state the importance of including the public in decision processes (CIDA, 2005; SAIEA, 2005;

Senécal, 1999; USAID, 2007). It should also be noted that in the original NEPA of the United States, public participation was outlined as a basic principle for conducting EIAs (Sadler, 1996). Fitzpatrick and Sinclair (2003) provide a list of key contributions of public participation to the EIA process (p. 161-162):

- accentuates the effectiveness of the EA process
- actualizes the principles of democracy
- ensures that the project meets the needs of the public in terms of both purpose and design
- assigns legitimacy to a project because the assessment process appears to be transparent
- provides avenues for conflict resolution for stakeholders
- provides a forum for the submission and inclusion of local knowledge in the EA decision
- provides for a more comprehensive consideration of factors on which decisions are based

From its birth EIA has stressed the importance of public participation; however there still remain a number of barriers that restrict public involvement. It has already been noted that public participation has been a major weakness for EIA implementation in developing countries (Adomokai, 2004; Appiah, 2001; Chowdhury, 2006; Ebisemiju, 1993; Olokesusi, 1992; Pierce, 1990). From a Canadian context Diduck and Sinclair (2002) also identified numerous barriers including: family pressures, work, inadequate notice, lack of funding, inaccessible information, technical language, and a forgone conclusion. In this research interviews were conducted with local people where a hog slaughter facility was established and an EIA was conducted. Although the research was conducted in this context, many of the conclusions can be applied to developing nations. Similar results, in regards to public barriers to participation, were also found in the research of Fitzpatrick and Sinclair (2003) in the assessment of the Sable Gas Panel Review which occurred in the Maritimes of Canada.

Proponents have a major role in relieving many of these barriers to participation. Armitage's (2005) work with collaborative EIAs in Canada's northern communities highlights that best practices are in close connection with effective communication strategies. If proponents can commit to properly communicating information then many of the barriers such as inadequate notice, inaccessible information, and technical language may be relieved (Diduck & Sinclair, 2002). Similarly Appiah's (2001) work in Ghana found that villagers were sensitive to many variables in the consultation phases of EIAs conducted. Suggestions made by his research included informing illiterate communities of important meetings and documents by word of mouth, timing public consultation meetings in a way that they do not conflict with harvesting seasons, and conducting meetings in close proximity to effected communities (Appiah). Yet the proponent must go further than merely sharing information properly, they must collaborate with the concerned public in a way that the goals and concerns for the project are agreed upon by all parties (Armitage, 2005).

The participatory approach to EIA processes must also include a balance in power. This balance of power must allow for meaningful participation by the participants so that their opinions are not only heard by proponents but are translated into development decisions. The concept of meaningful participation is crucial to participants as was found by Diduck and Sinclair (2002) when forgone conclusions were seen to be a major barrier to involvement in the EIA process. As well Kakonge (1993) found that some countries use EIA as a ceremonial process for projects that have already been approved. In such a context not only does EIA lose its purpose in the project development process, but participation is further hampered. Appiah (2001) notes, that an

effective EIA process requires local input in order to balance the proponent's own interests. This issue has critical implications in the context of international organizations that may have economic gains as a motive for development projects.

The importance of public participation cannot be understated. Numerous bodies such as legislators, NGOs and practitioners have emphasized its importance to the EIA process (Diduck & Sinclair, 2002). Effort must then be made to ensure that public participation is further developed in EIA thought.

2.2.3 Community Environmental Assessment

2.2.3.1 Definition

The concept of Community Environmental Assessment (CEA) evolved out of the necessity to adapt EIA to the needs of communities in the developing world, and was largely borne out of experiences in Africa. Spaling (2003) notes that CEA has primarily been born out of pragmatic necessity as opposed to a natural theoretical advancement in EIA thought since EIA has been imposed on community projects through government policies. Essentially CEA is the union of community development and EIA concepts and procedures (Spaling). Community development is a process in which local communities organize and provide for themselves the needed improvements for their way of life. Embedded in community thought are populist principles that promote self reliance, determination and empowerment of local peoples (Spaling). By combining such thought to the process of EIA, it could become a key venue for increasing the capacity of local communities to manage their own natural resources. In addition, the use of EIA by local communities has become a powerful tool for assessing the aggregate impact that households have had on environmental degradation (Spaling), thus leading to critical

environmental education. Spaling (2003) and CIDA (2005) have both emphasized the importance of the rural household unit as it not only stands to absorb the brunt of environmental problems, but also contains much potential in the way of solving these problems at the local level. CIDA (2005) goes further to explore the interrelated nature that poverty and environmental degradation have with each other and further expresses the need to develop an EIA process that is specific to numerous small scale projects in developing countries.

2.2.3.2 Characteristics

The CEA approach and application differs from traditional EIA in a number of ways including: project scale, methods used for data collection, and participation of effected stakeholders (Spaling & Vroom, 2007). The scale for which CEAs are most appropriate are small community projects (Spaling et al., 2001; Spaling, 2003; Spaling & Vroom, 2007). Since the application of CEA is conducive to local participation and deals with local resources, there is a lack of ability to deal with large mega-projects that necessitate more detailed analyses as well as cooperation with multiple local and governmental authorities (Spaling, 2003). Yet when properly applied, CEA serves as a timely and cost effective EIA method (Spaling, 2003).

Procedural methods used for data collection in CEA have largely been participatory rural appraisal (PRA) tools (Spaling & Vroom, 2007). PRA tools are adapted forms of the Rapid Rural Appraisal (RRA) technique in which traditional knowledge is extracted to be used for development work (Chambers, 1994). These tools are very much tailored for the context of CEA and serve as an important pathway for

traditional knowledge to be empowered to the point that it “may surpass scientific information in importance and use” (Spaling, 2003, p. 163).

While the inclusion of traditional knowledge is becoming more common to international EIAs, CEA goes beyond the mere use of traditional knowledge. CEA works to incorporate the cooperation of locals throughout the entire EIA process (Spaling, 2003; Spaling & Vroom, 2007; SAIEA, 2005). This amount of participation on behalf of the effected stakeholders places the development worker/NGO on a more level playing field in terms of power relations (SAIEA, 2005) resulting in a more collaborative relationship (Spaling, 2003). Through the devolution of power, grass roots capacity is developed within the community to manage the development process (CIDA, 2005; Spaling, 2003; USAID, 2007). As development staff work with local people to make decisions, the role of the outsider is eventually minimized to a facilitator position (Spaling, 2003). However, before a complete phase out is conducted, proper education must first take place to ensure that the local community is capable of dealing with new technology, environmental considerations, and is able to deal constructively with conflicts (CIDA, 2005; SAIEA, 2005; USAID, 2007). Once this has occurred it signifies that grass roots capacity has been ultimately achieved (Spaling, 2003).

2.2.3.3 Potential problems

Although the CEA approach has much to offer there remains much to be cautious about in terms of its application. In CIDA’s (2005) recommendations for small projects in which EIA reports are written, demographic considerations are given to ensure that the community’s interests as a whole are considered. This is important in ensuring that marginalized groups within the community are not overshadowed by dominant

community members. Spaling and Vroom (2007) note that special precautions may be necessary in order to incorporate marginalized community members such as women through private consultation sessions in which they can feel free to offer input.

A drawback to the more participatory approach that underlies the CEA methodology is the resulting decrease in quantitative scientific knowledge (Spaling, 2003). Although the incorporation of traditional knowledge is seen as a benefit due to the fact that it is more applicable to local managers, input from indigenous peoples may be faulty for a number of reasons including: self interest, memory, and lack of resources. Spaling and Vroom (2007), in their research of CEA for post tsunami efforts, found that human needs were so pressing that at times it distorted the local's judgment in making CEA decisions.

Cooke and Kothari (2001) also detail drawbacks to participatory methodology generally, which have direct implications for CEA specifically. Such drawbacks include numerous social psychological outcomes that can negatively impact project outcomes. For example, 'Risky Shift' is a phenomenon explored in detail in which group participants are willing to take higher levels of risk due to the presence of other community members (Cooke & Kothari). Such a phenomenon may impose unnecessary risks on a project.

Additionally, there is a negative trend in development work which ascribes to participatory tools such as PRA, but often only does so for the purpose of donor support or institutional priorities (Cooke & Kothari, 2001). That being the case, there is a danger among CEA practitioners to harness such participatory methodology for the wrong

reasons causing an obvious divergence between community benefits and stated participatory policies.

Although caution must be figured into the use of CEA, especially since it is a relatively new approach, many organizations have seen the value in employing it.

2.2.3.4 Examples

The EIA conducted by Achoka et al. (2002) for the Kisayani water project in southern Kenya claimed to use a CEA approach. The purpose of this CEA was to determine the impacts of developing a gravity-water supply system to a community of 11,380 residents from a spring that already had four existing systems drawing from it (Achoka et al.). The report details the CEA process adopted and identifies the areas in which community members were consulted. Scoping, estimation of impacts, assessing the significance of impacts, and identifying mitigation measures were all steps which included community participation. Focus groups and interviews were the main modes of incorporating community participation through which a recommendation to proceed with development was given under certain conditions. The researchers specifically noted that this approach was chosen to suit the community development context of the project and included a list of key factors that distinguished it from conventional EIA (Achoka et al.). In his review of this CEA Rware (2006) found that as a result of their involvement community participants were more aware of sustainable management practices. Through applying methods such as questionnaires, informal interviews, and focus groups post-CEA Rware was able to give an account for the effect that the CEA process had on the community participants and the surrounding environment. He concluded that there were various social, economic, and environmental benefits that the community experienced

that led to an overall positive experience in CEA participation. However there were some drawbacks in regards to participant understanding of environmental issues as 60% of interviewees claimed to have gained no new information. As well, Rware made further recommendations to involve a larger portion of the community in CEA processes for the future.

Spaling et al. (2005) adopted a similar approach to an EIA conducted for the Mwasima-Nuru water project, also conducted in southern Kenya. The report is very explicit in its language in affirming that public participation is not seen as a separate step within the EIA framework but rather is integrated into the entire process. It is of interest to note that in this latter CEA more modes of actively engaging the local community were incorporated into the process. In addition to focus groups and interviews that characterized the Kisayani project, the Mwasima-Nuru project included transect walks and resource mapping (Spaling et al.). Furthermore, in 2007 Spaling and Vroom completed a case study of CEAs done in Southeast Asia for post-tsunami relief efforts which further incorporated PRA strategies. Their results found that CEAs were effective and timely in producing long term relief efforts for tsunami victims (Spaling & Vroom, 2007).

In addition to EIAs that have directly credited their approach to CEA methodology, a host of organizations are adapting their EIA strategies in ways that resemble CEA. The CIDA (2005) handbook for community development acknowledges that there are challenges specific to the context of EIAs conducted in community level development projects, thus requiring adapted guidelines that account for integrated community involvement. These guidelines are also used by CEA practitioners (Spaling

& Vroom, 2007) and serve as an important resource for its continued development. The USAID (2007) has also developed guidelines for small scale activities that hold similar adaptations. In their report for small scale activities in Africa, best practices are laid out for effective environmental management, in which they state that public participation is critical to each practice (USAID). The best practices are as follows: Assurance of technical feasibility which deems traditional knowledge key to understanding local conditions and project impacts, securement of stakeholder commitment which will eventually lead to local ownership of the natural resources in context, and finally an adaptive management approach which entails developing a capacity among local peoples to manage their local resources responsibly (USAID). Finally, the Calabash project, which has been largely supported by the World Bank and CIDA, has developed a set of policy guidelines for southern African countries in terms of the EIA process for development projects and public participation (SAIEA, 2005). This policy sets out an EIA process in which consultation with the effected communities is integrated into the entire process and traditional knowledge is recognized as being a missing factor from previous EIAs that were conducted in error (SAIEA). Additional guidelines that Calabash provides for EIA practitioners include: payment to locals for use of traditional knowledge, follow through to ensure local comments are recorded correctly, engaging communities through PRA methodology, and the provision of necessary information to all effected stakeholders (SAIEA).

The CEA approach to critically engaging communities in the EIA process has proven to be a valuable resource to both practitioners and international communities. Although CEA has incorporated participatory strategies, there still remains room for

advancement in this area. CEA seems to be a move forward in terms of furthering the work of empowerment where practitioners further remove themselves from an elitist approach to conducting EIAs.

2.3 The Role of Learning

2.3.1 Overview

An important outcome of participation is learning (Fitzpatrick & Sinclair, 2003; Merriam & Caffarella, 1999). Learning not only builds self reliance within learners, but specific to developing communities, it helps achieve sustainable development. Therefore it is important to promote conditions that foster participation, and thus result in learning outcomes (Merriam & Caffarella). Merriam and Caffarella point out that, “learning opportunities.....are found in a variety of settings, from formal institutions to one’s home or place of employment” (p. 43). That being the case, EIA practitioners must realize the importance of facilitating learning opportunities in order to foster desirable sustainable development outcomes.

Maarleveld and Dangbégnon (1999) argue that because numerous stakeholders are involved in environmental issues, there is a need for adaptive management methodology, due to ever changing circumstances, and an understanding of social learning theory. By doing so, environmental practitioners will be able to understand how people learn with numerous stakeholders, and further apply specific methods to promote educational opportunities (Maarleveld & Dangbégnon). This notion is further emphasized by Tippet et al. (2005) when they stress the importance of participatory methods that increase the capacity of local people to adapt to ever changing environmental circumstances. Social learning theory has therefore become a major

source of information drawn upon by numerous researchers in the context of natural resources (Buck et al., 2001; Maarleveld & Dangbégnon, 1999; Tippet et al., 2005). To increase capacity for responsible management, learning must occur (Tippet et al.).

2.3.2 Transformative Learning

Transformative learning focuses on the individual learner and serves as an important step to reaching social and community learning outcomes. This theory was largely developed by the work of Paulo Freire and Jack Mezirow (Christopher, 2001). Their research looked at using education as a means of social change to relieve oppressed groups of individuals (Christopher). Yet while Freire continued to use learning for such social change, Mezirow developed the experiences further to create a comprehensive learning theory (Mezirow, 1994). Mezirow himself has commented on the theory as having an emancipatory nature which shares a relation to the communicative theory of Jürgen Habermas discussed earlier (Mezirow, 1981, 1997). Simply put, transformative learning is an adult learning theory that challenges a learner to critically examine assumptions of their beliefs, revise their belief system, and adopt new behaviors to coincide with these revisions (Christopher, 2001).

Mezirow (1997) is very explicit in the fact that transformative learning differs from the type of learning often associated with children. The reason for this is because adults have acquired life experiences that develop frames of reference used to catalogue new experiences (Mezirow, 1994). These frames of reference are what transformative learning theory seeks to understand and make the learner critically aware of. These frames of reference have not yet had time to develop in children so they remain 'critically unselfconscious' and lack the opportunity to engage in transformative learning (Mezirow,

1981). Yet through time the frames of reference do develop due to, “cultural assimilation and the idiosyncratic influences of primary caregivers” (Mezirow, 1997, p. 6).

The frames of reference are made up of two dimensions: habits of mind and points of view (Mezirow, 1997). While habits of mind are broader, underlying, and often unconscious assumptions, points of view are the expressions of habits of mind through specific, “feelings, beliefs, judgments, and attitudes” (Mezirow, 1997, p. 6). Thus, transformative learning seeks to, “transform our frames of reference through critical reflection on the assumptions upon which our interpretations, beliefs, and habits of mind or points of view are based” (Mezirow, 1997, p. 7). This process can occur in one of two ways; through a major event that dramatically challenges the learner to rethink assumptions (habits of mind) or through a series of smaller transformations of one’s point of view (Mezirow, 1994, 1997).

Ultimately the end goal for adult learners “is to become autonomous, responsible thinkers” (Mezirow, 1997, p. 8). This is important for facilitators to recognize so that they are conscious of providing an environment that fosters such learning to take place. However, Mezirow distinguishes that the learner may have a goal as well as an objective. Learners often have specific needs to be met and desire action to be taken immediately, which may require the facilitator to engage the learner in instrumental learning in order to produce short term goals. In turn, this will motivate the learner to continue the transformative learning process (Mezirow). However, this goal should not come to define the end result desired, which should be to engage in communicative learning that challenges the learner to be “critically reflective of one’s own assumptions” (Mezirow,

1997, p. 9). The facilitator's goal then should be to ultimately "be facilitators of learning rather than disseminators of knowledge" (Robertson, 1996, p. 41).

Mezirow (1994) has developed an 11 phase process in which Transformative learning takes place (p. 224):

- 1) A disorienting dilemma
- 2) Self-examination with feelings of guilt or shame, sometimes turning to religion for support
- 3) A critical assessment of assumptions
- 4) Recognition that one's discontent and the process of transformation are shared and others have negotiated a similar change
- 5) Exploration of options for new roles, relationships and actions
- 6) Planning a course of action
- 7) Acquiring knowledge and skills for implementing one's plans
- 8) Provisionally trying out new roles
- 9) Renegotiating relationship and negotiating new relationships
- 10) Building competence and self-confidence in new roles and relationships
- 11) A reintegration into one's life on the basis of conditions dictated by one's new perspective.

Key to this process is the dialogue, which Mezirow (1994) refers to as discourse, in which the learner challenges their assumptions and is introduced to opposing viewpoints.

Additionally Mezirow has set out ideal conditions for discourse, or learning, in which a learner can properly engage new information. The ideal conditions are as follows

(Mezirow, 1994, p. 225):

- a) have accurate and complete information
- b) be free from coercion and distorting self-deception
- c) be able to weigh evidence and assess arguments "objectively"
- d) be open to alternative points of view and to care about the way others think and feel
- e) be able to become critically reflective of assumptions and their consequences
- f) have equal opportunity to participate in the various roles of discourse
- g) be willing to accept an informed, objective and rational consensus as a legitimate test of validity until new perspective, evidence, or arguments are encountered, and are subsequently established through discourse as yielding better judgments.

While these conditions are ideal, Mezirow (1994) recognizes that they never actually occur all at once in a real life scenario. And while they describe ideal conditions for learning and communication, they also prescribe ideal conditions for democratic participation (Mezirow).

By stressing such conditions, transformative learning theory challenges power relations that exist within society. Hart (1990) describes this form of education as “liberating rather than merely adjusting” (p. 125) and as one that prescribes “a new morality of non-oppressive, caring relationships among all participants” (p. 126).

2.3.3 Transformative Learning in EIA

Due to the potential to encourage learning outcomes and critical thinking aimed at sustainable development, transformative learning theory has been applied to democratic deliberative processes such as public participation in EIAs. In a study by Sinclair and Diduck (2001) Mezirow’s ideal learning conditions were used to assess whether the public was effectively involved in a number of EIA cases in Canada. Operational definitions of Mezirow’s ideal conditions were developed in order to harness the theory within the EIA context (Sinclair & Diduck). By doing so the researchers were able to identify specific actions within the EIA process that either denied or engaged the participant in transformative learning. Through this research Sinclair and Diduck were able to identify specific weaknesses and strengths within the Canadian EIA process and offered suggestions for future improvements. Fitzpatrick and Sinclair (2003) also applied transformative learning theory to an EIA case in eastern Canada. In this study Shor’s (1993) criteria for critical education were adopted and used to assess the EIA process. In

a similar manner operational definitions were developed and provided a basis for the critique.

These studies show the usefulness of transformative learning theory in assessing democratic processes such as public participation in EIAs (Fitzpatrick & Sinclair, 2003). Learning outcomes, such as becoming a more critical thinker (Merriam & Caffarella, 1999), allow the learner to increase their capacity to participate at a higher level. The development that occurs within the learner then benefits the participatory approach of EIA.

2.3.4 Cross Cultural Applicability

One argument that has been brought against the applicability of transformative learning is that it has largely been developed from a North American context (Merriam & Caffarella, 1999). That being said, one must be cautious when applying transformative learning to a cross cultural setting since a gap in the theory exists. Yet recent research has begun to fill this gap showing that transformative learning is applicable in cross cultural settings (Sims & Sinclair, 2008). Sims and Sinclair found that the theory was very applicable to a Latin America setting where issues of environmental sustainability and community learning outcomes were explored. Transformative learning was seen to have occurred in rural land owners, as well as institutional bodies.

2.4 Experiences in Kenya

Kenya is a country of 34.3 million people (World Bank, 2006), 80% of whom live in rural areas (Lado, 2004). Throughout their history the people of Kenya have undergone conflict in regards to their natural environment. Much of this conflict is due to

the competition involved for limited land and water resources within its borders (Campbell, 2000). While most of the land was managed by herding societies in the pre-colonial age, new forms of management were formed during the colonial period (Campbell). Homewood (2004) found that during the shift from communal to privatized lands in Kenya, herding communities were displaced and environmental degradation resulted due to the increased mechanical cultivation done by large entrepreneurs. Such practices have increased the conflict that already existed due to limited resources and have often resulted in violence between competing resource users (Homewood). Sutherland et al. (1999) also found intense food security issues that, in their estimation, required immediate development interventions. They further noted that Kenya, and specifically the rural semi-arid populations, required sustainable livelihoods to enable them to survive the harsh climate in which they reside (Sutherland et al.).

Due to the magnitude of need that exists in Kenya, many developed nations have provided aid in the form of financial contributions as well as development activities. In 2004 Kenya received a total of \$512.1 million (USD) in official development assistance and aid and in 2005 this increased to \$635.1 million (USD) (World Bank, 2006). Yet many of these contributions have manifested themselves in 'top-down' approaches to development (Muraya, 2006).

Environmental impact assessment has also made its way on to the policy stage in Kenya as a way to consider the merits of development proposals and include public input. The Physical Planning Act of 1996 and the Environmental Management and Coordination Act of 1999 have both enshrined practices to be followed in regards to Kenyan EIA procedures (Kameri-Mbote, 2003). However, as in other developing

countries, it has experienced barriers such as insufficient data, lack of skills, lack of appropriate legislation, and insufficient capacity to conduct EIAs (Kakonge, 1993). In a report on World Bank experiences with EIAs in Kenya, Kameri-Mbote (2003) noted that although regulations have been put in place to facilitate proper EIAs and public participation “rights have not been realized in practice” (p. 12). Kameri-Mbote also found that the poverty of local communities decreased their ability to aid in monitoring, limited their access to appropriate information and decreased their likelihood to take environmental concerns into account due to other pressing basic needs. Thus the potential of EIA has not been fully reached in Kenya and still requires necessary modifications in order to appropriately adapt to a developing world context.

Community involvement however is changing in Kenyan EIA practices (Spaling, 2003). While the constitution of Kenya lacks provision for citizens to take action in regards to environmental concerns (Kameri-Mbote, 2003), additional legislation such as the Environment Management and Coordination Act of 1999 has created more opportunities for the public to become involved (Kameri-Mbote, 2003; Spaling, 2003). Such legislation has begun to manifest itself in development activities such as CEAs. CEAs have been practiced on a number of occasions, as was seen in the Kisayani water project conducted by Achoka et al. (2002) and the Mwasima-Nuru project conducted by Spaling et al. (2005). These assessments are concrete examples of the evolutionary process of EIA within Kenya. Though CEA has not largely been adopted across the country, existing legislation and pockets of adapted EIA approaches are paving the way for future practices in Kenya.

2.5 Framework for Evaluation

This research worked to evaluate the CEA framework in relation to process, participation, and learning and I have chosen to follow a format typical to the CEA process in relation to community participation. Therefore participation and learning of rural Kenyans are explored throughout the CEA process and are presented chronologically to represent how they actualize themselves in participants. So while community members first enter the CEA process through notice being given, the issue of notice will serve as a starting point for the evaluation. In turn, learning outcomes that result due to participation in CEA will follow. Through this framework the best practices associated with CEA and facilitating participation and learning will aid the evaluation.

2.6 Summary

Participatory processes have proven vital to effective development approaches. In order to provide lasting initiatives in the developing world, that improve standards of living, democratic deliberative processes must become the dominant methodology. Environmental impact assessment provides a democratic framework that can be used within development decision making as it requires active participation. With learning as an outcome of such participation, sustainable development goals can also be promoted. CEA seems to provide a sustainable framework for more democratic and meaningful decision making in the developing world context, and therefore demands more attention. It not only has a potential to increase participation and critical dialogue, but to improve the learning and empowerment experienced by local peoples.

CHAPTER 3: Research Design and Methods

3.1 Introduction

This research used a qualitative case study approach to assess CEAs conducted in rural Kenya. The research was participatory in nature and worked to involve local people and empower them by building capacity within the community to conduct and assess CEA processes. Specific methods used were semi-structured interviews, document reviews, and participant observation.

3.2 Qualitative Research

Qualitative research, as characterized by Creswell (2003), takes place in the natural setting of the phenomenon being studied, uses numerous interactive methods for data collection, and looks at social phenomenon in a holistic manner. Creswell states that qualitative research, “takes place in the natural setting.....this enables the researcher to develop a level of detail about the individual or place and to be highly involved in actual experiences of the participants”(p. 181). Additionally it is interpretive in that it relies on the researcher to make interpretations of the data gathered and is adaptive to emerging issues (Creswell).

Due to the nature of the research, qualitative research seemed to be the most appropriate approach. The CEA concept is still emerging and requires field based analysis to explore the subjective experiences and learning strategies of local people. It also allowed for the use various methods of data collection to obtain a holistic picture of the issues at hand.

3.3 Case Study Approach

The strategy for inquiry in this research was a case study approach. Although case studies have been criticized for their lack of ability to generalize results (Tellis, 1997), they provide in-depth knowledge of a specific case, especially in the context of social phenomenon that could not otherwise be obtained (Yin, 2003). The case study approach allowed for multiple data collection methods to be used which accommodated the need for triangulation to ensure the validity of the findings (Tellis, 1997). A case study approach was chosen in order to explore the in depth information needed to properly assess meaningful participation and learning within the CEA process in a rural setting.

3.4 Research Methods

Semi-structured interviews and document reviews were the main sources of data collection used to assess participation and learning outcomes of the CEA process. As well, participant observation was used in order to gain a larger picture of the outcomes associated with CEA processes.

The research conducted involved the review of two previously completed CEAs, while also gathering input from various EIA professionals whom have had experience in small scale community projects. The output of the research consists of recommendations for future CEA developments. While objective four of the research called for the application of recommendations to a live CEA this was not completed due to various factors. Reasons for abandoning this objective will be explored in more detail in following chapters.

3.4.1 Sources of Data Collection

Before CEA cases were chosen a set of criteria were developed in order to aid the selection process. The criteria were as follows:

1. Community Involvement – community members were actively engaged in the EIA/CEA process.
2. Recent CEA process – the assessment should have taken place in recent years to ensure participants remember activities.
3. Access – the project must be accessible as to not deter research activities. Proximity to accommodations was the major factor of this criterion.
4. Entry Point – there had to be a willingness on behalf of the community to allow research activities. This often took the form of a single individual who introduced me to a specific community.
5. Interest – the project needed to be conducive to the proposed research objectives and had to retain the interest of the principle researcher.

These criteria were used to rank the numerous community projects visited and two suitable projects were chosen.

The specific CEAs that provided case studies included the Mwasima-Nuru water project completed in 2005 in the Taita hills area of Kenya, as well as the Chumvi water project completed in 2007 in the Nanyuki district of Kenya. A total of 47 community interviews were completed, 30 of which were conducted in Mwasima Nuru and 17 in Chumvi (see Table 1).

	Mwasima Nuru	Chumvi
Participant	19	7
Non-Participant	11	10

From the professional community 13 interviews were conducted with individuals from CIDA, the World Bank, the UN, and various Kenyan agencies such as the National Environmental Management Authority (NEMA) and the Water Resources Management Authority (WRMA). The following methods were used to gather information on participation and learning related outcomes.

3.4.1.1 Semi-structured Interviews

Semi-structured interviews were used to assess expert and community experiences with the CEA process. The total number of CEA practitioners/experts interviewed was 13 and were selected based on their experience conducting CEAs in developing countries. Names of qualified professionals were generated using a snowball sample methodology. Once a CEA professional was identified and interviewed, they then provided references to other professionals that could possibly serve as interviewees for the research.

47 community members were also chosen from the two case studies identified. Initially interviewees were chosen due to their participation in CEA activities. Potential interviewee names were generated through speaking with affiliated CEA consultants and helped determine who community participants were. Additionally non-participants were chosen for the interview schedule and were chosen based on snowball sampling as well. Due to the fact that the CEAs had been previously completed the nature of the interviews were retrospective. As prescribed by Fetterman (1998) a checklist of specific topics that should be covered within each interview was formed. While these checklists did not control the layout of the interview, they served as a boundary to allow focus on a particular topic. In order to develop the checklist for the community participants, focus

groups were formed within the community in order to discuss the relevance and clarity of each question, as well as mock interviews as prescribed by Bernard (2006).

Questions that directed the interview were in regards to the CEA process and how participation and learning had been facilitated (see Appendix B and C for the interview schedules). Additionally, learning outcomes were explored. In order to explore learning outcomes questions were adapted from the successful research of Sinclair and Diduck (2001) in which Mezirow's ideal conditions for learning were used to apply transformative learning theory to assessing EIA processes. Operational definitions used by Sinclair and Diduck were further adapted to accommodate the rural Kenyan community context. It was understood that determining learning outcomes retrospectively is difficult, so time was taken to ensure that learning outcomes that participants identified were in fact in relation to CEA processes.

Determining key informants was crucial to obtaining valuable data from the interview schedule. Key informants in the community were individuals, who had first hand, in-depth knowledge of the information being gathered, thus were prime candidates for the interviewing schedule. In this case they were those who participated in the CEA. As well, such informants provided suggestions of additional individuals that were beneficial to interview. Other individuals for the interviewing schedule included various non-participants from the community, members of the organizations that conducted the CEAs providing the case studies, and other practitioners with experience facilitating CEAs elsewhere. Identities of interviewees have been withheld or have been given pseudonyms in the reported data.

For rural community members, interviews were conducted within the community and scheduled at the convenience of the interviewee. CEA practitioners were contacted and a convenient time and location were established. Notes were taken throughout the interviews in order to retain the information for later analysis.

3.4.1.2 Document Reviews

Document reviews were used in order to assess CEA process and to consider the formal steps taken in order to provide participation and learning opportunities in the CEA process. Environmental impact statements and local documents were the major sources of information and provided valuable insight into the processes of the two CEA case studies conducted. As well, documents specific to Kenyan legislation for the EIA process and the Kenyan constitution were utilized.

3.4.1.3 Participant Observation

As a researcher my role in participant observation was that of the 'participant observer' as described by Bernard (2006). Such a role entailed the observation of the CEA outcomes from an outsider's point of view, but participation in community life as well. As an observer it was crucial that I gained rapport with the community in order to use this method effectively. Gaining the trust of the community not only opened more venues for observation, but it further established a working relationship between myself and the community.

Attitudes, self-confidence, and a capacity to understand environmental issues served as key characteristics to watch for within the community. This method was used to

determine how participation and learning outcomes developed after participation in the CEA process.

3.5 Threats to Validity

A number of issues needed to be addressed in order to account for the validity of the findings in this research. Interviewing in particular had a number of concerns in regards to the questions asked, the way questions were understood, and the reliability of the answers given by interviewees. To combat the issues surrounding interview questions the focus groups and mock interviews helped sharpen the questions. Through the input of focus groups and mock interviewees the questions became more applicable and reliable. However, improving the reliability of answers given proved to be a more difficult task. Bernard (2006) notes that interviewees have a number of reasons why they may give faulty information, including: memory failure, social pressure, dishonesty, and threatening questions. The interviewee may not have developed the trust for the interviewer required to delve into personal matters, or the interviewee may give answers according to what they think the interviewer wants to hear (Bernard). To combat these effects it was necessary to triangulate findings with other data collection methods. For example, data collected in the interviews with community participants in one CEA were supported by interviews with community participants in the other CEA as well as expert interviews and document reviews.

Researcher biases are also of concern. Although it was my desire to produce objective research findings, it must be recognized that my own values and beliefs, to some extent could impress themselves on to the findings. Through recognizing these biases beforehand and forecasting how these biases might manifest themselves it is hoped

that they have been minimized as much as possible. Additionally, findings were discussed with peers as well as professional academics to ensure that biases were accounted for.

The cross-cultural nature of the field work in this research also stood as an issue to be addressed in regards to validity. All of the methods previously described required effective communication in order to be used properly. To address this concern it was necessary to rely on a translator for much of the field work. Although many areas of Kenya have been exposed to English and have developed a certain amount of competency with the language, it was not relied upon as the sole method of communication. Swahili is spoken throughout the country along with numerous local dialects. Therefore, it was necessary to develop relationships with key informants that were knowledgeable in local communication and able to aid the research through translation. Working with a translator also introduced its own problems as additional biases of the translator were potentially introduced into the study. To minimize the effects of the translator proper explanation was given before translation tasks were conducted as to how much detail and honesty was required from the interviewee.

3.6 Data Analysis

Due to the qualitative nature of the research a computer assisted qualitative data analysis software program (NVivo) was used to aid data analysis. This was done through a coding process in which themes were developed for similar pieces of information and grouped together to be assigned a significant meaning (Creswell, 2003). Initially interview data were transcribed and imported to the software program. Data was then arranged into themes that coincided with the research objectives. Categories such as

participation, learning, and CEA process issues served as major themes beside a number of external issues that came up through the research schedule such as government bodies, politics, financial restraints, and limited resources. Interview data was then coded according to these categories. Once coding was complete, the program enabled easy access to specific types of information and revealed relationships within the data set. Along with NVivo a triangulation of data sources was used in order to provide validity to the findings.

CHAPTER 4: Outcomes in Community Environmental Assessment Processes

The following chapter presents the findings of the research. Interview data are reviewed from both the Mwasima Nuru and Chumvi communities, as well as from professional interviewees. Additionally, data from document reviews and participant observation are presented. Findings presented should be understood to be that of the majority of interviewees, unless otherwise noted. Due to the qualitative nature of the research, selected individual comments are also presented to support the themes identified in the data and to add integrity to the recommendations that will follow in chapter six.

Due to the nature of the research it was seen as imperative to draw from multiple sources in order to triangulate findings and add value to the research as a whole. Originally the research intended to review a previously conducted CEA in order to apply lessons learned to a live CEA in which recommendations could be tested. However, due to the nature of fieldwork, unforeseen events occurred that required an alternative scenario. As a result a live CEA could not be undertaken and two CEA cases were explored instead, those of Mwasima Nuru and Chumvi. While CEA participants served as key informants to CEA processes, non-participants were also of interest in order to determine the effect that CEA processes had on learning and sustainable development in the larger community.

4.1 Community CEA Profiles

4.1.1 Mwasima Nuru CEA

The Mwasima Nuru water project (see plate 1) was initially two separate water projects in the Taita Hills region of Kenya (see Figure 1). The Mwasima water project consisted of three villages working collectively to bring water to their communities. These villages were Singila, Meryland, and Mwatunge, Mwatunge being by far the largest in population. The people of these communities were previously gathering water from Mwatate, which was the closest center for trading and had a river running through its valley. This valley is known as the Kipusi Valley and has served as an important resource for growing bananas, papaya, and other crops in the area. The other water project, Nuru Modambogho, was made up of nine smaller villages that spread out into the more isolated areas, which have less proximity to the major tarmac that connects Mwatate to the much larger trading center of Voi. These villages consist of Msisinenyi, Mlambenyi, Mzwanenyi, Mdindinyi/Scheme, Landi, Lerinyi, Mazola, Mageno, and Chakaleri. While these nine communities previously obtained water from a water project called Josa-Modambogho, it was determined that the water source did not have the capacity to serve all their water needs. While both groups were working towards the same goal of locating other water sources and were relatively close together, they decided to join efforts thus becoming Mwasima Nuru. Together Mwasima Nuru was able to locate donors for their project as well as a water source in the form of a borehole within the Kipusi Valley. In total the project area had a population of 4,800 individuals.

Initially the communities were unaware of what Environmental Impact Assessment was and what Kenyan legislation had to say about their responsibilities to it.

As a result work on the project began before an assessment was conducted. However, the Nuru Modambogho communities had a past relationship with a local NGO called Pwani Christian Community Services (PCCS), a development arm of the Anglican Church of Kenya (ACK). PCCS, who was aware of current EIA regulations, then informed Mwasima Nuru of their obligations and helped the communities prepare to conduct an EIA in consultation with the local NEMA officer. A registered EIA professional was then contacted to perform an EIA and adopted a CEA methodology to do so. The project at this point had been partly finished as the borehole of the project had been completed, 90% of the storage tank was finished, and the mainline from the borehole to the tank had been laid yet not trenched into the ground. The distribution system to individual communities had not yet been started. It should be noted at this point that Kenyan law required the communities to conduct an Audit Report, which shares many similarities to a full scale EIA, yet is characterized by small scale projects and entails less breadth in the finalized report. Nevertheless, the EIA professional followed a CEA methodology and used the term EIA among community members in order to familiarize them with this process.

The CEA was conducted over two separate occasions, one in October of 2005 and the other in May of 2006. During the 2005 exercises there were twelve community participants involved in the process while twenty community participants were present in the 2006 exercises. While more participants were present in the 2006 exercises, some individuals were involved in both 2005 and 2006 exercises; this resulted in a total of 24 community members receiving exposure to CEA activities over the two sets of activities

(Spaling, 2005). Participants were involved in various PRA exercises such as transect walks, mapping, semi-structured interviews, trend line analysis, and seminars.

PRA exercises took place at a number of community locations such as churches, the public works building, and various outside locations. Initially a public meeting was held for community members and relevant stakeholders, in which details of the project were discussed. Afterwards they conducted a transect walk of the project and viewed tank, pipeline, land, and resource issues. A mapping exercise was then completed and gave community members a chance to map out their community on the ground using various items to signify their surroundings. A number of other meetings were also held to discuss details from each of these exercises and trend line diagrams were constructed to reveal information about the community. Finally the CEA team followed up community participation with a number of interviews from various individuals. Upon the second groups of activities, other meetings were held along with an additional transect walk. Through this group of activities the CEA allowed community members to become aware of community water needs, available water supply, the importance of land use agreements, and numerous risks that existed to the livelihood of the project (Spaling et al., 2005).

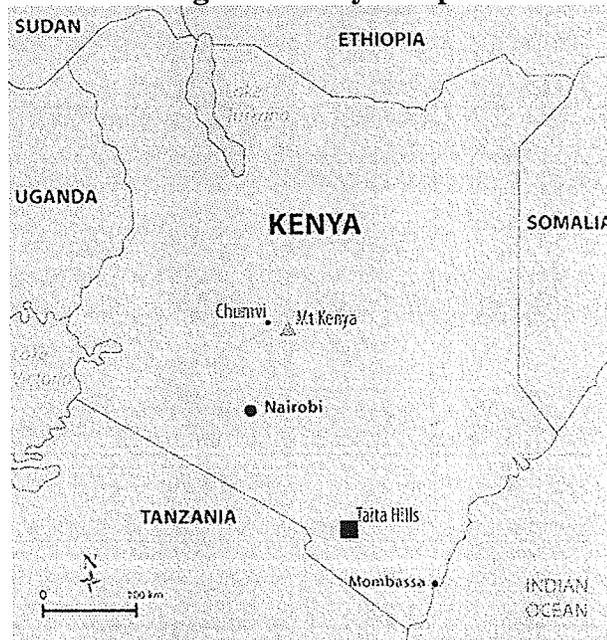
After the completion of the CEA activities a brief survey was conducted within the Mwasima Nuru communities by a University of Nairobi researcher in regards to learning outcomes. Community participants were asked to account for their experience in the CEA and lessons they had gained. While this survey was very rudimentary a comprehensive review had yet to be completed.

Out of the 24 community participants 19 were interviewed for this research. This was complimented by an additional 11 interviews conducted with non-participants from the same communities.

Plate 1: View from Mwasima Nuru water storage tank (overlooking Singila)



Figure 2: Kenya Map



4.1.2 Chumvi CEA

The Chumvi water project was proposed in order to meet the water needs of roughly 10,000 Mukogodo Masaai. Prior to 1978 the 13,000 acres that they reside in was the property of the larger colonial farms that they currently share borders with (NRMDA, 2005). This area of land was partitioned off and sold in three acre divisions in order to provide land for encroaching communities desperate for grazing land (see Plate 2). As a result the Mukogodo Masaai came in great numbers and developed what is now called the Chumvi community residing on the western slopes of Mt. Kenya (see Figure 1). While the Masaai are certainly the majority, there are various settlers from Kikuyu and Turkana origins.

At the time of this research the Chumvi community had relied heavily upon the generosity of the colonial farms to serve their water needs by allowing them access to their irrigation systems. But in order to become more self-reliant the community desired their own project that could be tailored to their specific needs.

Previous to the idea of their own water project a Canadian donor had been funding and facilitating an HIV project in order to increase awareness of the disease and reduce the social stigma attached to it. When the donor became aware of the community water needs it agreed to help fund a water supply project in the form of a loan. With the loan came the requirement that the community work in cooperation with Ivory Consults, a Kenyan company based out of Nairobi specializing in community development projects. Through Ivory Consults Chumvi was informed of their responsibility to conduct an EIA for the project in order to comply with Kenyan legislation. Ivory Consults then provided EIA services to the project in July of 2007. The consultant also

claimed to use a participatory approach characteristic of CEA methodology and participants were involved in activities such as interviews, a transect walk and group seminars.

The CEA facilitator first approached the community through an HIV meeting and took time to explain his role. At this time he introduced the assessment process and arranged to take a number of community members on a transect walk. The transect walk consisted of locating potential sites for tank construction as well as proposed areas for pipeline construction. Interviews were completed in an informal fashion and conducted throughout the assessment.

The CEA took place over 2 days on a weekend in July. There were 10 community members who were involved in the activities, 7 of whom were interviewed for this research. An additional 10 interviews were conducted with non-participants from the Chumvi community.

Plate 3: Chumvi Landscape showing evidence of erosion and deforestation



4.2 CEA Process

The following presentation of results will follow steps typical of community participation in the CEA process. As notice is the first step in which communities are engaged by CEA professionals, I will begin with this activity. This will be followed by participation in CEA activities, assessment issues, mitigation, project management, and learning outcomes. In conclusion I will explore major barriers and benefits associated with CEA.

4.2.1 Notice

Before communities could actively participate in the CEA, it was necessary for the facilitating consultant to inform participants of the scheduled activities. Notice was originally given from the consultant to a major informant within the community, in both cases a member of the water project's Project Management Committee (PMC), and then circulated through the community. The invitation was first given to members of the PMC and then to additional members of the community as chosen by the PMC or perhaps selected by the consultant.

In the case of Mwasima Nuru, PCCS had informed the community of a need for EIA and helped organize a preliminary meeting between the EIA consultant and the community. At this point the PMC officially requested that the consultant conduct CEA activities for the project. The chairman of the water project was given advanced notice of one month before CEA activities began. While he was happy with this notice, many other Mwasima Nuru participants received anywhere between a few hours to one month's notice. In the case of Chumvi the chairman received only two days notice, but was fine with this due to the fact his schedule was fairly open during that time. As a result, all

Chumvi participants had less than two days notice. In looking at the community responses, of the 26 participant respondents 16 had between two and four days notice. When asked to describe an ideal notice to be given, roughly 60% of interviewees replied that they would have preferred at least one week:

“When did they tell you they were coming?”

Can't remember, it was a few days before they came.

Was this adequate notice for you?

For me it was enough time to be prepared for them. Ideally two weeks or one week notice is best.” (Daniel, Chumvi participant)

“How far in advance were you told?”

2 days.

Was this adequate notice?

Bad time for me.

What made it difficult?

At least I could have had one week notice because I had a lot to do on my farm.” (James, Mwasima Nuru participant)

“Were you invited to spend time with the visitors for the ELA?”

I was welcomed. I was given a letter from the secretary. I was told the very day the visitors were coming. I failed to attend the meeting due to this amount of notice. I would need at least 5 days, roughly one week to attend a meeting.” (Belinda, Mwasima Nuru non-participant)

It should be noted that most of the participants that preferred one week's notice came from the Mwasima Nuru case study. While Chumvi participants still seemed to receive inadequate notice, they seemed to prefer a smaller span of time from the range of two days to a week:

“He told me that day we met in Timau.

Was that enough notice for you?”

I prefer him to give me 2 days notice. I had to inform so many people in the community. If community [involved] we need more time to organize.” (Jonathan, Chumvi participant)

“When were you told about it?”

One day in advance. [They] said it would be done but didn't mention exact date, so we were waiting, and heard one day before.

Was that good notice?”

I prefer 3 days notice.” (Oliver, Chumvi participant)

4.2.2 Participation

4.2.2.1 Representation

Representation is a key issue in regards to participation. Community needs must not only be incorporated into decision making processes, but a fair representation from the numerous community needs that exist must be included. Communities consist of social hierarchies and numerous marginalized individuals exist within this realm. Participant observation revealed that elite individuals within the communities were often those most involved in the CEA processes reviewed. Chumvi for example consisted of 10 participants. The 7 who were interviewed were either proficient in English or had some sort of high ranking social status. These individuals were also noticed to have been involved in many other activities in Chumvi and stood as main sources of decision making within the community for various projects.

Mwasima Nuru shared similar representation characteristics. Of the 19 participants interviewed 15 of them either held important positions in the community, had enough money to afford personal water taps, or were repeatedly seen to be invited to NGO events. This left 4 participants in this study who could be considered marginalized on the basis of gender or extreme poverty.

Interview data showed that many of the marginalized voices among the Mwasima Nuru and Chumvi communities still remained silent when it came to the CEA process. Social elites in the community seemed to dominate participation in the CEA activities, and thus had a monopoly on contributions to the decision making process. The group most often recognized as being displaced in decision making was women.

“Are women fairly represented in the community?”

I feel that men are always leaders and always represent women.

Are you okay with this?

It’s good to have a change. Even women are more understanding than men, they know more things.” (Malinda, Chumvi non-participant)

“We would like to be given priority as women, we will be the most users, the water will not be for men alone.....so we need as ladies to be given priority to understand and access information from water project because we share the cost with men equally.

Why is priority not given to women?

Because of custom and culture.” (Lorraine, Chumvi non-participant)

Related to the issue of marginalized women is the idea of token participation.

This type of participation entails involvement in activities, but with little or no power to effect final outcomes of decision making processes. This feeling was most often expressed by women who were unaware of the details about the activities they were involved in and felt pressured into attending. It seemed as though certain women were included in the process, but were not given enough information about why certain activities were taking place. As a result these women either felt pressured into attending or left the activities upset, confused, and feeling as though they had wasted their time.

“Did you have any worries or concerns about the project?”

No worries. I actually devoted myself, there was a limit, amount of money to pay, if I didn’t attend. I went because I didn’t want to pay the penalty fee.” (Annabel, Mwasima Nuru participant)

“Can you tell me about the walk with the visitors?”

The executive committee led it and talked with the visitors. I didn’t participate, I just walked.

Did you speak on the walk at all?

No

Why?

I wasn’t given a chance.” (Rebecca, Mwasima Nuru participant)

“Did you feel that your participation effected the outcome of the decision making process?”

I do not feel that I effected the decision.” (Olivia, Mwasima Nuru participant)

While women were the most obviously marginalized, youth were also overlooked and not seen as valuable resources in gaining information and making decisions. Youth education on environmental matters was recognized by community members and professionals as being critical to productive efforts in increasing a sustainable mindset that would benefit the community long term.

“Parents now have no time to talk to kids, but kids need this information on local environment. We need to target the young people. They need to know their responsibility. They need to be sensitized to reduction of trees and importance of trees.” (Frank, Mwasima Nuru participant)

“We talk a lot, but it needs to be action as well. Good to mobilize people, especially local.....also giving opportunity for young people to participate, and then rest of community will follow suit.” (Philip, Chumvi non-participant)

“You can also use the sons and daughters because they understand things faster. They are going to school everyday and are well informed. You can befriend them and they understand more than the old folks. They aren’t as old fashioned. So use the youths to gain information.....youth are usually involved in pasturing. So they can tell you where they water their livestock.” (EIA professional, CIDA representative)

Although these results were present in the cases researched, one should recognize that there are more opportunities for participation in CEA than what is currently found in traditional EIA practices. That being said, professional interviewees expressed that numerous best practices exist in CEA methodology that entail capturing a wide variety of community input, especially from marginalized individuals.

“You must engage community members equitable. Meet the community leaders, listen to the women, and the children.” (EIA professional, USAID representative)

“When you meet with the committee, you want to ensure that all the stakeholders are there, so disabled, children, and women. You couldn’t do an EA with CIDA if there are gender biases on the committee. Women issues must be addressed. Have youth needs been met? You ensure that there is a balanced committee.” (EIA professional, CIDA representative)

“When I detect that there are missing elements, like women or HIV victims, then I ask to conduct interviews with these people to help find missing elements. So I targets specific people with the desired demographics.” (EIA professional)

While most professional interviews recognized the importance of gaining input from numerous realms in the community, a few also commented on the difficulty in doing this. While best practices exist that call for all effected parties to be consulted, it is not always practical to do so. CEA is expensive for communities, which is why often they are completed with the help of donors. This being said, a fully intensive process can be very costly and may not be within the financial bounds of the project in view.

“In small scale projects there is a limit to the returns you experience in the effort required to find and include them. Marginalized individuals deserve equity treatment, but you can’t spend so much time.” (EIA professional, USAID representative)

4.2.2.2 PRA Activities

A number of questions in the interview schedule focused on the CEA activities and how the community representatives actually participated. As mentioned before, these activities took the form of Participatory Rural Appraisal (PRA) exercises such as group mapping, transect walks, interviews and group seminars. During professional interviews, interviewees discussed the importance of these activities and advocated their use in such CEA processes.

“Some work I did in Tanzania involved getting people to sit down and map out their communities. These types of PRA techniques were used. The PRA tools got them to understand environmental challenges, strengths of the community, enabled them to prioritize issues and mobilize their community.....they allow the community to talk it out and let them come up with how they see things.” (EIA professional, CIDA Representative)

“Sophisticated tools used under the rational model are substituted by participatory tools, PRA. [They] give room for, and emphasize, the participatory nature of CEA.” (EIA professional)

“We used extensive PRA techniques. Those tools are amazing. They help make the locals aware of what is being done, and lets them know they have the knowledge needed. What they will do is not out of the blue. They become willing to participate when they see the significance. Mapping techniques were used where they would draw the geography of their environment. You give them a chance to participate and dialogue. You draw a ‘GIS map’ on the ground. Transect walks help them to see the landscape.” (EIA professional)

As discussed in the literature review CEA is characterized by the use of such tools. It is important to note that while EIA professionals stressed the importance of these activities, they did not equate PRA with the CEA process.

“PRA is its own process. It has tools yes, but they are part of a process that allows locals to assess their current condition and knowledge so that they can begin to manage the development process in their community. CEA comes in as another process and borrows the tools of PRA in order to access local knowledge and allows them to participate in the decision making process.” (EIA professional)

When asked to recall their experiences with the CEA activities participant interviewees were given a chance to account for how they were involved and how they felt about the process. By collecting information on how participants felt about the activities it was possible to see how favorable they were to such active participation. By far the majority of the responses revealed a positive attitude to the exercises. In fact, when it proved difficult to remind interviewees of the CEA process, PRA activities were often mentioned in order to help mnemonic processes. The following outlines some of the reaction participants had to the CEA process.

“Did you enjoy this [transect] walk?”

I really enjoyed it.

Why?

Because it gave me a lot of thought on how to conserve the environment, like planting the trees on top of the mountain.” (Richard, Mwasima Nuru participant)

“Can you tell me about the mapping exercise you did on the ground?”

We had a drawing from tank to borehole and where water would go.

Did you like the exercise?”

Liked it, we had all the hills, towns.

Why else did you enjoy it?

Because it was in ourselves, put it in another form from what was in us....that map was actually teaching us not to destruct the environment.” (Dan, Mwasima Nuru participant)

“Did you enjoy this [transect walk] exercise?

I enjoyed it, though it was hard. I had never before walked the pipeline. It was quite enjoyable we could see, discussing measures to be taken. Also during mapping we thought it was a short distance, we could just map line, but when actually on ground we could really walk and walk, it was [a] really long journey.” (Maxwell, Mwasima Nuru participant)

“Can you tell me more about the interview he had with you?

I described how Chumvi looked, what people did, activities, gave information on source and water, how far we’ve reached in getting water here.” (Jonathan, Chumvi participant)

In speaking with CEA participants it became clear that Mwasima Nuru participants were involved in more types of PRA activities. While Mwasima Nuru CEA participants were able to recall multiple activities, Chumvi CEA participants’ memory was more limited to interviews and a single group meeting. As a result Mwasima Nuru participants reported more enjoyment in CEA activities. Specifically, the mapping activity surfaced most often as the most enjoyed activity. Often responses revealed that this was due to the uniqueness of the activity and the fact that it helped them realize important information in regards to their community. It was something they had never done before, thus it held their interest and they desired to be involved in the process. Chumvi participants on the other hand often pointed back to the interview activities as the most enjoyed exercise. This may have been due to the fact that the group meeting that occurred was conducted as part of a larger HIV meeting, and may not have been understood as a CEA activity. The adoption of specific PRA techniques was seen to be

more dependent on the preferences or competency in PRA of the facilitating EIA professional than their necessity to the CEA process.

It was also interesting to find that although non-participants had not observed CEA activities, a few of them were able to recall the events due to word of mouth in the community. Often what circulated through the community was the discussion of the unique PRA activities that participants had the opportunity to be involved in. This was noticed solely with the Mwasima Nuru CEA as the mapping exercise was found to be most unique and was not conducted in the Chumvi CEA.

“Did you hear about the walk along the pipeline?”

Yeah, its not new I heard it from a member of Mwasima Nuru.

Did you hear about the mapping exercise on the ground?”

I heard from them that they did the map, but didn't witness it.

Did they like it?”

They really enjoyed because they were expecting new things to come.” (Amy, Mwasima Nuru non-participant)

4.2.2.3 Enjoyment

CEA participants were also asked to express whether they enjoyed participating in the CEA process. While PRA exercises were usually the means of incorporating community members, they were often the topic of discussion for this section of the interview schedule. As a result, most of the feedback related to activities such as the transect walk, mapping, interview and group seminar activities. As was said previously, these activities were quite memorable to participants and much enjoyment was expressed. Additionally participants expressed that they enjoyed participating because it gave them updates on project status and increased their hope that the water project was actually coming to their area.

“Did you enjoy the meeting?”

I did.

Why?

Enjoyed because people could see that water was progressing and it was a quick way to give many people the information.” (Jim, Chumvi participant)

“Did you enjoy the meeting?”

Was happy with it.

Why?

Happy with guys, cause it was a process to getting water here.” (James, Chumvi participant)

Though most participants enjoyed the exercises they were involved in, a minority found participation stressful and not enjoyable. Part of this was due to the fact that they either felt forced into being there, or expected some kind of payment in the form of food or cash for their participation, of which they did not receive.

“Did you enjoy the walk or not?”

I did not like it because we footed, reached home at eight at night. Apart from being driven, we should have been given something to budget for ourselves. Only that.

Was there anything you liked about it?

No, [I] didn't like it.” (Annabel, Mwasima Nuru participant)

“Did you think differently at all after the walk?”

I found I spent my time without getting anything. I didn't benefit.

How has the EIA helped you personally?

Completely no.

Why?

Because all of that day we walked I didn't get anything like say pay, therefore I find I didn't gain anything.” (Pam, Mwasima Nuru participant)

Participants and non-participants were also asked to comment on other activities in the community that they enjoyed participating in. Often what came up were activities such as farming, cattle grazing and community groups that benefited them somehow through food, income or knowledge production. Farmer Field Schools (FFS) often came up in the Mwasima Nuru communities, and it was discovered that ten different FFS groups were present in this area. Chumvi communities often expressed enjoyment in

grazing their cattle and being involved in tree planting initiatives which were common in the area.

“I enjoy the FFS. Because I have learned a lot on methods of farming. Given early planting variety seeds. Also zero grazing was taught.” (Jim, Mwasima Nuru participant)

“What other activities have you participated in that you really enjoyed in the community?”

Tree planting, outside you see many trees planted. Owning livestock.” (Daniel, Chumvi participant)

“What other activities have you participated in that you have really enjoyed?”

[I] enjoy group work in the village, especially like farming.

Why group work?

Because we really help each other say to contribute for a member, we just do it simply. To help a member’s farm, we go help him do the farming and thus we keep going.” (Rebecca, Mwasima Nuru participant)

“What motivates you to participate?”

Because I really like development and I would like to change my life. I like to participate in activities that have some kind of benefit.” (Belinda, Mwasima Nuru non-participant)

4.2.2.4 Empowerment

Participation of local peoples is a key characteristic of CEA. Not only does CEA methodology seek to involve local people, but it does so in a way that participants are involved throughout the assessment from beginning to end. Such participation allows communities to not only give more input into the decision making process but enables them to affect the end result. This empowerment was both felt and unfelt in a number of ways throughout the Mwasima Nuru and Chumvi communities.

In the interview schedule it was important to determine if a feeling of ownership for the project was present among community members. Largely this feeling was

present, but was most often due to the fact that they came up with the idea of the project and began looking for ways to fund the proposals.

“Is there a sense of ownership over the project among community members?”

Yeah.

Why?

Because we are actually the beginners of this project, we dug trenches, carried pipes, and did all other activities.” (Bruce, Mwasima Nuru non-participant)

“Do community members have a feeling of ownership for the project?”

Yes.

Why?

It is our contribution and effort to form water project and with help we have struggled to get funds. And we have contributed ourselves and our effort was used to make sure [the] project is sustainable.” (Casandra, Chumvi non-participant)

While community members expressed ownership for reasons of their own contributions and benefits that they would receive, these were often related to the project and not the CEA decision making process itself. Though the CEA process did not seem to add to this feeling of ownership, it is certainly the hope of the CEA facilitator that this occurs. Professional interviewees revealed that communities must take control of the process, by doing so they not only gain ownership of the project, but gain ownership of the decision making as well.

“You want to lead people through the process, let them run the process.” (EIA professional, CIDA representative)

“They have decision power. You provoke them to think, and they have ownership.” (EIA professional, African Business Foundation)

“Decisions are made on a consensus base. The decision could come down to a vote, but the African context is to discuss until a consensus is made, at least that is the way it is with the project management committee. So the process is fairly transparent. Discussion is open and on the floor, and open to debate.” (EIA professional)

Other professionals stressed the fact that as a facilitator, one must properly devolve power relationships. This involves the CEA team as a whole to conduct themselves in ways that are less 'top-down' in approach and encourage local community members to be involved.

"In one town we gathered with a farmer and his wife. The farmer wasn't there yet so the wife went out to get them something to drink. During this time the group of scientists/officers sat down at the table that was present. I realized there wouldn't be enough chairs for the farmer and the other farmers that would come. So I encouraged them to get up, spread the chairs around and leave some open in order to level the playing ground. They were wrapped up in being scientists speaking to farmers and an adjustment was needed in their outlook...before you can repair a community, you need the locals to be engaged....their involvement is important throughout." (EIA professional)

"It largely depends on the attitude taken by the EA team....community input is valued and shown through the EA team's attitude." (EIA professional, USAID representative)

Regardless of whether ownership was felt over the process and if power relations were appropriately devolved some participants did comment on the fact that they felt empowered through their participation. James, from Mwasima Nuru, was an individual who participated in the CEA and showed many signs of self reliance. He commented on the fact that his experience in the CEA contributed to this feeling.

"Can you describe the seminars you were involved in during the EIA?"

We discussed how to sustain ourselves in life without depending on donors.

Did this change your thinking in anyway?

Before the seminar we mainly depended on donors, but immediately after we had to work hard, put ourselves into farms, even if donors come later, they will find us working rather than just sitting idle."

4.2.3 Accessing the Report

Once community participation in the CEA was complete, the CEA team then developed a summary of findings and organized them into a report. Community and

CEA team findings were compiled together in order to provide a comprehensive report that would serve as an application to the Kenyan government in order to receive EIA approval and a go ahead for the project. This report would also be critical in giving direction for future management activities. However, many community members were either unaware of the report's significance or had failed to see the document. The report for Chumvi had not yet been completed at the time of the field component of this research. However, Chumvi community members were eagerly waiting for the document and felt that there was an undue delay on behalf of the CEA consultant. In informal discussions with members of the PMC it was requested of me to obtain a report so the community could understand the importance of the CEA/EIA. However, the report remained incomplete at the time of my request. As a result the Chumvi community members I interacted with seemed upset that such a delay would continue.

In the case of Mwasima Nuru a report had been completed. During my time in these communities I had the opportunity to visit the local NEMA office and view the Mwasima Nuru report. However, many community members had not viewed the report, nor were they aware that it was even available.

“We have not got a report yet. We have asked for one. We asked PCCS, they said they would get it to us but it has taken a lot of time.” (Frank, Mwasima Nuru participant)

“I have not seen the report either.” (Marcus, Mwasima Nuru participant, PMC member)

“The report was given out, but we were not presented with the findings. The information has not been shared to the community.” (Sam, Mwasima Nuru participant, PMC member)

It is of special note that many of the PMC members had not seen the report. There was also a community participant who felt they were not allowed to view the report.

“But what about you, can you view the report?”

It is not possible for me to view it.

Who can?

Maybe if you go as a group you can.” (James, Mwasima Nuru participant)

In terms of how assessment findings should be presented to the communities a number of EIA professionals suggested using photographs as a means of relaying findings.

“You also take photographs, these are very important. You put them in the report, let them see it. Link their participation to the report by featuring pictures of them involved in activities. Photographs can also be given as a memento of the project and the EA. It reminds them.” (EIA professional)

“At some point we present the report in the form of photographs. Info about the client is in photos, then you talk about the environment, and show photos. A pictograph. If the project produces jobs, you show pictures of people working in those jobs. We then left them with a book of photos.” (EIA professional)

By providing such a report professionals felt that community members would be more prepared for administering the report’s recommendations found in the Environmental Management Plan (EMP). Photographs seemed to be a more appropriate means of transferring knowledge as many of the rural communities have large illiteracy rates.

4.2.4 Mitigation Measures and Management

Moving from the report, communities are then expected to manage the project in accordance with the Environmental Management Plan (EMP). There were a series of questions specifically tailored to the context of the Mwasima Nuru water project. The reason for this was because the project had already been partly completed and certain project impacts could be assessed within the community. Due to this situation, Mwasima Nuru community members were asked to describe how the water project had impacted their lives and the surrounding area economically, environmentally and socially.

Through this line of questioning it was found that a number of deficiencies existed in how CEA mitigation measures were being carried out and in the overall management of the water project post CEA. The fact that many interviewees had no access to the report may have largely contributed to this finding, but it also showed that verbal communication between CEA participants and project managers failed.

Once a CEA report is completed and approved by NEMA an EMP is given to the community and they are expected to conduct the prescribed mitigation measures. But it was often found that these mitigation measures were not being carried out, and once the water project was up and running, there was no perceived need or financial capacity to carry out EMP recommendations.

“What types of mitigation measures were discussed at the EIA to make up for the negative impacts of the project?”

There was a plan to plant trees around the tank.

Was it done?

Not done.

Why?

The trees to be planted, they needed money, but no money by that time to purchase trees.” (James, Mwasima Nuru participant)

“They suggested we should plant trees on top around the tank because to avoid evaporation and the water could have shade.....we still have not planted trees up there.” (Sonya, Mwasima Nuru participant)

Among interviewees it seemed as though they thought it was the sole responsibility of the PMC to make sure that such EMP recommendations were followed through with. As a community member they felt no personal conviction to improve the water project at their own expense. Moreover, if anything went wrong with the project, there were often accusations of corruption within the PMC.

At the time that interviews were conducted in the Mwasima Nuru project area water had not been running to community kiosks for over two weeks. And upon

questioning it was revealed that this was a common occurrence with the project due to various issues such as not paying electric bills to run the water pump, breaks in pipes, and conflicts with a landowner who controls the borehole location.

There was also an obvious feeling of animosity that phase 2 communities had towards phase 1 communities. Phase 2 communities consisted of the 9 villages previously affiliated with Nuru Modambogho, while phase 1 (collectively known as Mwasima) is mostly affiliated with Mwatunge, but also covers the villages of Meryland and Singila. At the time of this research phase 2 had not yet begun and communities in the phase 2 area were becoming unhopeful that they would ever receive water from the project. As a result many of them became bitter that they had contributed their time and work to help move the project along.

“Personally I have not benefited from [the project]. My area hasn’t had water. Land in Mwatunge has benefited from the water.” (Tiffani, Mwasima Nuru participant, Nuru Modambogho member)

“Now phase 1 is finished, and a few are getting water. But many others aren’t getting water. They don’t know why the project isn’t proceeding and they haven’t been called to discuss this. Another problem, they had agreed to have no personal taps before all villages were done. But now many homes in Mwatunge have water, so they are wondering how they will have water in the far away villages.” (Sam, Mwasima Nuru participant, Nuru Modambogho member)

“Is there a sense of ownership in regards to the project among community members?”

No. Because at first we came together, Mwasima and Nuru. But now Mwasima has water but Nuru no, so that means Nuru is not part of Mwasima.

Who owns the water?

(he laughs) for the communities, but among Mwatunge people.” (Isaiah, Mwasima Nuru non-participant, Nuru Modambogho member)

Interviewees were also asked if they had received any benefit from how the current project was being managed in order to determine if residual effects were being felt in surrounding villages.

“We have not benefited at all from water being in Mwatunge. Only that we can go to Mwatunge instead of Mwatate for water.” (Sam, Mwasima Nuru participant, Nuru Modambogho member)

“Have you experienced any residual benefits from Mwatunge? For example is Mwatunge producing more produce, which perhaps gives you more variety to choose from?”

We don't really see any of these impacts of the project from Mwatunge benefits. (James, Mwasima Nuru participant, Nuru Modambogho member)

4.3 Learning in CEA Processes

After exploring short term interactions that community participants had with the CEA process, it was also of interest to determine long term effects that participation had on learning. Learning that took place occurred in the form of learning about CEA processes as well as learning in relation to the project and environmental issues. As discussed in chapter 3, transformative learning theory was used to help determine the learning outcomes of the CEA process. Transformative learning is a process in which adult learners assess their current belief systems, undergo a perspective change, and then experience behavioral changes as a result that coincide with these new beliefs (Christopher et al., 2001). Part of this theory entails distinguishing between instrumental and communicative learning.

4.3.1 Instrumental Learning

Instrumental learning deals with information that can be gained through controlling or manipulating one's environment such as through empirical testing (Mezirow, 1994). This type of learning involves assessing truth claims through deduction and task oriented activities for solving problems (Mezirow, 2003). So new information and skills are gained through interacting with one's physical or social environment.

In the context of the CEAs assessed in this research, community members were found to have experienced instrumental learning. Of the 26 participants interviewed, 22 reported that they had gained some new type of information or skill that could be associated with instrumental learning. Most often the new information gained was in relation to construction or upkeep of the water project. The importance of burying pipes for the project in order to protect them from being damaged and maintenance of the tank and pipes often came up as popular responses. Though fewer in number, there were other participants that claimed they gained new information about erosion, Kenyan law, EIA, NEMA, water conservation techniques, and the importance of land agreements (see Table 2).

New information	Water Pipe Protection Soil Erosion Tree Planting EIA NEMA Water Legislation Water Conservation Techniques Understanding Area
New skills	Pipe Maintenance Tank Construction

“Did you learn anything from the walk?”

I learned about fixing the pipes and how I can also dismantle them. Also how to build the tank, it was being constructed at this time.” (Allen, Mwasima Nuru participant)

“After pipes in trenches and rain fell, later on the trenches resulted in small valleys because soil eroded away. These pipes, I realized they had to be put deep and put a lot of soil on top to be firm so water can’t erode.” (George, Mwasima Nuru participant)

“Will there be a future charge from the government for water use?”

Yes, they will put meter and charge us accordingly. Like electricity.” (Jim, Chumvi participant)

In relation to these new gained skills and information, there was also evidence of changed behavior. With the new information gained, a minority of participants were able to show for it in some activity that either benefited the project, their community, or themselves. The following is a list of responses that highlight some of these examples.

“After that day I came and put myself busy in my farm by digging terraces and putting more grass to preserve the soil from being eroded by water.” (Marcus, Mwasima Nuru participant)

“Has your participation resulted in new ways of doing things in your farm?
In my farm I have made terraces to conserve the soil and also have grown a lot of grass on terraces to protect soil from running way.” (Maria, Mwasima Nuru participant)

“Did this info change your thinking in anyway?
I found it funny that when water is hit by sunlight it can easily evaporate.
Did it cause you to act differently at all?
Yeah, I cover water which is in drums outside with poly papers to avoid evaporating. That’s all.” (Pam, Mwasima Nuru participant)

“How did this info change your thinking?
In a way that for any future projects we have to consult regulatory bodies. We first thought NEMA was only an environmental thing. Now we saw that they do community based studies and are fully involved. Then after EIA I went to NEMA office to help get our registered environmental group some info. We wanted to ask them our role as an environmental group in the project.” (Frank, Mwasima Nuru participant)

Although most participants experienced some form of instrumental learning, they often showed a lack of knowledge in regards to key concepts related to the CEA process. Thus learning in relation to project information was more common than that of CEA process. For example, many interviewees actually left CEA activities without understanding what EIA is and why it is important. As a result there was very little awareness in regards to NEMA as a regulatory body of the government or the legislation that created it and expresses the need for EIA. Of the 26 participants interviewed 23 of

them were familiar with the term EIA, but only 15 of them actually knew what it was.

This left 43% of participants not clear on what EIA is.

“Why was the EIA done for Chumvi?”

To measure understanding of people on water, of different community members.
To know how people understand the water project.” (Daniel, Chumvi participant)

“Is Environmental Impact Assessment a familiar term?”

I have not heard of that term.” (Marcus, Mwasima Nuru participant)

“What is Environmental Impact Assessment?”

Totally I don’t know what it is.” (Rebecca, Mwasima Nuru participant)

This large portion of participants who experienced low levels of CEA learning reveal that project learning is much more understood or retained after CEA activities are completed.

4.3.2 Communicative Learning

While instrumental learning is important to gaining new information and skills, communicative learning deals with “understanding purposes, values, beliefs, and feelings” (Mezirow, 1997, p. 6). A learner can be introduced to a new concept, such as sustainability, and then are challenged to assess their current values and beliefs to determine if sustainability is a valid goal. With certain learning conditions met, the learner will be able to determine whether their previous belief, that may not contain sustainable actions, is a valid belief.

CEA participants were confronted with opportunities for such learning to occur. Ideas such as environmental sustainability, creation stewardship, and unity were all introduced in some form or another and challenged the thinking of certain participants. While instrumental learning was found to occur in 85% of participant interviews, far

fewer experienced communicative learning outcomes. Five participant interviews, or 19% of participant interviews, revealed communicative learning outcomes as a result of CEA participation.

“What did you learn from the exercise?”

Whatever was taught and what we see on earth is God’s creation, so we must be careful to [preserve the] environment. When we [preserve the] environment we are saying ‘thank you God’, this was nice info to us, it helps you remember the creator. New way of viewing environment.” (Dan, Mwasima Nuru participant)

“Did the new information change your thinking in anyway?”

For people to develop they must think and act together. Acting alone will not work, you can’t develop your own proposal.” (Frank, Mwasima Nuru participant)

“Did the EIA help you personally?”

Yes. Because once I saw this place with no trees, it is a desert, nothing can survive there. Cliffs due to erosion, so after then I started taking environment as a friendly thing and a lot needs to be done to improve environment of this place.” (Oliver, Chumvi participant)

“Made me think what God created shouldn’t be disturbed.....creation has a purpose.” (Frank, Mwasima Nuru participant)

Such participants also reported that their behavior changed as they formulated new beliefs about such topics, thus communicative learning outcomes further presented themselves. After their involvement in the CEA, they were able to take steps in actualizing their new beliefs as they took action through informing other community members, approaching government bodies, and adopting new behaviors in community activities.

“Has this information changed your actions in any way?”

Yeah, when I see a problem I tell people. One day I realized there was no water, so I went and did something about it, so I went and spoke to neighbors and chief about fixing it. Also rumors that pipeline was going to be dismantled and sold for scrap metal, so we alerted the government, they then took action.” (Frank, Mwasima Nuru participant)

“Did this info change your actions in any way?”

It changed [my] actions by me being extra careful and urging others not to destruct environment and ask government to come in and assist us.” (Dan, Mwasima Nuru participant)

“How have your actions changed as a result?”

Yeah.....when a decision needs to be made I should make it participatory and include community or like in a baraza I should make it more participatory and not decide things on my own. Then it becomes easier, even the learning becomes easier. Like during my farmer training I used the participatory method of training. So when meeting farmers I ask them how we can solve this problem. I don't take for granted that it is me that can solve the problem, but I let them see that they can also solve. So in FFS we start generating information, you let the learning be taken by everyone in that class, it becomes very interesting because load is carried by participant themselves.” (Edmond, Mwasima Nuru participant)

Also critical to the issue of communicative learning is dialogue. Participants must have the opportunity to dialogue with other stakeholders in order to best prepare for communicative outcomes. Community participants commented on the fact that they were able to interact and speak with various other players in their community.

“How did you participate in this activity?”

I aired my views, incited others to talk.” (Frank, Mwasima Nuru participant)

“Did you voice any concerns in the meeting?”

The attendees were given the opportunity and I did bring my concerns about water. I felt comfortable talking.” (Maria, Mwasima Nuru participant)

“When I was talking I felt comfortable because everyone listened to me. Most of my questions were answered and were not pointless.” (Mandy, Mwasima Nuru participant)

Again, it was noticed that much of the learning that took place was in the context of project learning as opposed to specific CEA process learning.

4.3.3 Other Educational Opportunities

When looking at instrumental and communicative learning outcomes as a whole changes in thinking were found to be much greater than changes in behavior. And in

many cases changes in thinking were not possible due to previously held knowledge on topics discussed in the CEA. Interviewees explained that many CEA topics had been taught to them previously. This was due to their exposure to other educational initiatives that had taken place in their communities. For example, Mwasima Nuru communities have had a history with PCCS and have benefited through numerous seminars on farming techniques, tree planting, and seed varieties (see Plate 3). Additionally, the Green Belt movement has operated throughout the area offering educational seminars on tree planting and FFS groups have thrived in the villages. In Chumvi, the community has experienced much NGO activity through AIDS awareness and informational seminars on desertification and tree planting.

“Where did you learn it was important to conserve the environment?”

I got the information from the community worker at a seminar for the Green Belt movement. They made me realize this, before we did not know.” (Harry, Mwasima Nuru participant)

“It’s important cause [trees] protect water catchment areas, beautify environment, can control spread of desertification.

Where did you learn this?

I learned from seminars that we had at nurseries here in Chumvi, also in school we had a tree planting day.” (Jim, Chumvi non-participant)

“Why do you plant forest trees?”

To have a good environment and also to have good shade, to get some firewood also. Also to get timber for construction.

Did you learn all this from the Environmental Impact Assessment?

The Environmental Impact Assessment and from Nuru-Modambogho, and from [PCCS].” (James, Mwasima Nuru participant)

It was also found among a few interviewees that although new information had not been introduced to them, they had experienced a behavioral change as a result of participating in the CEA process. So there seemed to be something significant about the CEA process that motivated them to act upon information that was already held previously.

“Did you act differently as a result, say back on your farm?”

After walking and coming back home I informed members that trees should not be cut because they provide shade for the house. And also to bring a good breeze and also to protect the soil erosion. Within homestead [I] saw a valley and I went and got sisal and planted and now valley is over. I learned this from the walk.

Was soil erosion a new idea to you?

Though not new, I didn't put it into practice.....but after taught I came and practiced.” (Maria, Mwasima Nuru participant)

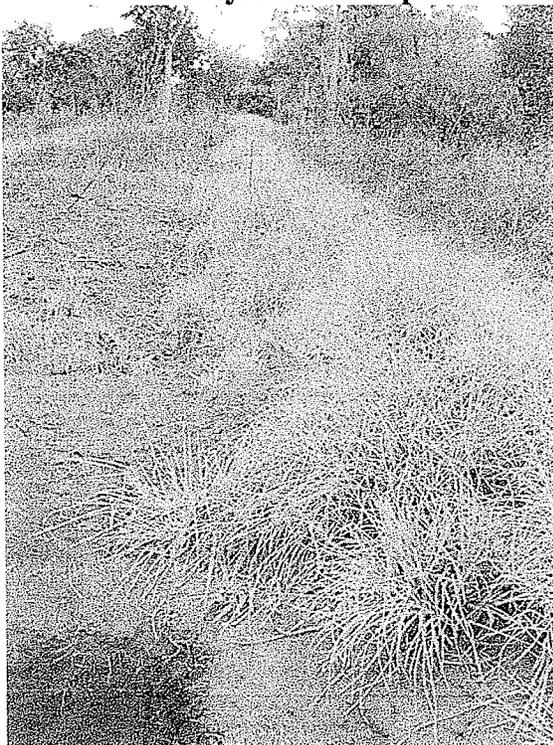
“We learned on repairing pipe[s] and how to dig trench, second I learned on keeping one cow on farm in relation to small farm. Cow can depend on your farm.

Was this new to you?

I knew before, but I found it very difficult, but after the meeting I found it to be easier.” (Pam, Chumvi participant)

“Though I had learned a bit about terracing from FFS, after [the] walk I came again and made more terraces, after getting more knowledge in how to conserve the soil.” (Rebecca, Mwasima Nuru participant)

Plate 4: Grass planted in Msisinenyi *shamba* to protect land from soil erosion



4.3.4 Teaching Others in the Community

While certain individuals were invited to be a part of the CEA process, the majority of community members did not participate. It was then left up to participants to inform the larger community about the events and decisions that were made. Determining what non-participants had indirectly learned from the CEA process was important to the research in order to determine if the process had the ability to promote environmental sustainability outside of direct participants. What was found was that the majority of participants did not relay important concepts introduced in CEA activities to other community members. In the 21 non-participant interviews conducted, most of them were uninformed about what had gone on in their community.

“Have you heard of Environmental Impact Assessment?”

I have not heard of it. I heard about the visitors, though, who came to help with Mwasima. They came to visit but I don't know what they did.” (Nina, Mwasima Nuru non-participant)

“I wasn't in the meeting and not interviewed, I don't know what he talked about.....I wasn't there so I'm not sure exactly what was involved.” (Pete, Chumvi non-participant)

“Have you heard of the activities done with community members by the visitors?”

I was not involved in them at all. These are new things I am hearing about now [from you].” (Harry, Mwasima Nuru non-participant)

Those who had heard something were often told that donors had come to their village. This further emphasizes the problem discussed previously where EIA facilitators were viewed as donors of the project, even by CEA community participants.

“Anything else you heard about in regards to visitors and their activities?”

I heard that these guys had promised the communities to do their best to help the project, so far I don't know if they put something in the project, or nothing to this moment.” (Jasmine, Mwasima Nuru non-participant)

“What about the visitors at the tank? What were they doing?”

I’ve heard rumors.....these visitors were to fund the project.” (William, Mwasima Nuru non-participant)

There was also a case where a participant was only able to attend certain CEA activities. Though he had missed the seminar activity in which much information was discussed, he failed to be informed in regards to the content.

“After the seminar, attending members came back and told us they had a good seminar, but didn’t tell us what they had learned.” (Gordon, Mwasima Nuru participant)

While many non-participants reported that they had been uninformed, a few participants did feel that it was their responsibility to inform other community members and reported doing so.

“Why relay this information to other villagers?”

I want to share this information, if I keep it and profit alone, this will not be okay.” (James, Mwasima Nuru participant)

“How did the Environmental Impact Assessment help you personally?”

They helped me as a leader to also inject information to other people. The light I got I made sure others got it who weren’t at meeting and not on front lines.” (Dan, Mwasima Nuru participant)

“Have your daily activities changed in any way as a result?”

Planting of trees, they were cut on pipeline, so now I feel I should plant some more trees.

Have you?

Yeah I have. Also, even where I meet farmers, I am encouraging them to plant trees and to make use of the water that is now coming to their villages.” (Edmond, Mwasima Nuru participant)

Yet among some participants there was also a thought that the responsibility to inform others belonged to participants other than themselves.

“And we said every member should go tell other villagers about dangers and importance of EA. I couldn’t though, because other members did this in Mwatunge village.” (Edward, Mwasima Nuru participant, PMC member)

4.4 Benefits and Barriers of CEA

During interviews a number of positive and negative remarks were made in regards to how the CEA process was carried out. Being that CEA is a relatively new concept and still adapting to the needs of developing rural communities it was crucial to explore this avenue of questioning. While environmental professionals often had positive things to say about the process and how CEA is improving environmental sustainability, community members were less enthusiastic about the process as a whole.

4.4.1 Barriers

The data revealed that there is often a misunderstanding about what CEA/EIA is and why it had relevance to the community's water project. As a result, in most cases the CEA/EIA process was seen as a barrier to the community in meeting their basic need of water.

“Why should one do an Environmental Impact Assessment?”

Not sure apart from legal purposes for NEMA.” (James, Chumvi participant)

“How has the Environmental Impact Assessment helped you personally?”

Completely no.

Why?

Because all of that day they walked she didn't get anything like say pay, therefore she finds she didn't gain anything.” (Patience, Mwasima Nuru participant)

“I am tired of waiting for water, it has been a long time. Ivory Consults keeps telling us one thing after another. First agreement, then Environmental Impact Assessment, then cooperative society. So one after one there is something we have to do.” (Pam, Chumvi participant)

Often the frustration associated with CEA was seen in the fact that the process was an added expense on the community. Community members commented on the fact that they had very limited resources, especially financial resources. Members of the communities felt that they had tried so desperately to solidify project funds through

personal contributions and locating donors and were already stretched too far. The addition of a CEA, the expectation to hire a consultant, and numerous fees associated with EIA registration exacerbated community frustrations.

“Can’t afford pipes and intake. So Environmental Impact Assessment is a constraint to projects that are starting off because it is required. It’s a constriction to projects.” (Daniel, Chumvi participant)

Professionals also sympathized with this hindrance on communities:

“They don’t have money. We tell them to contract a consultant that charges a lot. So they have to collect money for EIA or to help themselves. So they hide instead, they want to help themselves. Unless donor funded and donor wants the EIA done, they don’t do it. So many small projects, I feel sorry for them.” (EIA professional)

There were also barriers associated with having visitors in the communities. In both Mwasima Nuru and Chumvi CEAs visitors, in the form of EIA professionals, entered the community. While in Chumvi’s case a Kenyan professional interacted with the community, Mwasima Nuru saw numerous North American professionals. While both cases showed an increased expectation on behalf of community members in regards to what visitors had to offer, the introduction of Caucasian individuals more strongly increased such expectations among Mwasima Nuru community members.

While some Mwasima Nuru participants remained confused about CEA and what was being done, they reasoned that the visitors to their community must be donors for the project. This idea was also shared by numerous non-participants who failed to receive reports as to why visitors were in their community. As a result, many individuals in the Mwasima Nuru communities expected to see cash donations or improvement to their water project. As frustrations continued to rise in regards to the poor management and condition of the project, corruption in the PMC surfaced as the only explanation.

“What were your expectations from the visitors?”

My expectations.....was to bring something to boost the project that day.” (Amy, Mwasima Nuru non-participant)

“When we received [the visitors] I saw that we would receive the water. I thought they would bring something small to boost its continuity.” (Annabel, Mwasima Nuru participant)

“[The visitors] were with executives of the project. So people ask ‘Why are these people here? What are they searching for?’ So we wonder. There is no tie. So we have to conclude that they are here to fund project.” (Wyclif, Mwasima Nuru non-participant)

“These guys might have probably given something to the project, they would not have come to waste their time in Kenya. Most of these committee guys really hide most of the issues regarding the project and don’t expose everything.” (Rebecca, Mwasima Nuru participant)

While having North American visitors to their community was for the purpose of conducting CEA activities, this information was not shared with the community as a whole. The visitors were seen as a financial resource of which many community members saw no direct benefit. This resulted in participation fatigue on the behalf of community participants as they came to resent contributing time to the process.

4.4.2 Benefits

Although certain frustrations were experienced there were participants who were favorable to the idea of conducting a CEA and were able to perceive benefits that the community gained as a result. While these types of responses were fewer in number, both Mwasima Nuru and Chumvi projects contained individuals that were able to gain this understanding.

“We needed it done because as this place is [a] dry place and we didn’t have water long, we thought if it came now it could be misused by users, so proper for Environmental Impact Assessment to be done. Animals can also use and destroy. So from study people are cautioned to be careful, about environment.” (Nathan, Mwasima Nuru participant)

“So is Environmental Impact Assessment even necessary?”

It’s necessary because I tend to feel projects, before government was so strict, projects could take off and not [be] properly weighted whether they will be of benefit or not.” (Daniel, Chumvi participant)

Interview data also revealed that a number of other community benefits are associated with CEA. For example, although a number of participants felt marginalized, unity was developed among communities that previously had not existed. This feeling of unity may have been minimal and felt only among particular individuals, nevertheless it was reported as a significant outcome. So the collective action of working towards a common goal and sitting through a planning event such as CEA created a feeling of cohesion.

“I am now having no longer the mind to do my job alone, now I see unity can do a lot. When water comes we can share our experiences. So I see changes.” (Taylor, Chumvi non-participant)

“I was happy also because of that unity from the communities.” (Marcus, Mwasima Nuru participant)

Professional interviewees also commented on this and suggested that this is a desired outcome of CEA.

“They learn teamwork, you bring them together, like they are one. ‘Harambe’ means ‘pulling together’ in Swahili.” (EIA professional)

The CEA process also benefited as a whole due to the incorporation of community participation. These benefits can be seen in decisions made and how community input benefits the final outcome. Traditional knowledge was one example that came up in numerous professional interviews of how the community becomes a necessary participant in CEA. Traditional knowledge was seen as a key component to fully understanding the environmental context of proposed projects and to enabling

community management efforts post CEA. Project outcomes were also seen as being more cost efficient when such knowledge was taken into account.

“When involving them, they have a lot of knowledge that we don’t have. Site specific knowledge that you can’t get from a textbook or published source. As an EIA expert I don’t have it.....if you ignore it, the project will fail.” (EIA professional, African Business Foundation representative)

“Indigenous knowledge is knowledge that only the locals have. And you can only harness it through verbal communication, it isn’t written anywhere for you to access.....if you don’t use it then your project will be rejected.” (EIA professional)

“It reduces the cost to use traditional knowledge as well. It saves time for implementation.” (EIA professional)

The Kenyan Environmental Management and Co-ordination Act of 1999 also makes reference to the importance of including traditional knowledge into EIA decision making processes.

“The Authority [NEMA] shall, in consultation with relevant lead agencies, prescribe measures adequate to ensure the conservation of biological resources in-situ and in this regard shall issue guidelines for.....integrating traditional knowledge for the conservation of biological diversity with mainstream scientific knowledge.” (Government of Kenya, 1999, Section 51(f))

Not only was traditional knowledge seen as critical to CEA, but incorporating this type of participation results in a positive approval by the community of such projects. By honestly seeking community advice and input into project issues, facilitators ensure communities have more ownership for the project and improve their relationship with community participants. Often this issue was discussed with professionals in the context of larger EIAs where a larger company or proponent was seeking approval from a neighboring community. While CEAs often do not consist of a proponent that is not the community themselves, donors often promote development initiatives and a community buy-in is still essential for the project to proceed.

“In Kenya, Japan funded a large hydro electric dam in the Yanz province. EIAs weren’t used at that time, mostly EIAs were only done if donors required them. So the government didn’t consult the locals, and the locals rejected the project due to severe environmental impacts. Funding stopped by Japan, and the project was forced to do an EIA. This happened in the early 90’s. If the project is rejected, then you waste your time and energy. So it is more economical to involve them from the outset.” (EIA professional)

4.5 Summary

The Mwasima Nuru CEA seemed to have progressed further than Chumvi in obtaining a participatory approach. It was found that the Mwasima Nuru facilitating team took extra steps in actively engaging community members through additional PRA exercises, but also in dedicating more time to be spent with the community. The amount of time spent with the community was productive in ensuring that more participants could be involved, even those of more marginalized groups. This was shown in the Mwasima Nuru case, which had a larger proportion of woman as well. While these exercises took place over five days at two different time periods, the Chumvi activities took place over two days. And these two days came with short notice and were done on a weekend, which proved inconvenient for community members. As well, in the Chumvi case there were only three women reported to have been involved in the CEA. However, one of those women could not be recalled by PMC members, another reported that she was not actually involved, leaving only one female participant that could account for her role in CEA activities.

The issues that Chumvi had with representation can also be traced back to the way in which the community was informed. Given only a few days notice did not enable them to produce a proper venue or proper notice to participants to be involved. The CEA facilitator had not informed the Chumvi PMC members in a way that allowed them to be

properly prepared. Furthermore, if PMC members could not properly prepare, it goes to reason that they were not able to properly inform other community members. The issue of notice stood as a primary hindrance to a productive CEA process in Chumvi and its origin was the CEA facilitator.

Mwasima Nuru however, also had an issue with notice. Yet some PMC members had over a months worth of notice from the CEA facilitator. The issue with Mwasima Nuru seemed to be one of communication within the community, a task left to the PMC. While 12 villages made up the Mwasima Nuru project, and there was an expressed desire to receive representation from each one, it proved difficult to dispense notice due to the number of isolated villages. But this may have also been complicated by the fact that the PMC had not properly determined who should be involved in due time. PMC members are also part of the community and have daily activities that must be done in order to meet basic living needs. With such stresses on one's activities, they may have not discussed who should be involved until time was already running short. But regardless, more must be done to encourage local management committees to give proper notice and to stress its importance in achieving proper community participation.

Mwasima Nuru also faltered in the fact that the CEA was conducted after the project had already begun. This had implications on what the community could and could not do as far as considering project alternatives and mitigation measures. However, one advantage to this scenario was that impacts of the project were evident to the participants rather than being imagined into the future. Yet an ideal process would call for a CEA to be conducted before any project began in order to determine if there were viable alternatives to development and to predict outcomes of the project so that

they can be properly managed. The CEA would then work to minimize the negative effects of the project and maximize its benefits. But since Mwasima had already nearly completed construction, the community was not in a position to consider alternatives. This may in fact have restricted their ability to learn more from the process than if activities had not begun. Discussion on alternative water strategies, environmental sustainability and lifestyle benefits may have been taken more seriously and potentially could have prompted additional behavioral responses. The ideal situation of completing a CEA before project implementation will come as no surprise as traditional EIA methodology also calls for such action. Hanna (2005) claims that an ideal EIA process “begins as early as possible in the planning, project, and decision making process” (p. 6).

Chumvi on the other hand was in a position to take full advantage of the CEA process since the process took place before project implementation. At the time of the research the CEA had been completed one month previously and project construction had not yet started. But, as discussed, due to other deficiencies in the process, the Chumvi CEA was still not as effective as it could have been.

In the assessment of these CEA activities numerous outcomes were found to be significant for process issues, participation and learning. Through document reviews, community, and professional interviews outcomes were explored which highlighted strengths and weaknesses of CEA. The communities’ initial interaction with CEA, notice, was seen to be flawed in that many participants did not receive adequate notification of events. Participation in actual CEA activities had a variety of ups and downs discovered with PRA exercises coming out as a key factor in community enjoyment. In contrast representation seemed to be a weakness of the participatory

process. Interviewees also revealed that a variety of learning outcomes were present, with the majority being instrumental.

We should now turn to discuss these outcomes in order to determine what productive changes should be recommended to CEA methodology in order to validate its use in future development activities by improving the livelihoods of communities in rural Kenya.

CHAPTER 5: Evaluating Community Environmental Assessment

5.1 CEA Practice

Among professional interviewees a number of CEA best practices were presented as being critical to the process. References to including community members in making decisions, taking their needs into account, and ensuring proper representation often came up as ideal ways in which CEA should be facilitated. Yet while professionals are able to state what an ideal process looks like, often a different scenario actualizes itself in the field. This is often due to the complexity of social structures, a lack of resources, and the attitudes & practices of CEA participants & facilitators as shown in the two case studies.

In the cases of Mwasima Nuru and Chumvi there were both strengths and weaknesses to each of these CEA processes. While the cases have been used to support findings found in each one, it is also important to understand that they were unique in how they were conducted. They both subscribed to using CEA methodology, but as seen in interview results much still depends on the community in context and the way in which a CEA facilitating team presents itself.

5.1.1 Adequate Notice

In both communities inadequate notice was given to a number of participants. The reason it proved inadequate was that it did not allow many participants to be fully prepared in participating in the CEA process. For some it meant that, even though they were invited, they could not attend. The literature stated that there are numerous reasons why inadequate notice inhibits effective participation. Diduck and Sinclair (2002) identify inadequate notice as a 'structural barrier' to effective participation along with work, family pressures, and other social commitments. Each individual has many

activities they do in a day such as looking after families, working, etc. And these tasks are further exacerbated in a rural Kenyan setting where many basic needs are not always met. So for developing rural communities, more time is required to gather resources such as food and water that are in limited supply. Unless someone is properly informed one may not be physically or mentally prepared to participate in such activities as those characterized by CEA.

One must then determine what adequate notice is. This may be a difficult task in the sense that it is subjective and depends on the circumstances of each individual. Adequate notice to one may not be adequate to another, as was found in the suggestions from Mwasima Nuru and Chumvi CEA participants. While most interviewees from Mwasima Nuru desired at least a week's notice, Chumvi participants reported that they would be quite happy with three to four days notice.

5.1.2 CEA Facilitators

From the case studies presented it was shown that the attitude of the facilitator is key to participation, and in turn to the learning outcomes that result. The way that they hold themselves and interact is vital to earning the respect of community participants and cooperating through activities. Spaling (2003) notes that a "dedicated commitment on the part of development agencies to increase local capacity for assessing project activities will also be required" (p. 166). Professional interviewees had commented on the fact that often the amount of participation that occurs is dependent on the mindset of the facilitator. So if a professional genuinely values community input and understands how critical it is to decision making then they will actively work towards engaging locals. In contrast, a professional who sees community participation simply as a means of meeting

specific legislated requirements, they will most likely execute the minimum required of them and diminish community interaction. This fact puts much dependence on the facilitator in determining future developments in CEA.

In one interview with an environmental professional the interviewee recalled an event in Vietnam in which he, as the facilitator, was put in a position to challenge the rest of the CEA team. The team was made up of local Vietnamese whom he had trained in EIA practices. Upon entering a particular community the team seemed to hold themselves in a dominating manner, acting as though they were the 'elite' who had entered the village. The professional recognized this flaw in their thinking and worked to correct it as not to inhibit productive community participation. So while educating the team on EIA practices was a major goal, he also had to challenge the social customs that were present. That being said, there are times when the facilitator may need to confront particular social customs that negatively affect a communities ability to participate. And if the facilitator does not do it, no one will. Caution of course must be taken as certain social customs may be held more strongly than others.

Maintaining good communication with communities is also a task that the facilitator should not take lightly. The legislation of Kenya requires that the EIA professional develop a report that entails a management plan for the community to follow (Government of Kenya, 2003). But CEA methodology also works to ensure that the community is well informed and is contributing throughout the process, which includes finalizing a report. If a community is not able to contribute to the management plan due to a lack of communication on behalf of the facilitating EIA expert, then a risk is run in not being able to properly implement post CEA tasks. In both Mwasima Nuru and

Chumvi, participants seemed very unaware of the status of their reports. Even though Mwasima Nuru had been completed almost two years at the time of interviews and a report existed for community members to access, the chairman of the project said he had yet to view the report. While Chumvi had just recently conducted their CEA, they were very eager to view the report as the PMC understood that it must be completed before project implementation. Yet after four months of waiting, they still had no word from the CEA facilitator.

It should be noted that the problem with communication is even more complex when considering the fact that often an intermediary organization is involved. Often a CEA facilitator is working through an NGO that has a history with a particular community. So in the case of Mwasima Nuru, PCCS served as the intermediary, while Ivory Consults represented the Chumvi community. This being the case, there is an additional layer of communication that takes place and the CEA facilitator needs to ensure that they do not bypass the NGO's role with the community. The CEA facilitator must be clear in how communication should be conducted between both the community and the NGO.

The research revealed that there was a lack of effective communication or follow through that took place. In the Chumvi case, this lack in communication resulted in much animosity toward the facilitator in charge. In order to improve the facilitator's role, the professional needs to examine their commitment to CEA methodology. In relation to improving development practices as a whole Chambers (2001) also comments on the importance of reexamining the professional's role in order to avoid past failures.

5.1.3 The Value of Participation

5.1.3.1 Representation

Part of the problem with gathering a good representation from a community is in considering what 'good' representation is. In the past communities have very much been viewed as 'homogeneous' (Guijt & Shar, 1998). With this view it is easy to see how development agencies, and for that manner EIA practitioners, have felt compliant with best practices simply by ensuring that a few of the community members are involved in a particular decision making process. But communities are not homogeneous, rather they are quite heterogeneous. They have complex social hierarchies which contain elite and marginalized individuals.

While CEA process provides an opportunity to involve more broadly, it is still a work in progress based on these findings. In looking at Mwasima Nuru and Chumvi elite individuals from the community still controlled the process. It was much more obvious in Chumvi where seven of the ten participants were men. What is unclear in this situation is whether the facilitator's given notice solely affected this outcome, or if there may have been cultural factors that played a role. In this Masaai community, men largely dominate decisions made on behalf of the community. In fact, when it was time to communicate initial findings for this research, no women attended the informational session. While this research did not seek to understand gender issues in the community, more work is needed on this topic in order to determine the root cause for such marginalization in decision making processes. For now, one can only note that representation of women was a drawback in the Chumvi community.

In Mwasima Nuru more women had the opportunity to participate in the CEA process, and project management afterwards. More was done to strive for a 1:1 ratio of men to women. A more proactive methodology was used to ensure proper representation as 42% of the participants were women. While more women were involved in this CEA, it was still noticed that an elite group of individuals controlled the process. These elite women were ones who were given adequate notice, well informed on what CEA was, and were in closer proximity to the project site. However, other women involved were frustrated by the CEA because it didn't meet their expectations, and they felt they had little power in the process.

While this discussion so far has just noted gender issues, there are other individuals that add to the heterogeneity of the communities. Youth and elderly individuals were noticed to be lacking in representation. Youth on the one hand was lacking in both CEAs and were not seen as valuable resources for information. However, children are large stakeholders, especially in the context of water projects. Along with women, children bear the burden of water collection. Often this task comes with the exclusion of educational opportunities. So not only do children have much to benefit in the implementation of a water project, but they may have valuable knowledge in regards to water sources and potential alternatives to development. The interview schedule also revealed that an environmental ethic is lacking in younger generations. In order to improve this mindset and ensure the sustainability of future projects, the youth are a strategic target for participatory decision making processes.

However, elderly individuals were quite involved in Mwasima Nuru. At least six of the Mwasima Nuru participants could be considered elderly, and many of them seemed

well informed about the CEA process. In fact, all participants seemed to be older than 35 years of age. So while youth still have a potential to impact the process, older individuals in the Mwasima Nuru community are still impacting decision making processes.

Chumvi however was dominated by individuals from 25-30 years of age. While youth were not taken into account, the elderly seemed to experience the same exclusion. Only one participant in this community was considered elderly, and they were also quite uninformed. Upon interacting with this community in the research, it was noticed that interactions with this individual were of a lesser respect. It almost seemed as though the elderly individual was less significant in social interactions. Something that may have impacted the issue was the fact that the individual was not Masaai. In a largely Masaai community, this may have isolated the individual not only culturally, but socially as well.

Another issue of representation is that of getting larger numbers of people more actively involved in CEA activities. Appiah (2001) notes, that this lack of input from the larger public is a major constraint on EIA activities in developing nations. Document reviews for Mwasima Nuru showed that 24 participants were involved in the CEA. This meant that for the project area which consisted of 4,800 people, only 0.5% of the population was involved in decision making processes that would impact them all. Chumvi shared this characteristic where only 10 community members participated on behalf of 10,000 other inhabitants. That being said, CEA needs to develop strategic methods of capturing input from a larger percentage of impacted individuals to facilitate a wider range of community interests.

Ways that a facilitator may be able to meet the needs of various stakeholders and to incorporate more participation on behalf of the community as a whole is to adopt

specific targeting strategies. For example schools in the area may serve as an opportunity for facilitators to approach a large number of youth at one time in order to gain more participation thus increasing overall community benefits. These organized classes could serve as focus groups and become involved in various PRA activities. Many organized groups within rural communities also exist such as Farmer Field Schools, various women groups, churches, etc. These groups can be targeted for consultation at regular meetings as to decrease time expected from the participants. In addition this provides benefits for the overall cost of PRA activities since less time is needed to organize participants due the fact that they are already organized entities. It should be mentioned that to an extent this has been done, for example in Mwasima Nuru home surveys were conducted to incorporate input from targeted groups not involved in groups CEA activities.

Another consideration is that a large number of participants may prove difficult for the facilitation of PRA activities. There may be a particular threshold for the number of individuals that can effectively participate in such exercises such as mapping and transect walks. While it was not in the scope of this research to determine such a threshold, it is a critical issue to consider when striving to maintain the quality of participation. Above all the community interests need to be accounted for. The costs and benefits of participation from a small group of community members need to be compared with those from more community members participating at a lesser quality. One option for the facilitator is to conduct duplicate PRA activities with additional participants. Of course, this increases the time required to be in the community and must be balanced with the facilitator's budget and resources.

5.1.3.2 Using Traditional Knowledge

The literature, along with professional interviewee responses, affirmed the use of traditional knowledge in that it adds value to the process and improves participation (Adomokai & Sheate, 2004; Armitage, 2005). Improving participation is key to increasing “the democratic legitimacy of decision making processes” (Smith, 2005, p. 209). While its strengths cannot be understated it should also be noted that traditional knowledge is not always beneficial or correct. It is certainly an avenue that allows community input to affect decisions made, but it must be used wisely in a way that is productive for both the project and the process.

In one interview with an EIA professional a story was told in which locals held a belief in regards to their water source that was not correct. The community was in Kenya and had traditionally thought that their water had come from Mt. Kilimanjaro, when in fact it came from a nearby range called the Chyulu hills. While this misunderstanding may seem harmless, there was a push by a local politician in the area to conduct forestry activities in the Chyulu hills, which would potentially add further harm to an already dwindling water resource. This brings one to an interesting cross road. As a CEA facilitator, is it one’s place to correct potentially harmful traditional knowledge? It is an interesting proposition as the facilitator may find that doing so produces animosity or social uprising. In the case of the Chyulu hills the facilitator chose to correct the misunderstanding among community members, who then further rallied against the politician threatening their water resource. Challenging the local understanding was required in order to provide a basis for the social uprising that resulted in more sustainable decision making for the Chyulu hills area. A facilitator may also choose to

challenge traditional knowledge in a less straight forward manner by acting indirectly as to influence change over a longer span of time.

Recognizing the limitations of traditional knowledge can benefit local peoples and may put a CEA facilitator in a better place to use it more productively. The benefit that it does bring to the table is that it adds to the body of knowledge that CEA has to work with. CEA is already limited in that it relies less on the comprehensive scientific method of gathering information as in traditional EIA. This is often due to limitations found in developing countries such as funding and expertise. This weakness is compensated by the use of a participatory approach (Spaling, 2003). If CEA then wants to develop an appropriate amount of information to base decision making upon, it must use every available resource. The proper use of traditional knowledge validates community understanding and helps improve the CEA process as well as the end result of the project in context.

In the case studies reviewed there was a limited effort in appropriately accessing and using traditional knowledge. Since Mwasima Nuru's CEA was post-project participants were limited in the amount of extra information they could provide that would affect the project. Nevertheless, there was some effort on behalf of the CEA team to access this type of information. For example, the mapping activity revealed the presence of various springs in the Mwasima Nuru area which had the potential to aid the project through decreasing overall demand on the borehole. In the case of Chumvi the CEA facilitator did not go to great lengths to make use of traditional knowledge. This was obvious through the limited interaction and communication that the consultant had with the Chumvi community.

5.1.3.3 Empowering Communities

Certainly a major benefit to a community in participating is that they become more empowered. The extent that a community is empowered however is not easily determined. While it is certainly hoped that a community experiences more self reliance, improved self image, and ownership over the project, the way in which they are actualized due to the CEA process is difficult to establish. For example, the Chumvi community was quite self reliant. Even though this CEA seemed less participatory than that of Mwasima Nuru the Chumvi community displayed much more self reliance, especially in the context of funding contributions. Chumvi interviewees expressed a desire to pay back all debts that they had acquired from the Canadian donor, and were not interested in hand-outs for the project. On the other hand Mwasima Nuru communities, which experienced a CEA more devoted to participatory methodology, were much less self reliant. Obviously these communities contained a certain amount of self reliance before they were introduced to the CEA process. But it is of interest to determine how the CEA process worked to increase, or decrease, this feeling.

The Mwasima Nuru participant James, who was quoted in the previous chapter in regards to empowerment, was unique in that when considering other outcomes of participation he seemed to show many signs. He showed an increase in learning and behavioral outcomes compared to other participants. He came into the process having a basic understanding of what was happening, and because of this was able to more fully participate. Through being well informed and being actively engaged, he showed signs of empowerment that can be attributed to the CEA process. Other participants that may

have had inadequate notice, or were not well informed, were those that little self reliance was discovered in.

Coming back to Chumvi, it is interesting to consider what made this community so self reliant apart from the CEA. While it was not in the scope of this research to make an extensive exploration there are a few helpful considerations. The Chumvi community lived in an area that was not communal land. The area was composed of land that was sold in plots in 1978. While the Masaai largely dominate the ethnic background of people in the area, the people more or less came from different areas of the country in order to take advantage of the open land that colonial farmers had made available. While this may be speculation, one could reason that individuals came with a proactive mindset to better their lives through improving land on their own, rather than migrating to urban centers to take advantage of welfare transfers and infrastructure. Muraya (2006) comments on this urban migration in Kenya and points out that it was prevalent after colonial rule in 1963. But the Chumvi herders/farmers had a different mindset. They moved to take advantage of land that they could call their own. And migrants can still be found coming to Chumvi with a similar mindset, as was found in an interview with a woman who had just recently moved to Chumvi.

“Why did you move to Chumvi?”

[I] moved here for advancement. I came here because I used to live in town and life there was hard.....I came here because of everything, including water. Because of everything.” (Karen, Chumvi non-participant)

The International Development Research Centre also conducted a number of participatory studies for water projects in developing nations that further emphasize how participation impacts self reliance. Concerning a community in Ecuador they reported,

“local people have begun to see themselves as inhabitants.....now they increasingly accept responsibility for its well-being” (Tyler, 2006, p. 49).

Apart from self reliance, ownership was also touched on in the interview schedule. By being involved, the research showed that certain individuals felt more ownership over the project. While this is in line with the literature on outcomes of participation, a note should be made in regards to how interviewees responded to questions in regards to this topic. When discussing ownership, a number of community interviewees would respond positively to how they felt towards the project. Yet often this feeling of ownership seemed to be partnered with the idea that the water project had something to offer them. Since this benefit of receiving water was still not achieved for most interviewees, they seemed to think that responding positively to these questions would enforce their feeling that they were still expecting water to come to their households.

“Is there a sense of ownership for the project among community members?”

Yeah, it is something for all of them.

Why do they feel this way?

Because first of all we like this water to come to Chumvi, it has been a threat for a long time. Sometimes during drought we starve a lot. So we are trying to own this thing because it will come and help us.” (Katie, Chumvi participant)

“Is there a sense of ownership over the project by the communities?”

Yeah.

Why?

Yet they are to receive water, if they lose ownership then they can't get it or will be difficult. They feel it is theirs.” (Edmond, Mwasima Nuru participant)

So there seemed to be an error in how the questions were being asked. While the purpose of ownership questions were to determine how community participants felt ownership over the project due to involvement in CEA processes, they responded by expressing their desire for the water to reach them. The information trying to be

extracted was not properly accessed due to a misunderstanding in how the questions were presented. While not all interviews had this result, it is recognized to have had this affect on a number of the community interviews.

Other responses nonetheless confirmed that a feeling of ownership did result from the CEA process. The specific conduit for which this can be attributed to are the PRA activities. Interviewees responded so positively to the PRA exercises that they are without a doubt the number one strength of CEA in the eyes of community participants. They not only expressed enjoyment from being involved in these activities, but also reported that they felt more informed and better understood the project and their local environment. That being said, CEA has adopted a strategic set of exercises to characterize its process. They have allowed communities to proactively participate in a way that they feel they own the process of making decisions.

When Robert Chambers (1994) began to document the use of PRA tools he said “the question now is how much potential these approaches and methods have for making participation more practical and the rhetoric more real” (p. 953). This research seems to support his assumption that in fact much potential exists for PRA tools to increase participation beyond idealistic reference. The community interviews conducted reveal that the more they were able to interact through PRA exercises, the more they felt informed and engaged. From the data one can see a difference between Mwasima Nuru and Chumvi that helps illustrate this more fully. Where Mwasima Nuru underwent numerous PRA exercises, the Chumvi CEA process was limited in its creativity to do so. And as a result Mwasima Nuru participants felt that they had participated more and knew more about the CEA process. Chumvi participants on the other hand had to rely more on

their existing self reliance, rather than an ideal participatory methodology, in order to sustain a feeling of ownership over their project.

CEA can be seen to have adopted PRA tools in a way that harnesses their ability to actively engage participants and reverse the top-down methodology that has dominated past development practice (Ellis & Biggs, 2001). Thus, community benefits are maximized in CEA as the process allows PRA to further reach the potential that Chambers had envisioned.

5.1.3.4 Reaching Expectations

So far, in this section, community interactions with the participatory aspects of CEA have been evaluated. Communities benefit as CEA serves as a channel for democratic principles to be played out. As well, the community is empowered through a feeling of ownership and self reliance by being allowed to make decisions that affect its surroundings. Likewise the CEA process benefits from an increased knowledge base through participation and traditional knowledge to make informed decisions. However, as the data showed, not all participants felt that their participation had good returns. Some were frustrated by the fact that they had nothing to show for at the end of the day in regards to income or food supply.

While the community certainly benefited from the process, these benefits were most likely unexpected. Empowerment and self reliance were probably not the end goal in mind when the individuals agreed to spend their time in CEA activities. But rather, they had expectations of how their involvement might further the process in achieving water to their homestead, and in the best case scenario they may obtain something of monetary value. So when water had not yet reached 73% of participant homes by the

time interviews were conducted, nor had they received payment for their time spent in the activities, many felt that their participation was not a useful way to spend their time.

CEA, up to this point, has not seen it necessary to begin paying community members for their time. One professional interview comments:

“You go to them, you don’t to pay them. You work in their context. Your project loses integrity if you pay them. They may come to expect it, and may not be willing to participate without it. They must champion the project so that these problems are avoided.” (EIA professional, USAID representative)

Payment to community members seems to entail that they are offering a service that they would not otherwise offer. But in a CEA context, the project is for the community’s own benefit. And if a community is to gain ownership, they must be in a position to want what’s best for it and should freely offer services to enable this to be so. Of course there is an obvious issue of equity within the community and each individual should contribute equally. That being said it may be out of place for CEA to begin paying individuals for their time, especially when the end result benefits the community.

But one needs to recognize that rural communities are at a disadvantage. They often have numerous basic needs that are difficult to meet in any given day (Adomokai, 2004). So the issue arises that donors/development agencies are expecting environmental professionals to include a certain amount of participation, an amount that may put stress on the daily routine of developing communities. We are then left with a tug of war scenario where CEA cannot risk paying individuals, for it will eventually eliminate internal motivation, and it cannot expect too much time from participants. While paying community participants individually for time spent at CEA activities seems counter intuitive, there may be a place for intervener funding. For example, donor budgets could

consider resources to better facilitate participation through travel subsidies, communal meals during activities, and communication costs.

The issue is further intensified by the fact that participation is not always low in cost. Whether you pay individuals for their time or increase time to include more participants, a cost is acquired in the CEA process. What may need to happen instead is finding a way that value can be added to the process, apart from monetary supplements, so that participants see more immediate benefit.

5.2 Improving Learning Outcomes

The research showed that participants experienced various learning outcomes from their involvement within the CEA process. It is necessary to examine the data further in order to see how CEA processes might be able to further improve these outcomes for future participants. It should first be noted that determining specific learning outcomes did propose a significant challenge. Often interviewees seemed unaware of any specific learning they had achieved as a result of participating or had difficulty in remembering lessons given. Nevertheless, a number of learning outcomes were flushed out through the interview schedule, providing valuable data for the research.

5.2.1 Instrumental vs Communicative Learning

The data showed that the majority of learning outcomes were instrumental in nature. A conclusion to be drawn from this is that CEA activities are geared towards producing such outcomes. While instrumental skills and knowledge are quite useful, communicative outcomes are also desirable in promoting an environmental mindset within rural communities. This is not to say that instrumental outcomes are not

desirable, in fact they seem to very much have a role in improving community environments. However, communicative outcomes have the potential to increase these benefits further by promoting environmental sustainability and increasing cases of social action. But to do so, CEA activities must be geared to access the ‘habits of mind’ and ‘points of view’ (Mezirow, 1997) present in participants.

Discourse among those affected is key to the communicative learning process (Mezirow, 1994). While discourse was certainly found to have occurred in CEA processes, there may have been particular criteria missing from an ideal process of effective discourse. A list of ideal conditions for discourse is listed in chapter 2, and it may be helpful now to review them to determine where CEA falters and succeeds in regards to each one (see Table 3). While the ideal conditions have the attitude of the participant in focus, we will look at the conditions in terms of how CEA fosters an environment for each one. Please note that the following is an evaluation of CEA in terms of actual (Mwasima Nuru and Chumvi) versus ideal practice.

Table 3: CEA Report Card on Mezirow's (1994) Discourse Conditions	
Strength	<ul style="list-style-type: none"> • Able to weigh evidence and assess arguments objectively • Opportunity to participate in various roles of discourse
Weakness	<ul style="list-style-type: none"> • Accurate/complete information • Free from coercion • Become critically reflective of assumptions and their consequences
Not applicable	<ul style="list-style-type: none"> • Open to alternative points of view and to care about the way others think and feel • Willing to accept an informed, objective, and rational consensus as legitimate test of validity

The first one that Mezirow states is that one must have accurate and complete information (Mezirow, 1994). While I am certain it was not the intention of the Mwasima Nuru or Chumvi facilitator to withhold information, participants did seem uninformed about important pieces of information. The issue of understanding EIA was highlighted in the data as a critical drawback to learning. If participants do not understand what an EIA/CEA is, then they can hardly be expected to understand the concepts that are associated with the purpose of the activities. Similar findings were also found in a review of EIA in Ghana. One of the key constraints to effective EIA practice in this country was participant ignorance of EIA (Appiah-Opoku, 2001). More quality time is needed to be spent with communities at the onset of CEA activities in order to prepare them mentally for the challenges that will come. Such challenges will confront their underlying assumptions as they begin to form new assumptions. One cannot continue the CEA process and expect communicative learning to occur if learners/participants have not properly been prepared.

The second condition deals with being free from coercion. This one is more difficult to assess because it depends upon who is involved in the process and how much power relations are dissolved. Initially CEA should be commended for the fact that it facilitates a comfortable environment for discourse as the activities are conducted in the community, as was the case in both Mwasima Nuru and Chumvi. By doing so, the process allows community members to be in their own surroundings, and allows them to contain a certain amount of power. They remain in their element and are seen as positive resources for the decision making process. However, the make up of community participants is a strong drawback in the context of coercion. As we have seen, elite

community members make up the bulk of community participation. This means that much of the community is still unable to affect decisions being made on their behalf. So while the CEA process offers a physical environment for which coercion may be avoided directly, the cases of Mwasima Nuru and Chumvi show that it fails in ensuring the project is not misled by local elite interests. This means that the community as a whole is in a sense coerced into a specific direction that the project will take. In relation to power relations in discourse Hart (1990) mentions the importance of “investigating and denouncing social and individual damages caused by power” (p. 128). In a more direct manner it was also seen in the case of a few marginalized participants that they felt coerced into attending CEA activities in fear of penalties that they would acquire from the PMC if they did not attend. To deal with this issue, CEA facilitators need to find a way to ensure proper community representation as previously discussed.

On the positive side, CEA does provide opportunities for participants to weigh evidence objectively. This third criterion stresses the importance of being able to view evidence in a way that one can make an informed decision. Through PRA exercises CEA allows participants to be on the ground and see things first hand. Participants from both CEAs commented on the fact that they were able to see things about their own community that they did not know before. New information was gained, not merely through a class room exercise, but through active participation in data collection. While the PRA exercises may be far from a comprehensive empirical study, they do allow some form of objectivity to be gained. Instead of merely hearing about the impacts of erosion on the landscape, they are able to see it and have its source explained to them plainly. Participants gain an understanding that is outside their everyday subjective experiences.

Criterion four states that a participant in discourse should “be open to alternative points of view and to care about the way others think and feel” (Mezirow, 1994, p. 225). This is also related to the sixth criteria which entails having an “opportunity to participate in the various roles of discourse” (p. 225). Where criteria four describes a mental readiness of participants to engage other points of view, criteria six deals with a physical venue in which communication can occur. In the case of criteria four, it is really up to the participant to decide whether they will choose to be open to the points of view presented to them. In this case, the criterion is not applicable to the CEA process. But more can be said on criteria six. Although local elites make up the bulk of participation, participants were exposed to how their project may or did impact others. The most obvious example of this was seen in the issue of land ownership. Since the CEA for Mwasima Nuru had been conducted after project constructions started, they had issues with land owners who had pipes running through their *shambas*. The CEA brought light to this issue, again through PRA activities. Participants were able to personally see pipeline issues and interact with those affected negatively by the project. Chumvi participants also had this opportunity and were able to develop land agreements as well to avoid some of the conflicts that Mwasima Nuru was currently experiencing. In both cases we see that CEA provided an opportunity to interact with other points of view and see how others would be affected. While the CEA process cannot actually force a participant to be open to other points of view, it does provide the opportunity. The rest is up to the participant.

The fifth condition for ideal discourse deals with the participant becoming critically aware of the assumptions they have. CEA does introduce topics that have the

potential to challenge participant assumptions. But as we saw in the first criterion, they lack basic information needed to gain a full understanding of what is at stake. In turn, the CEA processes reviewed lack effective exercises aimed at exploring one's assumptions. So while many participants learned about the importance of tree planting and avoiding soil erosion, this knowledge remained in the form of an instrumental product. The bulk of interviewees did not engage in 'theoretical reflectivity' which is critical to understanding one's 'habit of mind' (Mezirow, 1981). To do this, CEA exercises need to be further adapted so that assumptions are properly confronted.

Lastly, the seventh condition for ideal discourse states that the participant must be "willing to accept an informed objective and rational consensus as a legitimate test of validity until new perspectives, evidence, or arguments are encountered" (Mezirow, 1994, p. 225). As was the case with the fourth condition, this is mainly the responsibility of the individual participant. Again the criterion is not applicable to the CEA process design, per say.

All this is not to say that instrumental learning is not desired or beneficial. One can reason that if community members only experienced instrumental learning, sustainable outcomes would surely result if the appropriate facilitation was provided. However, communicative outcomes open a new path way for sustainable outcomes to be further multiplied. Communicative outcomes are also necessary for transformative learning, which may allow for community participants to be more self-reliant in transferring sustainable practices to other community members. For if one undergoes a change in mindset in regards to the environment, they will be more motivated to share

such views and educate others, an action that instrumental learning may not provide alone.

As well, short term instrumental goals may in fact be necessary in order to create a pathway for communicative learning to occur (Mezirow, 1997). In doing so, instrumental learning helps participants achieve short term gains that may be necessary to motivate them to continue in the learning process. Put in another way, rural Kenyan's may need to see that they can apply skills learned in CEA activities to their personal *shambas* before they are willing to go deeper with the CEA facilitator.

That being said facilitators have a large role to play here. In order to promote communicative learning to occur in CEA processes, the facilitator must create a 'helping relationship' with the learners (Robertson, 1996). This involves developing trust with learners in a way that they "give their professional hearts and souls over to helping those learners to experience empowering paradigm shifts" (Robertson, p. 43). Again this emphasizes the importance that the facilitator has to the process of maximizing community benefits. And this role will not be easily played out unless an appropriate amount of time is spent in the community. Determining what an appropriate amount of time is to properly facilitate communicative learning will require further study and was not in the scope of this research.

Mention should also be made to the issue of applying transformative learning to the Kenyan context. As noted in chapter 2, transformative learning was developed in a North American context and contains a gap in the theory in relation to cross cultural contexts. However, the results presented in this research seem to support findings of

other researchers (Sims & Sinclair, 2008) that affirm the theory's application in a cross cultural setting.

5.2.2 Building on Past Experience

Interviewees revealed that their communities were not untouched by various development initiatives in their areas. In the previous chapter interviewee responses showed that learning occurred from multiple sources such as NGO, government and church activities. It is important to realize that in most rural Kenyan settings CEA does not act alone in promoting educational opportunities. In fact, as the data showed, numerous educational opportunities were more likely to produce desired learning and behavioral outcomes than one single event.

CEA is a piece of the larger effort to promote sustainable development. That being said, it was difficult to determine exactly how the CEA process impacted the learning process. How did the CEA impact learning outcomes compared to previous educational opportunities? Or how did it build on these previous experiences? There seems to be an invisible threshold that, once reached, the participant more clearly understood the information and was able to practically apply it through behavioral responses. This was noticed in a minority of interviews where participants reported a change in their behavior after CEA activities. But for numerous other participants it is unknown as to the actual impact that CEA had on what they learned. Determining how much closer a participant came to producing measurable outcomes was difficult, and only hints of it were observed in this research.

What also remains unclear is if CEA actually contains something specific to motivate participants to action. Even though CEA is one among many educational

opportunities, there still may be something unique to CEA that more strongly provokes a response. However, since the data revealed a small portion of interviewees having such results, it cannot be assumed that this is the case. But certainly CEA contains unique attributes that could in fact distinguish it from other forms of education in the communities. For example, CEA introduced the communities to a political sphere that they had not been aware of. Government bodies such as NEMA and WRMA came in contact with the community, and participants were able to gain somewhat of a capacity to interact politically. This sort of interaction was not reported in other sorts of educational opportunities in Mwasima Nuru or Chumvi.

5.2.3 Improving Outcomes for Non-Participants

The data showed that most participants failed to inform non-participants within the community of the information they had gained from CEA activities. While some interviewees reported that they felt it was their responsibility to inform the larger community, some still did not take the step of doing so. Two issues are of concern here. One, the CEA process may need to concentrate more efforts on motivating participants to inform the larger community. Secondly, non-participant learning is important in order to widen the reach of sustainable development efforts, of which CEA is a part.

In regards to the first issue, something that may have kept participants from acting is the concept of social loafing. Because a number of other participants were present, one individual participant may not have felt it was their own personal responsibility to inform non-participants since others were present who could just as well act. The mere presence of other community members could have disarmed one's motivation. To combat this, the CEA facilitator could impress upon participants the benefits of each one taking personal

responsibility. Benefits of community cohesion and increased education for all community members would only improve a community's ability to combat poverty. The CEA process may also adapt some of its methods so that an increased number of community members could attend some sort of report on findings. In fact, a final report seminar could be arranged at the end of activities in which all community members were able to attend. Such a task would require finding a suitable venue, but would not entail numerous CEA staff to handle group activities as required by PRA exercises.

The second issue dealing with improved efforts for sustainable development has much potential to benefit local community environments and to increase the influence of CEA. If it can be shown that participants leave the CEA process with knowledge that they then share to others, this transmission can ultimately be attributed to the CEA. For example, if a participant learns about the importance of rain water harvesting from their experience in a CEA and then leave the activities and begin to teach their neighbors, that sharing of knowledge can be attributed to the participant's CEA experience. Thus weight is added to the integrity of CEA and its ability to promote sustainable development. This would further validate its use in development practices by improving education on a community level rather than just on a participant basis.

5.3 Barriers to CEA

Up to this point I have concentrated on how the CEA process affects communities both directly and indirectly. However, there are various other factors affecting rural communities that may inhibit or promote participation, and learning, outcomes. A number of educational opportunities outside CEA were mentioned in the previous section in regards to learning, however many more externalities exist. Exploring these factors is

beneficial in providing a fuller understanding of the rural Kenyan community context within which CEA occurs.

5.3.1 The Cost of Participation

With the desire to be more comprehensive in data collection, and to consult all stakeholders in a project, more participation is said to be better participation. And the more types of people represented the better. This is the case in much of the participatory literature (Korten, 1980; Ostrom, 1996; Rydin, 2000). However, in the CEA process, who acquires the cost of consulting so many individuals?

In many of the projects visited during this research, most often communities had agreements with donors in which they had to supply a certain percentage for the overall project cost. This percentage ranged from 10-25%. So in a sense both the community and the donor share the cost. While communities are often limited in financial resources (more will be said on this later in this chapter), NGO's and donors are limited in time. Time spent with communities is a cost that can be very high for donors, and they may not have appropriate time or money to achieve the desired amount of participation. So a decision needs to be made about the most strategic individuals that should participate. But regardless, it means that to some extent, some will not have the opportunity to participate. A professional interview in this research touched briefly on this topic.

“In small scale projects there is a limit to the returns you experience in the effort required to find and include them.” (EIA professional, USAID representative)

Much more participation was observed to have occurred in Mwasima Nuru than in Chumvi. And this was a benefit of the extra time that the CEA team devoted to spending with the communities. Yet this CEA case still had issues obtaining proper

representation from marginalized individuals in the community largely because more time could not be afforded with the communities. Resources were already being spent on improving CEA activities. In turn the Chumvi CEA also suffered. The CEA facilitator spent less than two days in the community with limited engagement of community members. This may have in fact been due to limited financial resources that the consultant was given to conduct EIA/CEA services.

Determining the amount of participation that will take place in a CEA process certainly proves to be a monumental task. First determining what type of people should be involved then leads to the task of determining how many should be involved. Which is then dependent on the CEA team, CEA venue, and ability of the facilitator to manage the quantity of people involved. As the USAID representative stated, once a certain limit of participation is reached little may be gained by going beyond this point. This is a dilemma for CEA in that there is a push to incorporate high levels of participation, yet CEAs require the best available data for making decisions which may only be accessed from certain individuals from the community.

A special note should also be said in regards to CEA and the fact that much of the financial cost is supplied by external donors. If CEA continues to be implemented in this scenario, it may not be sustainable. It would merely be dependent on the current relationship between donor and community and may have no place for a community that is on the fringe of receiving such support. While expectations for community participation rise, and with it increased costs for CEA consultants, the fringe communities will only seek to avoid conducting such a process. In order to truly meet the needs of rural Kenyan's, CEA must be cost effective whether services are donated or not.

5.3.2 Limited Resources

Many rural communities in Kenya lack resources that would enable them to avoid poverty. Food insecurity, for example, limits many families from being able to do anything but spend a good portion of their day gathering food (Sutherland, 1999). And as this research found, water scarcity was also a very real danger that many households faced. Other research has also shown that such shortages have resulted in conflicts between different rural communities in sub-Saharan Africa (Homewood, 2004). The fact that CEA participants had to struggle in order to meet basic living requirements definitely impacted their ability to participate.

Not only did these limitations affect an individual's ability to participate, but it may have also affected the way in which they viewed the importance of CEA. Adomokai and Sheate (2004) note that there is a:

“lower level of interest in environmental issues in developing countries. This is mainly due to poverty and more pressing problems of providing the basic necessities of life-food, shelter and clothing” (p. 514).

If this is in fact the case, then rural participants may have a difficult time understanding why concepts such as environmental sustainability should command so much attention when their basic needs go unmet. An exception to this would be if community members recognized the link between their own vulnerability and environmental sustainability.

Rural Kenyan communities are also limited in financial resources. While this may be obvious due to the context of a developing nation, it has many implications for CEA. While EIA legislation in Kenya requires that communities conduct assessments of their projects, often times they go undone due to the high cost associated with consultant

fees. This is of course unless a donor is present, but with so many small scale projects it would be unrealistic to think every one of them had such a benefit. In fact, what is more likely to happen, is a community would begin to raise funds for their project and would leave EIA/consulting fees out of the equation. They would bypass the legislated system if possible in order to save the already limited finances they have managed to acquire. This mindset is clear from many of the interviewees who expressed frustration with EIA because it was a legal system that had little relevance to their daily lives. In their minds they had a need for water for which they had gained funds to start a project. The extra costs for an EIA not only seemed too high, but seemed unneeded to a community who has never heard of an EIA process. In their minds it is a waste of money, money that is not easily acquired.

In the area of resources environmental resources should also be mentioned. In the areas of Mwasima Nuru and Chumvi intense deforestation had occurred in past years. So tree resources are in short supply, and many people in each community were still engaged in charcoal burning. While charcoal burning is heavily looked down upon by the larger Chumvi community, it is actually illegal now in the Mwasima Nuru communities. Nevertheless, the practice still continues due to the source of income that it provides.

The fact that trees are in limited supply has also led to serious cases of soil erosion in many areas. Large gullies have formed and continue to become deeper with each rainy season. With the loss of soil there is less land that is suitable for planting. And because the areas are semi-arid, they do not receive enough rain to produce a comfortable surplus in food supplies.

So what is found in these communities is that environmental damage is extensive and has gone unchecked for many years. With the introduction of the CEA processes to the communities there may have been small changes within the mindsets of a few individuals. It is hoped that these individuals will continue to promote a sustainable mindset and allow others to see the benefits they can reap through improving their surroundings. All this is to say that there is a real need among communities for education on the environment. This factor works in favor of CEA in that if the process can offer them practical tools for managing their environment and can inform them of unsustainable actions that directly affect their lives then they will be more eager to participate and learn in the activities.

5.3.3 Management Capabilities & Expertise

An issue noticed within communities was that management capabilities were in short supply. The Mwasima Nuru communities had a number of people involved in the CEA, however those who were left to manage the project afterwards seemed to have a very difficult time doing so. The project was consistently shut down for various reasons and it took much time to respond to project hiccups. Other community members also seemed to lack trust in the PMC as was seen in the numerous accusations against them in regards to corruption. Chumvi PMC members on the other hand had not yet had the opportunity to manage the project. However, they were very conscious of the issue and directly expressed their need for training in this area. Upon reporting preliminary results to this committee I was even asked to report my observations in regards to management issues that I had seen in other projects in rural Kenya.

Similar to this Kenyan experience Kakonge and Imevbore (1993) note that many African countries deal with a lack of manpower and expertise. One can reason that due to a lack of education for many rural communities, they have not been formally trained in management tasks nor have they had the opportunity to practice such skills. Communities are then forced to learn as they go, which can often lead to negative results as noticed with Mwasima Nuru.

The issue specific to CEA in this context is that the process will leave communities with an Environmental Management Plan (EMP) that they will be expected to implement. This is a high expectation for a community that most likely has not managed projects with such magnitude as was seen in many of the community water projects observed. So there is a real threat that the CEA process will be conducted in vain unless long term management capabilities are installed within community personnel. Again this leads us back to the critical issue of ensuring the community has been able to effectively access the report and has had the opportunity to understand the EMP to determine if it is manageable or not.

5.3.4 Donors and Visitors

It was briefly mentioned before that the presence of visitors in these communities often led to expectations of direct funding donations. This presence of visitors also has implications for how the CEA process is being conducted. While visitors may only have the intention of offering EIA/CEA services, this is often misinterpreted by participants and thus impacts how they view the overall process. The data showed that a number of participants thought visitors had come to their community just to make sure donations were being well spent. With such a mindset community participants restrict themselves

in actively engaging in the activities as if they can affect decision outcomes. Community members need to understand that the CEA facilitator is there to cooperate with them to not only reach legislative requirements, but to also install self reliance in them so that they do not need to operate on outside sources. But what remains the case is that visitors are seen to have much power due to their donor perception and community members mentally take a step back. This perception works against the goal strived for within the CEA process.

Donors also place a number of requirements upon communities that are in relation to the CEA process. This is mostly in the case of international donors that are required by their home countries to ensure that EIAs are properly conducted for funded projects. So what we find is that many communities are compliant with EIA requirements, often due to the fact that funding is restricted by donors unless they do so. This factor works in favor of CEA and promotes sustainable development goals. However, from the community viewpoint it does have the drawback of prolonging the development process. It means that a certain amount of the donations given must be designated for CEA activities, leaving less funding for other areas. This viewpoint reflects a narrow view that communities may have towards community development where environmental sustainability is not recognized as a priority. Where CEA is one tool to incorporating environmental sustainability, the issue is much broader and goes beyond the reach of CEA. Environmental sustainability must be integrated into various other categories that communities are involved in including waste management, agriculture, ecotourism, etc.

5.3.5 Government and Politics

The last factor to be discussed is the impact that government and politics has on the community. The government of Kenya has implemented a number of requirements for community water projects in order to better manage natural resources within the country. There are many recent pieces of legislation that communities are being forced to comply with, unless of course they are able to 'fly under the radar' as many might hope to do. The most significant pieces of legislation for community water projects are the Environmental Management and Co-ordination Act, 1999 and the Water Act, 2002. Each of these requires communities to consult local authorities from NEMA (Government of Kenya, 2000) and WRMA (Government of Kenya, 2002) in order to receive needed permits for their works. It should be recognized that often communities feel forced to comply, rather than seeing compliance as a benefit to conservation and management efforts. And in turn CEA is seen as a legislative compliance exercise rather than a beneficial group of activities for the community. While this may be the mindset at the outset of activities, CEA facilitators definitely have the potential to reverse this negative outlook.

In the time that the field component of this research was conducted Kenya was just months away from the 2007 December presidential elections. It was observed that at this time communities were being bombarded with election campaigns. While presidential nominees were wrestling for reigns over the country, local politicians were also hard at work trying to sway small communities in their favor. Many of the campaign promises that local communities take to heart are those dealing with natural resource provisions. It is recognized within these communities that the government has developed

a stronger control over resource use and often it is through local politicians that they can try to have their voice heard. So while local politicians make promises of freeing up areas of forest for extraction, they were also observed to have bypassed local authorities such as NEMA and WRMA to please constituents. In such a political environment, CEA will continue to struggle to come to the forefront in environmental management in these rural areas. With the desire to give local communities control over CEA processes, such political interference will hamper community decisions.

5.3.6 Community Profile: Tungu Kabiri

The first stage of the field research that was conducted involved visiting various water projects in rural Kenya in need of CEAs to be completed. This was done in order to determine a suitable site for following phases of the research. While the first three objectives of the research entailed a review of a previously conducted CEA, it was hoped that lessons learned from the review could be applied and tested with a live CEA, this being the fourth objective. Thus the fourth objective required finding a site that was still in need of a CEA to be completed. One water project near a community called Tungu Kabiri, was initially seen as ideal in terms of satisfying this objective and was chosen to be a part of this research. However, due to various reasons, the partnership with Tungu Kabiri was abandoned. As a result the fourth objective was abandoned altogether due to a lack of a suitable site. Alternatively a multiple case study approach was adopted in order to provide more information to support recommendations for future CEA developments.

The Tungu Kabiri water project was a proposed add-on to an existing micro-hydro project that had been funded by the UNDP (2003) (see Plate 4). The power being

generated from the project was channeled to a local center where a number of community members had set up small businesses. Various services were offered such as welding, refrigeration, battery charging, and a salon (see Plate 5). However, the community was not using all the power generated and they wanted to use a remainder of it for a water supply project. The proposal was to channel a portion of the water through a water pump, powered by the micro-hydro turbine, which would bring water to a central holding tank that would then gravity feed the water to various kiosks for the community to access. But before they could begin implementing the project, the local WRMA informed them that an EIA must first be completed.

This was the point at which I was introduced to the community. The community was waiting for an EIA to be completed, and the research needed such a site. So agreements were made that EIA services would be given free of charge and in exchange the community would allow the research to be conducted in their area. Arrangements were then made to revisit the site two months later when preparations for the EIA/CEA would begin. However, when the time came to revisit the community it was found that much of the project construction had begun regardless of an EIA being completed. The holding tank had been finished, trenches had been dug, most of the pipes had been laid, and the housing for the water pump was nearly complete.

The reason that Tungu Kabiri was abandoned was three fold. One, adequate notice was not properly given to potential CEA participants. Through agreements made with the community it was understood that the project PMC would need to appropriately give notice to participants in line with recommendations for adequate notice, that being one week prior to CEA events. However, PMC members failed to complete this task

which would have necessarily caused CEA problems that the research was working to remedy. Second, there was an understanding that the progress of the project should remain idle until the CEA had been completed. However upon a preliminary visit much of the project construction had been completed by the community before the CEA had begun. This made it impossible for the CEA activities to be classified as an EIA under Kenyan law and would have been considered an audit assessment. As well, the fact that participants would not have the flexibility to consider alternatives to development called into question the ability of the research to effectively assess learning outcomes of the CEA process. Third, the PMC had the responsibility of securing accommodations for me as the principle researcher. These accommodations were not found and made access to the site a major deficiency. These three issues made it clear that the community's commitment to the process was not ideal in order for the research to be carried out in the desired manner.

Many of the external factors previously discussed were the reasons that the Tungu Kabiri community fast tracked their project, thus ignoring the EIA/CEA requirement. Here was a community who was in desperate need for water. The people had been struggling with drought and were having troubles meeting their basic needs. As well, they were short in finances and were not able to hire an EIA consultant earlier. The combination of these factors resulted in the community decision to go along with project construction. Also of major importance, the local NEMA and WRMA officers allowed the community to do this, regardless of the legal requirements. Both of these authorities were aware that arrangements had been made for the EIA to be conducted, and therefore felt that exceptions could be made in regards to protocol in order to accommodate the

need for water. Thus, with the blessing of local authorities Tungu Kabiri began their project.

In this case we see that a number of outside factors played a role in undermining the usefulness of the EIA/CEA process. The community was limited in resources so they had very little patience for a political process that they understood very little. Local authorities hoped to relieve the suffering of local people and felt they had enough certainty that legal requirements would be met at some point even if not in the correct order of protocol.

These decisions will have drastic effects on the future EIA that will be conducted for this project. Since construction has already begun, community members will not have the flexibility to consider alternatives to their project, which is a major component to the EIA process. Participation will be meaningless due to the fact that the outcome has already been decided, leading to limited learning outcomes. Benefits will also be avoided in regards to improving an environmental mindset within the community and educational opportunities that would encourage environmental sustainability. As well finding real ways to mitigate the environmental, social and economical impacts will prove more of a struggle for the community. This case is further evidence that communities see the CEA process as political hurdle to reaching their objectives, one in which they are willing to avoid if at all possible. And if they cannot avoid it, they are certainly willing to finish it quickly, and as a result miss out on the benefits associated with it.

Plate 5: Tungu Kabiri Micro-Hydro Project Site

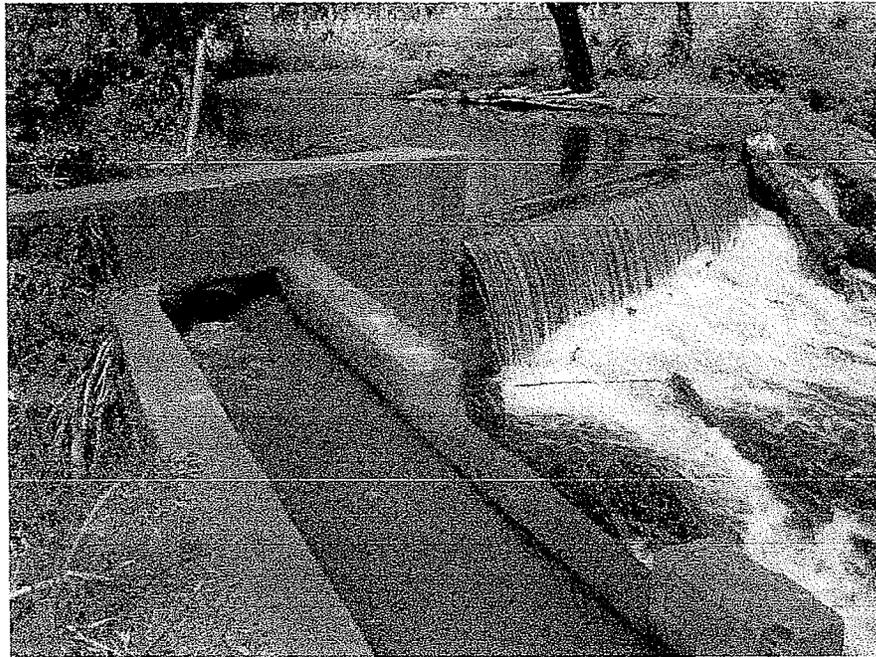


Plate 6: Tungu Kabiri center receiving electricity



5.4 Summary

In this chapter I have discussed the results of this research and showed how community interests were taken into account throughout the CEA process as participation and learning were facilitated. Additionally we saw how external factors also influenced the participation and learning of community members. Reviewing this information was necessary so that we can now look forward and see how CEA processes might be improved for future practice to better foster community interests. Local environments will also benefit as the large impact that numerous small scale projects have on the environment will be decreased. One professional interviewee in this research commented that “together these types of projects have a larger impact on the environment” (EIA Professional, ESF Consultants Representative). The aggregate impact of so many community projects is being recognized for the harmful impacts they are having on the environment. CEA, as an adaptation of traditional EIA methodology, has the potential to reverse this negative trend. Let us now look to how it can be further molded in order to meet the needs expressed by rural Kenyans in both Mwasima Nuru and Chumvi.

CHAPTER 6: A Path Forward

The purpose of this research was to explore the role of participation and learning in community environmental assessment processes in rural Kenya in order to improve community livelihoods. In addition, the research strove to determine recommendations for an improved CEA process. The following is a review of the research objectives:

1. Determine strengths and weaknesses of CEA Processes

Through reviewing research data a number of strengths and weaknesses that affected rural communities were found in regards to CEA processes as outlined in the previous chapters. Specifically the EIA setting, PRA tools and instrumental learning proved to be strengths of the process while weaknesses included notice, cost, community representation, consideration of alternatives, training, and communicative learning.

2. Establish key considerations for community involvement in CEA

CEA needs to ensure that community participants are well informed about issues pertaining to the CEA, such as notice of events, introduction to key concepts, and community responsibilities. Additionally, CEA facilitators must find ways of engaging a larger number of individuals from the communities either directly or indirectly.

3. Explore the learning outcomes of CEA processes

As mentioned in the first objective, the research data showed that while instrumental learning outcomes were quite numerous among community participants, communicative outcomes were extremely limited. Clearly the CEA process is geared towards instrumental outcomes and must be adapted to obtain higher levels of communicative learning.

4. To test new approaches to participation and learning in CEA

Due to the nature of international development work and the pressing needs of rural Kenyan communities a number of events occurred making it impossible to complete this objective, as outlined in Chapter 3. As a result, this objective was abandoned and the research adopted a multiple case study approach.

6.1 Strengths and Weaknesses of CEA

The following section offers final conclusions in regarding the strengths and weaknesses of CEA. While many best practices for CEA exist, as demonstrated from professional interviews, field practice falls short for various reasons. This leads to less than ideal outcomes for communities, of whom CEA activities are working to benefit. With many of these factors being beyond the control of facilitators or community participants, it is helpful to review the strengths and weaknesses of the CEA process as shown by the data to determine what is possible in terms of improving the process (see Table 4).

Table 4: Strengths & Weaknesses of CEA Processes	
Strength	<ul style="list-style-type: none"> • Setting • PRA tools • Instrumental Learning
Weakness	<ul style="list-style-type: none"> • Notice • Cost • Representation • Consideration of Alternatives • Training • Communicative Learning

6.1.1 Strengths

6.1.1.1 Setting

Bringing CEA to the people is a critical strength of CEA as it was clear from the comments collected. In traditional EIA we find that often public engagement occurs where participants must leave their home environment. Such engagement means taking local people out of a comfortable setting and placing them in a formal lecture hall, for example, in which they are less likely to effectively participate. CEAs, however are primarily centered on community projects, which necessarily means that any sort of assessment must occur in the project area of the community. This has many implications for community participants. Since the CEA occurs within the community much pressure is taken off of the local rural Kenyan by reducing travel time. As a result the amount of time taken away from food and water gathering is minimized. This being said a community member is more likely to participate when life strategies are not compromised.

It is also very important to undertake as much of the CEA as possible in local languages. Mwasima Nuru and Chumvi participants found that they were accommodated by having their own language being spoken. Using the local language helped participants feel involved in the decision making process and built a foundation for them to interact with visitors to their community.

Both location and language used for CEA activities provided a comfortable atmosphere for community participants to engage with the process. In doing so the CEA process begins to devolve the power relations that exist between 'elite' professionals and rural Kenyans.

6.1.1.2 PRA tools

PRA tools are critical to CEA as their use creates a pathway for effective community participation. The research showed that the use of such tools in the CEAs reviewed allowed community members to actively generate knowledge and gain new skills and knowledge. Community participants were also able to express their concerns for the project through this type of interaction, a conclusion also supported by the findings of Spaling et al. (2005). Again it is seen that this characteristic provides a framework for effective participation.

The PRA exercises also allowed communities to rediscover previously held knowledge and enabled facilitators to access it productively. Thus, traditional knowledge had an opportunity to impact decision making processes. As well, rather than simply retrieving information from community members, facilitators actually involved participants in information gathering. Participants reported that they felt significant in being able to generate knowledge and ideas for the CEA. Some participants even reported that they retrieved knowledge that they never even knew they had. This built confidence among community participants.

Participants also enjoyed the PRA exercises that were undertaken, that in turn helped to encourage their further participation and help them gain a sense of satisfaction with the process. The PRA activities stood out as unique memories that participants associated with the process. They remembered having fun and interacting with visitors as well as their local villagers in a way that they had never done before. Eye opening experiences were described in which they became aware of the details of their project, how other community members felt, and how the project would ultimately affect their

way of life. All this can be attributed to the hands-on interaction that PRA tools allowed one to have with the CEA process. Such enjoyment thus led to improved learning outcomes.

In this regard, community mapping proved to be the most memorable and enjoyable exercise for the participants. This was due to its uniqueness, something of which many of the community participants had never experienced. As well, participants found they learned the most from this exercise.

6.1.1.3 Instrumental Learning

Instrumental learning was an important outcome of the CEA process and in turn indicated strength in the CEA process itself. The process proved to be geared towards producing such outcomes. More detail will be given on this issue when the third objective conclusions in regards to learning are presented in section 6.3.

6.1.2 Weaknesses

6.1.2.1 Notice

Giving notice to people that could be impacted by a project is currently a serious weakness in CEA process. Many people in the communities did not know about the CEA process to review the water projects. The issue is even more difficult considering that by and large the responsibility lies both with the CEA facilitator and the community representatives. It was found that with Mwasima Nuru there was a failure in communication within the community, while in Chumvi there was a failure on the part of the facilitator. If either party falters, then negative outcomes in participation will occur.

6.1.2.2 Cost

Cost of CEA process is also a major hindrance to it being more widely adopted. Communities have a shortage of financial resources for CEA/EIA activities and their priority is fundraising for the project itself, not the approvals process. This means that CEAs either have to rely on donor funding or rely on the community economy which could be an unrealistic burden. This weakness in CEA processes was also recognized among NEMA employees who are required to enforce EIA legislation. They realize that there is a discrepancy among what is required of communities by law and of what they are capable of doing.

6.1.2.3 Representation

Elite community members still dominate CEA participation. When looking at Mwasima Nuru and Chumvi, the data shows that this is quite prevalent. This is a major hindrance to the CEA process since many community interests are not truly represented in the decisions made. The best practice of including marginalized groups in the CEA has not been actualized in the CEA processes explored. This impacts the utility of CEA processes in their ability to empower marginalized community voices.

It should be noted that currently CEA practice largely uses PMCs for a particular project as a contact within communities. PMCs are already an alternative to the chief based system that has traditionally been used to make decisions for a community. So this indicates an effort to produce more democratic processes in development work in general through such management initiatives in community projects through the use of PMCs. However these cases show that the PMCs are not involving the broader community and tend to be dominated by elites

6.1.2.4 Considering Alternatives

The CEA process did not lend itself well to considering alternatives to development. One professional interviewee mentioned this as a potential harmful characteristic.

“Consideration of alternatives in the process may be a weakness of CEA” (EIA professional)

The reason for this seems to be the fact that communities already have it in their mind to achieve a particular outcome. So from the onset of the CEA activities, a goal has already been set. Funding has usually already been established for a particular set of actions whether it is digging a borehole, building a dam, or constructing a tank.

It should be noted that in the broader context of community development, communities have often already undergone a process of establishing priorities and discussing alternatives. Many rural Kenyan communities are familiar with PRA exercises being conducted by NGOs in their area, as were both Mwasima Nuru and Chumvi. In these cases the communities, years before CEA activities were conducted, had completed exercises in relation to considering alternatives.

As a result the CEA process seems to be more of an exercise in informing individuals about what will come and how they can mitigate the impacts. While these are important activities, the process lacks time devoted to entertaining the thought of whether the project is a good idea or not, since this exercise has already been completed outside the CEA. The CEA activities begin then with the assumption that certain developments will necessarily take place and little effort is given to reconsidering alternatives.

6.1.2.5 Training

The participants' lack of knowledge in project management impacts the quality of the CEAs done as well as the long term health of the projects. While Mwasima Nuru experienced many problems after project implementation such as pipe breaks and water shutdowns (see Plates 6 and 7), Chumvi recognized their lack in capabilities and were anxious to gain management training. PMC and other community members lacked knowledge in how to not only effectively manage their respective water projects, but the ability to implement environmental management plans as well. A fair question to ask would be whether the CEA process should even be responsible for supplying such training. It may in fact be outside the scope of what CEA is trying to achieve for the project, however it could certainly identify knowledge gaps and training needs that need to be filled before the project can be run properly. The implementation of CEA recommendations hinders on the communities ability to manage the project. Therefore, in order for CEA to have lasting outcomes, some sort of training component seems necessary. In regards to capacity building and training of communities one professional interview noted:

“We have some evidence of participation of locals, but many times training doesn't get done. Implementers don't get it done often. There is a section on capacity building. Contracting to local consultants is done to provide technical assistance, but [we] yet to see a case where it has been implemented well” (EIA professional, World Bank representative)

The lack of knowledge of CEA and training in CEA process also impacted the quality of the CEAs done. The community interview data strongly pointed to the fact that participants left the process without having a strong understanding about what EIA/CEA was. This hindered their ability to effectively grasp the point of the CEA being

conducted, which further hampered the promotion of sustainable development in the community.

It would be beneficial for CEA facilitators to consider how such training could be administered since it would be impossible to think a CEA team could properly train a whole community. An option for consideration could be to train the partnering NGO in CEA so that they can continue to serve and educate the community long after CEA practitioners have left the community. If possible, it would be even more beneficial for such an NGO to receive training before CEA activities so that community participants can be properly prepared for such activities and will be in a place to more meaningfully participate.

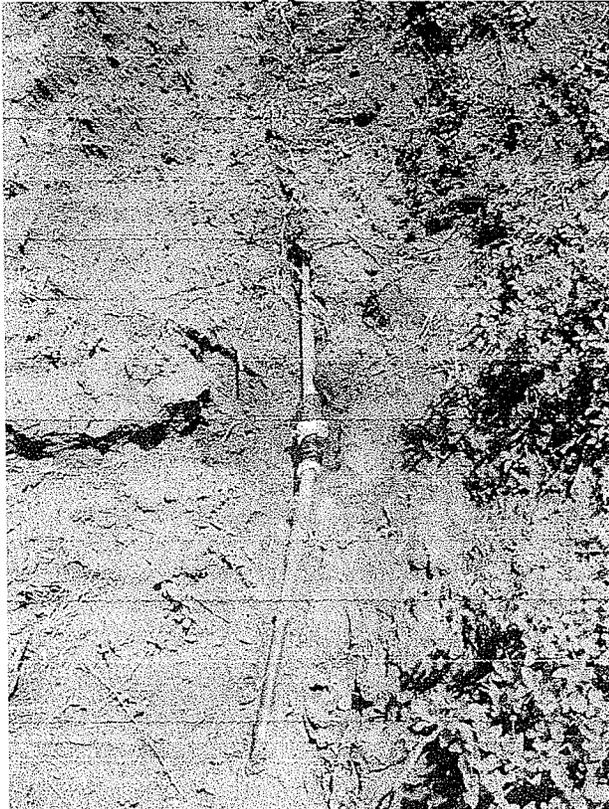
6.1.2.6 Communicative Learning

Communicative learning outcomes were weak in the CEA processes reviewed. This seems to be the case because CEAs provide opportunities for engagement that are more geared to instrumental outcomes. More detail will be given on this issue when the third objective conclusions in regards to learning are presented in section 6.3.

Plate 7: Mwasima Nuru pipe damaged due to improper installation/protection



Plate 8: Mwasima Nuru pipe exposed due to soil erosion



6.2 Considerations for Community Involvement in CEA

Conclusions regarding community involvement in CEA highlight the deficiencies that the CEA process has in providing effective participation. Conclusions in this regard include: participants are inappropriately informed and there is a minimal amount of representation from the community involved in CEA processes. It is hoped that such deficiencies can be accounted for in the future as to enhance community representation, incorporate marginalized individuals into decision making, and allow a larger percentage of community members to affect project outcomes.

6.2.1 Uninformed Participants

CEA participants are inappropriately informed in regards to key concepts surrounding the CEA process. The data showed that community participants were often unaware of relevant concepts such as EIA, legislation, government bodies and sustainable development. This negatively impacted their involvement as they were not able to engage the process as a deeper level. While having such knowledge requires an environment in which information flows freely in a timely and accurate manner, facilitators struggled to provide such a scenario.

6.2.2 Minimal Representation

A small numbers of individuals from the communities are having the opportunity to affect the CEA decision making processes. The two cases reviewed in this research showed a very low turnout from the larger communities which resulted in very few individuals affecting decisions that would ultimately impact the entire area. Effective

strategies for engaging a larger number of participants and improving democratic processes were not implemented.

Part of the problem may have been that CEA teams did not have the appropriate resources such as time and man power to effectively engage larger numbers of community participants. In this case it would not be ideal to engage more participants in order to gain input from a wider breadth of economic and social statuses as the quality of participation would be severely compromised. Yet it remains that community interests as a whole are unaccounted for in current CEA processes and suitable alternatives must be found.

6.3 Learning Outcomes of CEA Processes

Conclusions regarding the learning outcomes of the CEA processes are separated into instrumental and communicative outcomes.

6.3.1 Instrumental Learning

Instrumental learning outcomes were quite numerous among participants in the CEAs conducted such as learning new information in regards to pipe protection, soil erosion, tree planting and water conservation techniques. New skills were also observed among participants such as pipe maintenance and tank construction. The CEA process enabled many opportunities for this to occur. In the first place one should recognize that having visitors to a rural community usually lends itself as a unique event. When this does occur villagers often feel that they can gain something from such a visitor whether it is information or something of monetary value. This was noticed in the research as my own presence often prompted villagers to request funding or information on agricultural

practices and even water project management. So when a visitor is present, villagers listen earnestly hoping to learn something that will be of some benefit to their daily lives. The atmosphere created then is one in which locals will wait to be taught something by the visitors.

This atmosphere is conducive to instrumental learning because the CEA facilitator is automatically put in a position of power by the expectations of community members. So the CEA facilitator assumes a traditional educator's role in which information is disseminated to learners. This allows many practices such as tree planting, erosion prevention, and pipe maintenance to be passed on quite easily. Such skills and pieces of information were easily understood by the majority of CEA participants and were put into practice.

6.3.2 Communicative Learning

CEA did not provide an effective environment for communicative learning to occur. CEA processes lacked key characteristics needed to foster more informed and deliberative participation such as effective dialogue which is pivotal for such learning to occur. This conclusion is supported by the research as community participants as whole had very little to show in terms of communicative outcomes. The majority of participants had not been challenged to assess underlying assumptions nor were they provided much opportunity for dialogue that might foster communicative outcomes. The literature enforces the need for critical reflection and participation in discourse for meaningful participation and learning to occur (Mezirow, 1997; Fitzpatrick & Sinclair, 2003; Sinclair & Diduck, 2001). Fitzpatrick and Sinclair note that a "lack of engagement in dialogue seriously limits the learning potential for all parties involved" (2003, p. 172).

6.4 Test New Approaches to Participation and Learning

As was noted, it was not possible to meet the fourth objective due to the circumstances that surrounded the Tungu Kabiri community. While the Tungu Kabiri project was initially ideal for meeting the research objectives the community proved to be uncommitted to cooperating with these requirements. Adequate notice to potential CEA participants was not given, project construction began before CEA activities could take place, and suitable research accommodations were not located making the site inaccessible.

6.5 Recommendations

In response to these conclusions a number of recommendations were generated that may improve community benefits if future CEA processes are adapted in these ways. It is hoped that these suggestions will better enable the CEA process to promote participation and learning opportunities for participants as well as furthering environmental sustainability in rural Kenya. A total of eleven recommendations are put forward: using alternative community representatives to enter a community, minimize donor perception of the CEA team, establishing a price for the use of traditional knowledge, giving adequate notice to participants, inviting youth & women, obtaining a commitment from community participants to inform the larger public, application of learning methods to small group work, build political capabilities, ensure management capabilities, incorporate mitigation measures in funding requirements, and providing a pictographic representation of the CEA report (see Table 5). While not all the weaknesses found in CEA may necessarily be accounted for in these recommendations, the list contains suggestions that seemed manageable for a future single case study.

Table 5: CEA Recommendations

- **Alternative Community Representatives**
- **Minimize Donor Perception**
- **Price for Traditional Knowledge**
- **Adequate Notice**
- **Inviting Youth & Women**
- **Commitment from Participants**
- **Small Group Work with Learning Focus**
- **Build Political Capabilities**
- **Ensure Management Capabilities**
- **Incorporate Mitigation Measures**
- **Pictographic Presentation**

6.5.1 Alternative Community Representatives

The research revealed that CEA teams often use community PMCs that are already in place in the community for a particular project as an entry point into a community. One way to improve community representation in CEA processes is to change this practice. This would involve making PMCs only one entry point into the community while exploring other avenues within the population. This is not to say that current practice has proven harmful, however adaptations to it may provide needed change and should be explored. Although PMCs are made up of locally elected individuals, they are often made up of powerful individuals in the community that are already in decision making positions in many cases. These individuals, once voted to position, are then able to maintain such a position through decisions they make. It may prove more democratic to approach a community forum with larger heterogeneity from the community. Most favourable to the process would be to approach individuals that are responsible for electing PMC members. This would put the community in a better place to impact initial project decisions and to challenge current PMC electrets. While the PMC should most definitely be involved in CEA activities and can be used to help

facilitate broader participation, the facilitator may choose to approach them in congruence with, for example, a locally organized group of individuals such as an organized group of chairmen/chairwomen from local FFS groups. For example, the Mwasima Nuru communities had up to 10 FFS groups in the area. These individual groups were made up of around 5-15 members, men and women, and held a variety of economic statuses found within the area. Each chairmen/chairwomen would then represent a broad range of interests in the communities. Through coordinating with such organized groups to enter a community the CEA facilitator could ensure that a larger variety of interests are taken into account as opposed to a few elected individuals who have the opportunity to take advantage of their positions. Additional alternative groups to be considered include local churches, local chiefs, women's groups, etc.

While this serves as a more multi-pronged approach to entering a community and may prove to increase representation from the community, it does involve a fair amount of risk in terms of decreasing the effectiveness and quality of PRA activities. Thus a capacity for future CEA activities will not be solidified in any of the groups involved due to less time being devoted to each one. More groups involved may very well minimize effective information that a facilitator has to work with but must be balanced with community benefits from increased democratic practices. This recommendation requires further research to determine its effectiveness.

6.5.2 Minimize Donor Perception

CEA teams must do more to minimize their perception as financial donors to community projects by engaging in cross cultural training and clearly communicating with local peoples. The majority of participants perceived the CEA team as a group of

donors. This was probably due to the presence of white North Americans in the case of Mwasima Nuru as having visitors has been equated with money entering the community.

As visitors to the community the CEA team needs to present themselves in an appropriate and responsible manner. They must be extremely conscious in how they respond to requests for not only funds, but requests to look for other donors. The most innocent promise to keep the community in mind when back in North America has the potential to build big expectations among community members and can leave community members in suspicion of each other. Not only does suspicion arise, but it also minimizes a community members motivation to take action themselves since they think they can rely on outside sources of relief.

One practical action point for non-local CEA teams is to make sure that each member has had appropriate cross-cultural training. This will help ensure that team members are aware of local customs as well as expectations that local peoples will put on them as visitors to their communities. The local partnering NGO could also provide orientation that is more detailed for a specific community. Additionally, the NGO could be encouraged to communicate in detail to the community the role of the visitors as to what they are there to do and what they are not there to do.

6.5.3 Price for Traditional Knowledge

Establishing and applying a monetary price for the use of traditional knowledge should be implemented in order to properly value community input into the CEA process. CEA processes were found to be strong in the area of incorporating traditional knowledge of local peoples. However, there is still room to progress in terms of properly equalizing power relations between traditional and scientific knowledge. Establishing a monetary

value for the use of traditional knowledge would serve two purposes. First, traditional knowledge would have more value in decision making processes putting it on a more level playing field with scientific knowledge and would lead to increased self worth of community participants. Second, this would minimize the financial stress felt by poor communities. More should be said on this second factor.

Actual financial payments to the community would not be necessary, since many of the arrangements currently being made between donors and communities deal with percentage contributions, the use of traditional knowledge would serve to contribute to the communities' portion of this percentage. Already we find that community labor; contributions of sand, brick, and other materials are being factored into such equations. By valuing traditional knowledge in such a way CEA stands to benefit through an increased knowledge base as communities will be more willing to participate and contribute while communities benefit through less financial stress, increased self esteem and come to value their knowledge more. This method of pricing traditional knowledge also serves as a productive alternative to paying individuals for participation, which was earlier discussed as a negative option leading to an unwillingness to participate unless payments are made.

6.5.4 Adequate Notice

The first step in achieving effective participation in CEA processes on behalf of community participants is to make sure they receive adequate notice of the activities that will take place in their community. Notice must be given with a minimum of one week in advance to as many community members as possible.

An in-field partner who is able to accomplish this task within the community must be established in order to maintain proper coordination between the CEA team and the community. This individual may be with a local NGO, government agency, or perhaps even a community member. This person will not only be in charge of the timing in giving notice, but will ultimately determine who receives the notice as well. Such a person would ideally share the same values associated with achieving community empowerment, increased self-reliance, and improvement of status for marginalized groups. Close communication with the CEA team on these issues will prove critical.

Consideration must also be made in regards to the timing of CEA activities. Communities are often restricted in their ability to attend activities due to growing seasons. Therefore CEA activities must be scheduled with seasonal considerations being sensitive to the time community participants are able to commit. As well, numerous methods should be used to inform community participants such as through local church announcements, cell phones, word of mouth, and house to house announcements.

6.5.5 Inviting Youth and Women

Another way to affect the community representation in a CEA is to strategically target marginalized groups. Women and youth are heavily marginalized in these communities and are major stakeholders in relation to many local proposals especially local water supply proposals. Women and children would have much to gain as far as saving time from water gathering in order to devote efforts towards education or other income producing activities. For example, women who save time from water gathering may be able to devote more efforts to their family's *shamba* or develop a small business. Children, even in the communities involved in this research, were found to suffer from a

lack of water access and were not able to participate in local schools due to time required of them to gather water. As well, women and youth have useful information in regards to water sources such as location, supply, and use due to their extensive activity in gathering water for household use. Children who are at school may also have learned important concepts such as sustainability and may have practical experience through school in activities such as tree planting, soil preservation, etc. Such knowledge puts youth in a strategic role in terms of contributing to the CEA process. For these reasons, women and youth must be involved more directly. Not only will democratic processes be improved as well as an increased quality of data for the assessment, but it should also be noted that many donors also have gender representation as a key component to best development practices.

The community as a whole also stands to benefit from incorporating youth specifically. In doing so, they will foster a healthy environmental mindset at an early age. By getting youth involved in activities such as CEA youth will recognize the importance of managing their resources responsibly and will make decisions accordingly when they are leaders of their community. This would also benefit the CEA process by increasing the knowledge base that the assessment has to work with.

To incorporate such marginalized groups, CEA facilitators need to access social structures that are already in place such as schools, youth groups, women's groups, etc. Many women and youth are already organized in many rural communities and coordinate various activities such as farming, education, and religious gatherings. A CEA facilitator may choose to incorporate these groups into larger CEA meetings, or they may choose to

hold separate private meetings in cases where they feel participation may be hindered by the presence of other less marginalized individuals in the community.

6.5.6 Commitment from Participants

One problem found in the CEAs reviewed was the fact that community participants failed to report important lessons from the activities to non-participants in the communities. In order to further enhance community benefits and the effectiveness of the CEA process, CEA must have the ability to impact the larger community. It is unreasonable to think that every community member can be involved in the CEA exercises, therefore a strategy must be put in place so that non-participants benefit indirectly.

The participants need to understand that they are representing the needs of the community at large. And this responsibility should not be taken lightly. They need to be made aware of the importance and potential benefits of relaying the information that they learn about not only a project and CEA, but also sustainable development, the environment, and various other pieces of new information to the larger community. Someone whom the community respects or has developed trust with may be a prime candidate to relay this responsibility to community participants. Role play activities or drama may also be a strategy for teaching participants how they might inform the larger community and could also be used to increase meaningful public participation.

CEA process could encourage this transfer of knowledge through recommendations made in the EMP. By making a recommendation within the EMP in regards to educating non-participants participants will be reminded of this responsibility.

They will also be obligated to do so as well due to NEMA requirements that call for communities to follow through with EMP recommendations.

6.5.7 Small Group Work

As a result of discovering a plethora of instrumental outcomes, as opposed to communicative, and speaking with other CEA researchers the idea of incorporating more constructive small group work surfaced. This would involve the purposeful application of learning techniques in small group activities as a way to improve participant benefits and sustainable development. This would work to advance both the level of participation for each individual and the legitimacy of each person's contribution. As well, there were a number of responses in the interview schedule in which individuals reported remaining quiet through many of the CEA exercises. This was due to the presence of others of whom they felt were more qualified to give input. So rather than express their views, they became silent and allowed others to speak for them. Small group work, if used more constructively would allow more people to gain a deeper understanding of CEA issues, increase communicative learning outcomes, and will also allow more ideas to surface such as alternative mitigation measures, unforeseen impacts, etc.

Rather than simply letting small groups occur for the purpose of generating information, facilitators need to be purposeful in their application as to intentionally generate learning outcomes on behalf of participants. This would involve restructuring how the small group actually occurs. The inclusion of critical questions that cause participants to think more deeply and critically would increase learning as opposed to previous methods in which participants merely express ideas. Such a scenario where participants both actively listen and contribute ideas would be more productive in

generating rational discourse (Sims, 2008). Practically this would involve the CEA facilitator incorporating leading questions that work to generate such critical reflection (Sims). As well, the facilitator will need to be mindful of group dynamics when forming small groups as to intentionally provide productive environments for marginalized individuals (Sims).

A further challenge to small group work will be to ensure that the CEA team is properly staffed and trained in order to facilitate learning in groups and to allow all the generated information to be brought together for the larger group to process.

6.5.8 Build Political Capabilities

CEA facilitators need to ensure that participants understand the CEA process and are familiar with their rights and responsibilities. The CEA should not merely be seen as a hurdle to an end result, but be seen as an important access point for the community into a larger political framework. They should know their rights in regards to being able to access the report, there should be at least an introduction to applicable legislation, and they should become familiar with their NEMA representative. Some of these things have already occurred or have been strived for within the Mwasima Nuru and Chumvi projects, however interviews with participants have shown that further steps need to be taken. The data revealed that a majority of participants are leaving the CEA process without a clear understanding of EIA and its purpose in the overall project. While understanding EIA is only a starting point, community members will then have a foundation to engage in appropriate legislation and government bodies.

6.5.9 Ensure Management Capabilities

Management capabilities among communities must be improved. The PMC for Mwasima Nuru had surprisingly not seen an EIA report for the project even though a draft was held in the local NEMA office for many months. They either had not taken the time to view it or did not know one was available for viewing. Additionally, water committee meetings had failed to resume following the CEA for various reasons and many of the executive committee members seemed over occupied by various responsibilities in the community which deterred them from meeting their responsibilities to the water project. In Chumvi, although the project had not yet started, the PMC was very conscious of their lack in management capabilities.

PMCs need to ensure that they know the report process, know who their NEMA contact is, and can successfully implement the environmental management plan. If an individual has too many obligations, the community should look elsewhere for an executive member. If a member is not able to complete their duties, then the community should know how to go about dissolving the committee. The committee also needs a clear plan as to how the environmental management plan will be implemented. The research results have shown that there is a lack in the ability of community PMCs to accomplish this emphasizing that more training is needed in regards to management. Where Mwasima Nuru provides practical evidence of a community faltering in management, Chumvi is a call for help as they recognize where they might fail in the future.

While it may not be the sole responsibility of CEA processes and facilitators to ensure management capabilities, they can certainly aid in pointing the community in the

right direction. Facilitators can benefit the community by identifying gaps in community capabilities throughout the assessment in order to provide recommendations on how they may be dealt with before the project is operational. Often there are partnering NGOs or community groups that can as well improve community capacity to manage the project. The CEA facilitator then should communicate with these partnering entities as to what will be required of the community in the EMP and what further education will be required. For example, communities will need to know how to financially manage revenues from a project as well as how to provide routine maintenance. Holding educational seminars on these types of skills can be done pre or post CEA upon the recommendation of the CEA facilitator and can further be detailed in the EMP. Partners in the field, who are in a better position to see such recommendations through, can then coordinate these activities which will further aid the larger community development plan within the respective community.

Ensuring that the community is capable of managing a project is vital to the long term interests of the community and the health of a particular project. Otherwise the CEA process might be done in vain in that local managers will not have the skills or knowledge to affectively conduct EMP recommendations.

6.5.10 Incorporate Mitigation Measures

Mitigation measures need to be incorporated into overall project funding. Specific to the Mwasima Nuru CEA, many problems with the project were noticed which corresponded to the fact that the CEA had been conducted after project implementation. This meant that the mitigation measures suggested by the CEA were not incorporated into the funding for the overall project. Thus many of the suggestions detailed in the

environmental management plan were not carried out. While this may be unique to the Mwasima Nuru case, it should be noted that mitigation measures must be accounted for in project funding. As well, this situation emphasizes the importance of conducting CEA activities pre-project. From the beginning, the individual or group responsible for funding the project should be approached for approval of these added costs in order to ensure the long term sustainability of the project. If funds do not exist for these measures, the community should be encouraged to secure them before project implementation. In doing so, mitigation measures can be incorporated into project implementation and will not be seen as a separate and less important group of tasks. The community needs to realize that by doing so they will increase the livelihood of the project.

6.5.11 Pictographic Presentation

A pictographic presentation of the EIA report should be given to communities as to increase their understanding of CEA and enable them to better accomplish post CEA responsibilities. While a legislated EIA report is required as an outcome of the EIA/CEA process it is often of little use to rural community members who are most likely illiterate. To complement the required report it is critical to provide a report more fitting to the situation of the rural Kenyan, since they in fact manage the project and will need to understand the report's recommendations found in the EMP. It was suggested by a number of EIA professionals that the communities understand and enjoy photographs. Photographs help remind them of activities. One can be shown a picture of themselves actually being involved in the activities and will be able to recall specific events and why they were conducted.

Photographs can be taken throughout the CEA process and be organized together in a presentable form. These pictures could then be arranged in a timeline corresponding to CEA activities. Short descriptions in the appropriate language can then be used to describe what took place and the importance of each activity. Additionally it would be beneficial to see how the EMP might be presented in photography as to give clarity on community post CEA responsibilities.

6.6 Final Thoughts

Community needs and interests must be the primary concern for adapting development practice. The CEA process is still quite new and is continuing to undergo change. In many developing world project scenarios traditional EIA is still being conducted, but does not always meet the needs of the people.

“A lot of people use mainstream EA that channeled down, but it is rooted in the Canadian experience and doesn't always benefit communities in a different context. You need to work out different standards for community rules, something that is acceptable to them.” (EIA professional, CIDA representative)

CEA is a step in the right direction for achieving sustainable development in the developing world. It takes into account the context that many of the people are living in and realizes that their situation is drastically different than that of developed nations and even local neighbors. However, as this research has shown, there is still much that can be done to continue adapting the methodology in order to improve outcomes. By improving the way in which community members participate more effective CEAs will be undertaken and learning outcomes will result which will further impact the daily lives of community members and potentially further an environmental mindset.

“We talk a lot, but it needs to be action as well. Good to mobilize people, especially local. Locals need to set example and plant trees, also giving

opportunity for young people to participate, and then rest of community will follow suit. So there needs to be a focus on the environment.” (Philip, Chumvi non-participant)

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Appendix A: Research Schedule

The field work component of this research was conducted in Kenya from July to December 2007. Once the field work was completed data analysis and writing commenced immediately and continued to June 2008. The thesis will be defended in the summer of 2008.

Appendix B: Community Interview Schedules

Mwasima-Nuru EIA¹ Participant Interview Schedule

Obtain: Name, age, occupation, village, sex, landowner, any offices held. And determine if they were an EIA participant, if they have access to water, and proximity to water source, do they access private/public water kiosk.

1. Were you involved in the 2005 EIA for the water Mwasima-Nuru Water Project?
 - Is EIA a familiar term to you? Why was an EIA done? Is it important? Why?
2. What do you remember about the activities you did with the visitors?
 - Remind them of the community map, transect walks, discussions, interviews, etc.
 - a. Can you describe the activity?
 - b. Did you like or dislike this activity? What about it did you like or dislike?
 - c. How did you participate in the activity?
 - d. Did you have any concerns about the EIA or project?
 - e. Did you speak during the exercise? Why or why not?
 - f. Did people listen to you?
 - g. Did you learn something in the activity? What?
 - h. Has this information changed your thinking in anyway?
 - i. Has this information changed your activities in anyway?
 - Focus on one activity then retrace the questions with remaining activities
 - Which activity did you learn the most from? What activity did you like the most?
3. What types of issues were brought up by the EIA? (areas to probe will include: charcoal burning, tree planting, wildlife, land ownership, soil erosion, etc)
 - a. Do you view these issues differently than you did before?
 - b. Do you act differently as a result?
4. How did you hear about the EIA?
 - When were you told? Was this adequate notice?
 - Were you invited to the meetings?
 - How was the information shared in the meeting? (language, presentation)
 - Was information available to you outside the meeting?
 - Did you feel your needs were looked after in the decision making process?
5. What are the impacts of the project? How has the project impacted *plants* in the area? (wildlife, soil, land value, food security, economy, daily activities, social empowerment)
 - Any social conflicts? Gender issues?
 - Were mitigation measures suggested by the EIA put in place? Which ones?

¹ EIA is the term being used in the interview. Although the process conducted more closely resembled a CEA as opposed to traditional EIA, EIA is the term known by the participating community. It should also be noted that, according to Kenyan legislation, the process the community participated in was actually an environmental audit (EA).

6. Do you feel that your participation in the EIA was a good use of your time?
 - a) Has your participation resulted in new ways of thinking about your daily activities in the environment?
 - a) Have you planted any trees? Practiced water conservation?
 - b) How has your opinion about participation changed?
 - c) What other activities have you participated in that you have really enjoyed?
 - d) Do you have any suggestions for how the EIA activities could be improved?
7. Is there a sense of project ownership among community members?
 - Who owns the borehole? Who owns the land that the borehole is on? Is the landowner okay with the communities using their land?
 - Who owns the water? Is the government involved in the project? Will they charge you for using the water?
8. How did the EIA help you?
9. Are you frustrated with the projects progress? Why?
 - What expectations did you have?
 - Where did you get these expectations?
 - Did the EIA give you any additional expectations? What?

Mwasima-Nuru EIA Non-Participant Interview Schedule

Obtain: Name, age, occupation, village, sex, landowner. And determine if they were an EIA participant, if they have access to water, and proximity to water source.

1. Were you involved in the 2005 EIA for the water Mwasima-Nuru Water Project?
 - What is EIA? Why was an EIA done?
2. Did you hear anything about the EIA?
 - Were you invited to the meetings? When were you told? Was this adequate notice? Did you feel ignored?
 - When was it done? Who participated in the EIA? What issues were discussed?
 - Did those who were involved share any of their experiences with you?
 - What did they tell you?
 - Did this change the way you think about anything?
 - Did your behavior change as a result?
 - Have you planted any trees? Practiced water conservation?
3. What are the impacts of the project? How has the project impacted *plants* in the area? (wildlife, soil, land value, food security, economy, daily activities)
 - Any social conflicts? Gender issues?
 - How did the EIA try to minimize the negative impacts?
4. Is there a sense of project ownership among community members?

- Who owns the borehole? Who owns the land that the borehole is on? Is the landowner okay with the communities using their land?
- Who owns the water? Is the government involved in the project? Will they charge you for using the water?

5. How did the EIA help you?

Chumvi EIA² Participant Interview Schedule

Obtain: Name, age, occupation, village, sex, landowner, any offices held. And determine if they were an EIA participant, if they have access to water, and proximity to water source, do they access private/public water kiosk.

1. Were you involved in the 2007 EIA for the Chumvi Water Project?
 - Is EIA a familiar term to you? Why was an EIA done? Is it important? Why?
2. What do you remember about the activities you did with the visitors from Ivory Consults?
 - Remind them Godfrey's visit, interviews/conversations
 - a. Can you describe the activity?
 - b. Did you like or dislike this activity? What about it did you like or dislike?
 - c. How did you participate in the activity?
 - d. Did you have any concerns about the EIA or project?
 - e. Did you voice your opinion? Why or why not?
 - f. Did people listen to you?
 - g. Did you learn something in the activity? What?
 - h. Has this information changed your thinking in anyway?
 - i. Has this information changed your activities in anyway?
 - Focus on one activity then retrace the questions with remaining activities
 - Which activity did you learn the most from? What activity did you like the most?
3. What types of issues were brought up by the EIA? (areas to probe will include: charcoal burning, tree planting, wildlife, land ownership, soil erosion, etc)
 - c. Do you view these issues differently than you did before?
 - d. Do you act differently as a result?
4. How did you hear about the EIA?
 - When were you told? Was this adequate notice?
 - Were you invited to the meetings?
 - How was the information shared in the meeting? (language, presentation)
 - Was information available to you outside the meeting?
 - Did you feel your needs were looked after in the decision making process?

² EIA is the term being used in the interview. Although the process conducted more closely resembled a CEA as opposed to traditional EIA, EIA is the term known by the participating community. It should also be noted that, according to Kenyan legislation, the process the community participated in was actually the preparation of a project report.

5. What impacts will the project have on the area? How have *plants* been effected in the area? (wildlife, soil, land value, food security, economy, daily activities, social empowerment)
 - Any social conflicts? Gender issues?
 - Were mitigation measures suggested by the EIA? What?
6. Do you feel that your participation in the EIA was a good use of your time?
 - b) Has your participation resulted in new ways of thinking about your daily activities in the environment?
 - e) Have you planted any trees? Practiced water conservation?
 - f) How has your opinion about participation changed?
 - g) What other activities have you participated in that you have really enjoyed?
 - h) Do you have any suggestions for how the EIA activities could be improved?
7. Is there a sense of project ownership among community members?
 - Who owns the spring? Who owns the land that the spring is on? Is the landowner okay with the community using their land?
 - Who owns the water? Is the government involved in the project? Will they charge you for using the water?
8. How did the EIA help you?
9. Are you frustrated with the projects progress? Why?
 - What expectations did you have?
 - Where did you get these expectations?
 - Did the EIA give you any additional expectations? What?

Chumvi EIA Non-Participant Interview Schedule

Obtain: Name, age, occupation, village, sex, landowner. And determine if they were an EIA participant, if they have access to water, and proximity to water source.

1. Were you involved in the 2007 EIA for the Chumvi Water Project?
 - What is EIA? Why was an EIA done?
2. Did you hear anything about the EIA?
 - Were you invited to the meetings? When were you told? Was this adequate notice? Did you feel ignored?
 - When was it done? Who participated in the EIA? What issues were discussed?
 - Did those who were involved share any of their experiences with you?
 - What did they tell you?
 - Did this change the way you think about anything?
 - Did your behavior change as a result?
 - Have you planted any trees? Practiced water conservation?

3. What impacts will the project have on the area? How will *plants* be effected in the area? (wildlife, soil, land value, food security, economy, daily activities)
 - Any social conflicts? Gender issues?
 - How did the EIA try to minimize the negative impacts?
4. Is there a sense of project ownership among community members?
 - Who owns the spring? Who owns the land that the spring is on? Is the landowner okay with the community using their land?
 - Who owns the water? Is the government involved in the project? Will they charge you for using the water?
5. How did the EIA help you?

Appendix C: Professional Interview Schedule

Questions for Community Environmental Assessment (CEA) professionals

Note: CEA is the term I have chosen to use for EAs used in small scale community development projects.

1. In your opinion, what is Community Environmental Assessment?
2. How long have you been involved in facilitating CEAs?
3. What are the major goals of a CEA?
4. How is the CEA process set up to encourage local participation? How are they actively involved?
5. Are participants involved in developing the scope of the CEA?
6. Is any type of participant funding used to encourage local involvement?
7. On whose behalf (community, government, or private party) do you conduct a CEA?
8. How are community interests/values taken in to account? Does the CEA process reflect their needs?
9. Does the process address alternatives to development?
10. How is information shared and presented to communities?
11. Is information readily accessible to community members?
12. Does the CEA process encourage dialogue among stakeholders?
13. Who in the community is approached to become involved? Are marginalized individuals approached (women, HIV victims, etc.)?
14. How is traditional knowledge incorporated into the decision making process?
15. How is the community shown that its input is used?
16. Does transparency exist in the decision making process?
17. Does the CEA process encourage participants to engage in experiential learning? Does the community obtain capacity to manage their natural resources?