

DISSERTATION

DO YOU SEE WHAT I SEE? PHOTOVOICE, COMMUNITY-BASED RESEARCH,
AND CONSERVATION EDUCATION IN SAMBURU, KENYA

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ABSTRACT

DO YOU SEE WHAT I SEE? PHOTOVOICE, COMMUNITY-BASED RESEARCH, AND CONSERVATION EDUCATION IN SAMBURU, KENYA

In the remote region of Samburu East District in north-central Kenya, community-based conservation (CBC) may arguably provide the best way forward for realizing conservation goals. Education is often identified as an integral part in realizing CBC goals in rural African contexts. Moreover, CBC efforts on the African continent have revealed mixed results regarding success, and there no agreed upon method for evaluating the effectiveness of community-based research on specific conservation education issues, particularly with those disempowered human populations living in and adjacent to conservation areas. Photovoice, a community-based participatory action research (CBPAR) strategy, is evaluated as an effective tool for realizing community-based research goals by its ability to address three core criteria: community-centered control, knowledge production and outcome-oriented results. The Samburu photovoice project employed park rangers and scouts, local teachers and community members in this creative CBPAR strategy to identify local conservation education concerns, and propose opportunities for community involvement in addressing these concerns.

Over the course of 8 months, during one of the most severe droughts in recent memory, members of the Samburu community photographed their landscape

and collectively addressed the current state of conservation knowledge. Through photo and narrative analysis and participant observation, the Samburu photovoice project is evaluated as effectively supported by the local community; has proven to produce conservation knowledge and allow for disempowered members of the community to have a voice on current issues that affect them; and has ultimately empowered some Samburu community members to act on their newly acquired knowledge. Implications for use as a methodology in Kenya and in other conservation education contexts are discussed.

Additionally, narrative inquiry and holistic-content analysis strategies were used to uncover the culturally appropriate learning environment that may best allow for effective conservation education in the Samburu communities. Five of the original 26 photovoice participants were involved in semi-structured interviews to explore this learning phenomenon. The approach provided a rich description of three major themes regarding effective and culturally appropriate learning environments for conservation instruction in Samburu. This includes: exposure to new landscapes coupled with guided discussion, place-based and project-oriented instruction, and cultural drivers. Implications for the development of future conservation instruction in Samburu are given.

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CHAPTER 1
Introductions

The Problem

For those human pastoral communities living adjacent to protected areas in Africa, significant costs are often accrued such as loss of access to natural resources, increased threats from wildlife, and inadequate revenue sharing from nature tourism enterprises. For the protected area management agencies, these accrued costs affect the way the land is managed, since adjacent communities are often seen as an obstacle to fully achieving biodiversity conservation and wildlife protection goals (Balint, 2006; Western & Wright, 1994). Consequently, international conservation organizations, along with many national, regional and local governments on the African continent, have championed community-based conservation (CBC) approaches to land management as a more holistic and inclusive method for realizing conservation and human livelihood goals.

While CBC is the current management paradigm often championed by the international community, there is not an agreed upon blueprint for managing landscapes under this collective model. Additionally, due to past approaches which have ignored the role disenfranchised communities could play in CBC, there are few examples that help to illustrate an approach that may work well in multiple conservation contexts, especially with human populations with low education levels. Due in part to this lack of standardized approaches, research has revealed mixed results on the success of CBC approaches. Often a lack of individual and management capacity is a barrier to success and others argue that more emphasis should be placed on furthering education and

outreach to local institutions (Balint & Mashinya, 2008; Brockington, 2007). This emphasis recognizes the role that education and outreach plays in cultivating the social and institutional support needed to realize CBC's conservation and development goals. Therefore, the current challenge that confronts CBC efforts in Africa include the development of the local capacity to effectively monitor and evaluate their natural and cultural landscapes; and to appropriately engage the human populations living within and around areas slated for conservation development.

In the arid rangelands of remote northern Kenya, the local communities of Samburu East District negotiate a pastoral lifestyle focused on herding livestock. The Samburu do this among some of the world's most magnificent wildlife populations on a picturesque landscape replete with acacia trees and doum palms. The landscape, however, is often an unforgiving place, and the Samburu lifestyle is affected by any change in this arid land. Such a change occurred during 2008-2009, when rains failed to fall for 17 consecutive months, rendering the landscape void of adequate forage for livestock or wildlife. In Samburu East, most households lost the majority (if not all) of their livestock to starvation. Compounding the problem was the 17-month drought's effect on the areas wildlife populations. Three national reserves (Samburu, Buffalo Springs and Shaba) and two community wildlife conservancies (Kalama and West Gate) lie within the boundaries of Samburu East District and contain such wildlife populations as lion, cheetah, elephant, and water buffalo. Endangered species such as the Grevy's zebra and wild dogs also inhabit the region. These wildlife populations, though finding some protection inside the reserve and conservancy boundaries, could not escape the effects of the drought and many individuals were lost to starvation.

Additionally, the existing trees in the area, most notably *Acacia tortilis* and *Acacia elatior*, are being cut at an alarming rate to meet fuel and lumber needs. Many young elders in the villages of Samburu East can recall a time when the land was much more forested than it is today, and remember when the land provided much grass for forage for their livestock. Unfortunately, there is little documentation and monitoring of this landscape being undertaken by local conservation professionals (e.g. rangers and scouts) or community leaders (e.g. elders and teachers). Technical trainings, supported by large conservation organizations such as the African Wildlife Foundation (AWF) and the Northern Rangelands Trust (NRT), have been numerous in the region, but very little knowledge exists in terms of the local community's understanding of the ecology of the Samburu ecosystem (Bruyere, Beh, & Lelengula, 2009). While the training efforts of organizations such as AWF and NRT are laudable, their intended outcomes regarding the development of a skilled, competent cadre of conservation professionals that can monitor changes in the local landscape and offer options for natural resource management has not been met. Given that learning occurs in unique and dynamic settings, one objective of this study is to determine what the culturally appropriate learning environment should be in order to effectively teach conservation to Samburu scouts and teachers.

Two methodological strategies were used in this study, Photovoice and narrative inquiry, to obtain visual representations and storied experiences of the phenomenon of conservation learning in Samburu. Employing Photovoice and narrative inquiry approaches can allow historically disenfranchised individuals the opportunity to document their own concerns and hopes for the future through photographs and accompanying narratives. Photovoice has allowed women the opportunity to voice

public health concerns to governing authorities (Wang, Yi, Tao, & Carovano, 1998); created a forum for students to identify their perceptions of nature (Owens & McKinnon, 2009); and helped physically disabled individuals address concerns in health care delivery (Newman, 2010). Given the demographics of the Samburu study area, where community members and scouts are rarely given the opportunity to provide input on conservation initiatives, Photovoice was chosen as an appropriate strategy for implementing community-based research in this area.

Since many community-based participatory action research (CBPAR) approaches have paid minimal attention to evaluation, this paper addresses a specific methodological need in the field. Additionally, while many CBPAR approaches have dealt with the issues and concerns of disenfranchised populations in fields of public health and gender-specific empowerment (Balcazar, Garcia-Iriarte, & Suarez-Balcazar, 2009; Berger & Peerson, 2009; Jacklin & Kinoshameg, 2008), there has been little use of CBPAR methods in the field of conservation education. This paper evaluates the use of CBPAR with a community of individuals who have had very little say in the development of conservation education programs in their area. The Samburu Photovoice project, implemented over a seven-month period (June, 2009 – January, 2010), had as its stated goals the desire to generate discussion and action regarding conservation in Samburu. While acknowledging this stated goal, one objective of this paper is to address the following research question: *Is Photovoice (PV) an effective way to realize community-based, participatory action research goals regarding conservation in Samburu?* To evaluate the Samburu Photovoice project and the effectiveness of the method in realizing

community-based ideals, the criteria of community-centered control, reciprocal production of knowledge, and outcome-based results will be employed.

While support for environmental education has often been championed as a necessary element for addressing many of the world's environmental and conservation problems (Skavanis & Sarri, 2004), few studies have focused on how effective environmental education programs could be initiated in specific cultural contexts (Bray, Clarke, & Stephens, 1998; James, 1998). In the East African country of Kenya, incorporating environmental education into the national curriculum has been met with resistance, though support for its inclusion is based on realizing sustainable development ideals for the country (James, 1998; Korir-Koech, 1991). Unfortunately, due to the highly structured and standardized national curriculum and other resource barriers, there is little opportunity to include environmental education as a separate topic of instruction (McDuff, 2000).

Methods: Narrative inquiry

Regardless of geographic context, all human beings lead storied lives that are shared and co-created over time (Connelly & Clandinin, 1990). It is in these shared stories that cultures develop, and, throughout time, are reshaped to fit the current context of the day. Narrative Inquiry (NI) has evolved as a qualitative strategy for determining and identifying those experiences that shape the lives of individuals (Clandinin, 2007; Connelly & Clandinin, 1990). Though there is little debate on the value of storytelling in shaping and influencing human behavior, the stories themselves differ dramatically across individuals, and the analysis of these dynamic stories has received little attention outside of educational research (J. S. Bell, 2002; Clandinin, 2007; Hart, 2002). However,

when applied in cross-cultural educational contexts, examining the stories of learners can help to illustrate the “underlying assumptions” of specific learning phenomena (A. Bell, 2003; J. S. Bell, 2002). The key is the in the thoughtful re-telling by the researcher of the shared stories as narrative of experience that shed light on a particular phenomenon (Connelly & Clandinin, 1990).

Analysis of narratives occur in a specific temporal and spatial contexts, and must be understood as valuable only as a part of this context (J. S. Bell, 2002; Hart, 2002). In this study on learning conservation in Samburu, the narratives provided tell a story of learning in a time of hardship since the 2008-2009 drought was an inescapable facet of each individual’s life. The temporal contexts of shared stories lends the narrative inquiry approach its strength, in that the interpretations of experience cannot be separated from the realities of the place from which they came (Connelly & Clandinin, 1990; Hart, 2002). The Samburu narratives, firmly situated in the times of the day, provide a glimpse into the learning phenomenon as understood from the realities of Samburu life. Narrative inquiry has been most often used in educational research (Barrett, 2007; A. Bell, 2003; J. S. Bell, 2002; Connelly & Clandinin, 1990; Glover, 2003), and can offer temporally specific insights into conservation learning in Samburu.

One of the most notable and equitable elements of the narrative inquiry method is its ability to surrender control of the research process, allowing for individuals from vulnerable communities the opportunity to help shape the direction of the research (Clandinin, 2007; Glover, 2003; Riley & Hawe, 2005; Rockquemore & Laszloffy, 2003). In the Samburu context, this devolution of power from *researcher* to *researched* is an action not often witnessed on the ground. If we are to believe that the phenomena of the

learning experience can be found through the analysis of narrative, then shifting the power of the guiding of narrative research into Samburu hands is not only a welcome approach, but a necessary one as well.

The Samburu are governed by the stories of their elders (Spencer, 1965, 1973), and, being a culture of oral storytellers, the use of the narrative inquiry method to understand their lived experiences makes methodological sense. Most of the Samburu communities are illiterate, and even those with literacy skills are more willing to share stories rather than complete written surveys (e.g. learning style inventories). Additionally, there is little research on the effectiveness of learning style inventories in rural African contexts. Since narrative inquiry has the benefits of lending legitimacy to the stories of individuals and providing a voice for historically disenfranchised communities, the method is appropriate for the exploration of the conservation learning phenomenon in Samburu.

Methods: Photovoice

Photovoice is a participatory action research strategy in which cameras are provided to participants so they may document, discuss and display the needs, concerns and hopes for the future as seen through their own eyes. It is a way to empower those individuals who usually spend time *under the lens* of the photographer, and allowing them the opportunity to be *behind the lens* (Willson, Green, Hayworth-Brockman, & Beck, 2006). The power of this method lies in allowing the participant to serve as the expert of their own lived experiences (Wang & Burris, 1997). Photovoice provides a voice for those individuals who have historically been denied an opportunity to record and discuss the conditions that directly affect their lives. Photovoice, as defined by Wang

and Burris (1997) has three goals: 1) enable people to record and reflect their community's strengths and concerns; 2) promote critical dialogue and knowledge about personal and community issues through group discussions focused on the photographs; and 3) reach policy makers.

While the method has been used to explore the role nature plays in shaping the development of adolescents in the U.S. (Owens & McKinnon, 2009), it has not yet been applied in rural African contexts. The narratives supplied by the Samburu Photovoice project, consisting of the storied and lived experiences of community scouts, teachers and other members provide the data for analysis in this dissertation. The visual narratives provide an illustration of the culturally appropriate learning environments that can be created to effectively teach about conservation in Samburu. Additionally, the Photovoice method is evaluated as to its effectiveness as a community-based participatory action research strategy in Samburu, Kenya.

Definitions

A list of definitions is provided to illustrate the main concepts in conservation, education, qualitative methodologies and participatory research approaches that are used throughout this document.

Community-based conservation (CBC)

CBC is a management strategy aimed at reducing the role of a central governing authority over conservation initiatives in an area by allowing the local communities and governing institutions the opportunity to develop and implement the management directives of their own place (Berkes, 2007; Taylor, 2009; Western & Wright, 1994). CBC has evolved in Africa as a management strategy for protecting biodiversity and

improving local livelihoods (Western & Wright, 1994). The concept developed in part due to the increased environmental and economic crises experienced in rural areas on the continent, where complex problems emerge from prevalent human-wildlife and land access conflicts; rampant population growth; and increased poverty (Hackel, 1999). CBC strategies are proven to be effective tools for addressing these conflicts, as well as building the capacity of local communities to address conservation concerns (Balint, 2006). The most successful CBC projects have introduced multidimensional approaches to management, allowing local populations the opportunity to engage in meaningful dialogue with appropriate governing and research institutions (Attum, Baha El Din, Baha El Din, & Habinan, 2007; Milton, 2000).

Participatory action research

PAR as a research method is primarily concerned with empowerment (McTaggart, 1997; Somekh, 2006). It differs from traditional research methods in that there is an explicit desire for change, and the scope and type of change is determined by the participant-researchers themselves (McTaggart, 1997). The PAR paradigm grows from Chambers' (1994) development of the Participatory Rural Appraisal (PRA) approaches that strive to enable communities to monitor and evaluate their life conditions, and plan for strategies to address those conditions. The most important difference between PAR and traditional research approaches centers on PAR's emphasis that the research is not being done *on* people, but rather *by and for* people (McTaggart, 1997). To this end, past PAR research projects have addressed concerns related to management conditions, institutional organization, civil liberties of groups of individuals

within communities, and the defined communities themselves (Ozanne & Saatcioglu, 2008).

Community-based participatory action research (CBPAR)

CBPAR builds on the PAR approach while adding a specific focus on the reciprocal and iterative production of knowledge (Wulfhorst et al., 2008). The approach is also characterized by an identification of a specific community population of interest that should realize some form of change as a result of the implementation of the research endeavor.

Holistic content analysis

An holistic-content perspective was used as an analysis strategy for the narratives in this study because of its effective use in phenomenological and case study research (Lieblich, et al., 1998). The perspective is defined by the use of the entire life stories of the participant, and the analysis of these stories is used to understand the individual's connection to the phenomenon in question. Past research has employed the holistic-content approach with particular success in uncovering and exposing the narratives of violence and oppression (Boonzaier & de la Rey, 2003; Draucker & Martsof, 2010), gender boundaries (Essers & Beschop, 2009) and opportunities for mutual support (Collie, Bottorff, & Long, 2006; Lee & Poole, 2005; Winter & Daniluk, 2004).

Structure of dissertation

Chapter 1. This chapter provides an introduction to the study area, problem statements and the purpose of the research. Comprehensive literature reviews are not given in this chapter, but are offered in chapters two and three as these chapters were written as formal manuscripts.

Chapter 2: Giving communities a voice in community-based research through the use of photography: A case study in Samburu, Kenya. This chapter evaluates the effectiveness of the Samburu photovoice project as a community-based participatory action research (CBPAR) strategy. The project is evaluated based on three criteria: 1) the inclusion of community input at all levels of the research project, 2) ensures that a reciprocal and iterative process of knowledge production is established, and 3) relevant and tangible outcomes are realized as a result of the project. Participant photographs and narratives are combined with researcher observations and offered as findings that meet the above criteria. An assessment on the effectiveness of photovoice as a CBPAR strategy is given, as well as recommendations for future community-based projects.

Chapter 3. Exploring Five Visual Narratives on Conservation Learning in Samburu, Kenya. Chapter 3 employs a narrative inquiry approach to the analysis of shared stories and images on the phenomenon of learning about conservation in a Samburu context. Five of the original 26 photovoice participants were chosen to share their experiences on learning in semi-structured interviews. The stories and participant photographs were then arranged by the researcher into visual narratives of experience which attempt to explore the culturally appropriate learning environments that need to be created to more effectively teach about conservation principles in Samburu. The narratives and images provided illustrate what environments can be created to effectively teach conservation principles and practice to Samburu learners. The chapter is organized in the narrative tradition, allowing for full-length participant narratives to explore the phenomenon of learning, and is written in the first person to accommodate for the participatory role the researcher played in the co-creation of these narratives. Holistic-

content analysis was used to provide global impressions and major themes for each of the co-created narratives. This analysis strategy was also used to combine the individual themes among participant narrative into collective themes regarding conservation learning in Samburu.

Chapter 4. The Samburu Photovoice Project. This chapter includes the technical manual that was created for the communities and conservation professionals of the Samburu East District that provides a description of the photovoice project. The report is written in language appropriate for the Samburu community, absent of technical jargon. The report includes a description of the photovoice process, includes all participant photographs and narratives that were displayed in community galleries, and finally provides recommendations for community development on conservation concerns.

Chapter 5. This concluding chapter provides an overview of the lessons learned in from the research effort. Specifically, a review of the results of the different elements of the project are given, including the evaluation of photovoice as an effective CBPAR strategy as well as the culturally appropriate learning environments that could enhance conservation learning in Samburu. Additionally, a personal testament is offered on the lessons learned by the researcher on the participatory research process and its potential uses in the field of conservation research.

CHAPTER 2

Giving communities a voice in community-based research through the use of
photography: A case study in Samburu, Kenya

Introduction

For those human pastoral communities living adjacent to protected areas in Africa, significant costs are often accrued such as loss of access to natural resources, increased threats from wildlife, and inadequate revenue sharing from nature tourism enterprises. For the protected area management agencies, these accrued costs affect the way the land is managed, since adjacent communities are often seen as an obstacle to fully achieving biodiversity conservation and wildlife protection goals (Balint, 2006; Western & Wright, 1994). Consequently, international conservation organizations, along with many national, regional and local governments on the African continent, have identified community-based conservation (CBC) approaches to land management as a more holistic and inclusive method for realizing conservation and human livelihood goals.

While CBC is the current management paradigm often championed by the international community, there is not an agreed upon blueprint for managing landscapes under this collective model. Additionally, due to past approaches which have ignored the role disenfranchised communities could play in CBC, there are few examples that help to illustrate an approach that may work well in multiple conservation contexts, especially with human populations with low education levels. Due in part to this lack of standardized approaches, research has revealed mixed results on the success of CBC approaches. Often a lack of individual and management capacity is a barrier to success and others argue that more emphasis should be placed on furthering education and

outreach to local institutions (Balint & Mashinya, 2008; Brockington, 2007). This emphasis recognizes the role that education and outreach plays in cultivating the social and institutional support needed to realize CBC's conservation and development goals. Therefore, the current challenge that confronts CBC efforts in Africa include the development of the local capacity to effectively monitor and evaluate their natural and cultural landscapes; and to appropriately engage the human populations living within and around areas slated for conservation development.

Participatory action research (PAR) methods have proven to be an effective way of soliciting multiple perspectives of knowing and including them in management schemes related to human livelihoods and development (Bradley & Puoane, 2007; Habgood, 1998). Additionally, PAR approaches have allowed historically disenfranchised populations (e.g. women, ethnic minorities, at-risk youth) to have a voice in development of these management schemes (Berger & Peerson, 2009; Day, Higgins, & Koch, 2009). One of these unique strategies, photovoice, includes the provision of cameras to marginalized groups as a means to document and discuss the issues that directly affect their lives. While the photovoice method has been used with demonstrated success within the public health and youth development fields, it has arguably been underutilized in addressing conservation and natural resource management concerns. Due to its participatory nature and egalitarian data collection methods, the photovoice method may be well suited for developing community-based conservation education and outreach approaches to sustainable resource management on the African continent.

Since many community-based participatory action research (CBPAR) approaches have paid minimal attention to evaluation (McTaggart, 1997; Ozanne & Saatcioglu,

2008), this paper addresses a specific methodological need in the field. Additionally, while many CBPAR approaches have dealt with the issues and concerns of disenfranchised populations in fields of public health and gender-specific empowerment (Balcazar, Garcia-Iriarte, & Suarez-Balcazar, 2009; Berger & Peerson, 2009; Jacklin & Kinoshameg, 2008), there has been little use of CBPAR methods in the field of conservation education. This paper evaluates the use of photovoice as a CBPAR approach with a community of individuals who have had very little say in the development of conservation education programs in their area. The Samburu Photovoice project, implemented over a seven-month period (June, 2009 – January, 2010), had as its stated goals the desire to generate discussion and action regarding conservation in Samburu. While acknowledging this stated goal, this paper addresses the following research question: *Is Photovoice an effective way to realize community-based, participatory action research goals regarding conservation in Samburu?*

The rangelands of the Samburu region of northern Kenya contain some of the most biologically rich landscapes on the African continent. The acacia-grassland savannah is home to such endemic species as the Grevy's zebra, reticulated giraffe and Beisa oryx, as well as many of the mega-fauna that attracts tourists to the continent such as elephants, lions and leopards. The area is also home to a number of semi-nomadic tribes, of which the Samburu are most dominant. The area, which includes three national reserves and numerous community wildlife reserves, is a highlight of many safari tour operators' itineraries, enticing upwards of 20,000 international tourists to visit the region every year. The communities adjacent to Samburu National Reserve (SNR) including two community wildlife conservancies (e.g., Kalama and West Gate) of the Waso division

(see figure 2.1) in Samburu District are charged with protecting the wild animals and natural resources for sustainable use.

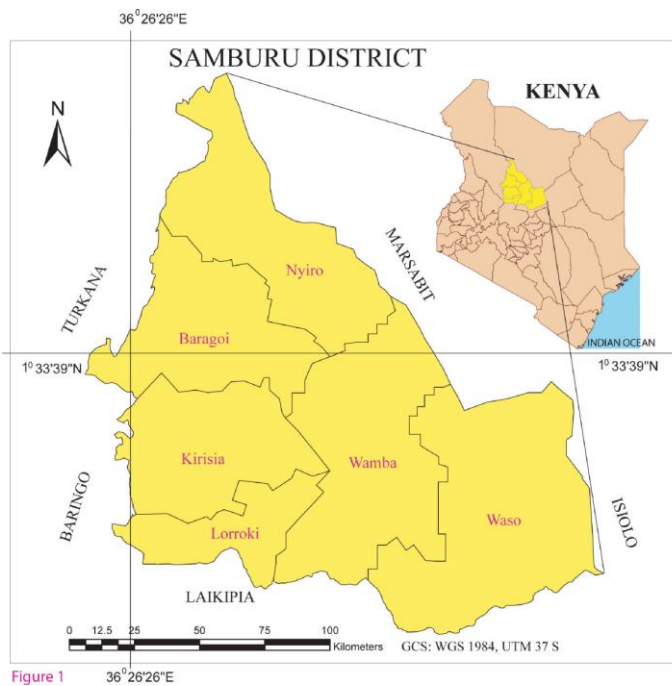


Figure 2.1. Map of Samburu East District (Waso Division).

Past research in the region reveals that many community members fail to recognize conservation benefits of protected areas, and instead see the parks as providing primarily economic benefits from tourism (Bruyere, Beh, & Lelegula, 2009). This is in contrast to park personnel who identified their protected areas as having high conservation value and rated their communication about such benefits to the community as sufficient. Another study identified a need for greater capacity-building in conservation education skills for SNR and conservancy staff, to more effectively reach both tourists and local community members about conservation (Beh & Bruyere, 2007). The management structures of SNR and the adjacent community wildlife conservancies of Kalama and West Gate are decentralized and (theoretically) influenced by local input. This creates an opportunity and need to identify and evaluate a community-based,

participatory research strategy that can be used to assist the protected area and community conservancies in achieving their conservation education goals.

The photovoice method can allow historically disenfranchised individuals the opportunity to document their own concerns and hopes for the future through photographs and accompanying narratives. Photovoice has allowed women the opportunity to voice public health concerns to governing authorities (Wang, Yi, Tao, & Carovano, 1998); created a forum for students to identify their perceptions of nature (Owens & McKinnon, 2009); and helped physically disabled individuals address concerns in health care delivery (Newman, 2010). Given the demographics of the Samburu study area, where community members and scouts are rarely given the opportunity to provide input on conservation initiatives, photovoice was chosen as an appropriate strategy for implementing community-based research in this area.

Literature Review

Community-Based Conservation in Africa

CBC is a management strategy aimed at reducing the role of a central governing authority over conservation initiatives in an area by allowing the local communities and governing institutions the opportunity to develop and implement the management directives of their own place (Berkes, 2007; Taylor, 2009; Western & Wright, 1994). CBC has evolved in Africa as a management strategy for protecting biodiversity and improving local livelihoods (Western & Wright, 1994). The concept developed in part due to the increased environmental and economic crises experienced in rural areas on the continent, where complex problems emerge from prevalent human-wildlife and land access conflicts; rampant population growth; and increased poverty (Hackel, 1999). CBC

strategies are proven to be effective tools for addressing these conflicts, as well as building the capacity of local communities to address conservation concerns (Balint, 2006). The most successful CBC projects have introduced multidimensional approaches to management, allowing local populations the opportunity to engage in meaningful dialogue with appropriate governing and research institutions (Attum, Baha El Din, Baha El Din, & Habinan, 2007; Milton, 2000).

According to Berkes (2007), CBC approaches have emerged due to a number of conceptual shifts, including the shift from a more top-down and expert-based approach to one that is more democratic and participatory in nature. Community participation, however, does not exclusively lend itself to conservation success. A meta-analysis of the CBC literature reveals that a democratized participatory approach in conservation practice includes free and open participation by communities in actual management practice, an effort to include stakeholder identity in the process, and finally, including a process where respectful and non-coercive interactions among participants is possible (DeCaro & Stokes, 2008). For many CBC efforts, success has largely been determined by the strength of the relationships with governing institutions (Marks, 2001; Waylen, Fischer, McGowan, Thirgood, & Milner-Gulland, 2010). Full engagement with local governing institutions was found to be the best determinant of conservation success, while other traditional measures of success (local community participation and education campaigns) were less significant (Waylen, et al., 2010). Moreover, Marks' (2001) evaluation of Zambia's Administrative Management Design for Game Management Areas (ADMAGE) program suggests that the inability to control relevant governing institutions can produce a substantial amount of conflict and unsustainable behaviors

within the local communities. However, past CBC projects in Africa have been hampered by a number of internal and external forces, including: 1) lack of community incentives to work towards project objectives, 2) inherent conflicts between development and conservation goals, 3) general absence of ecological monitoring programs, 4) inadequate funding mechanisms, and 5) increased human migration to project areas in an attempt to realize benefits (Newmark & Hough, 2000).

Fortunately, many CBC efforts in Africa have achieved greater successes than more traditional, top-down approaches to land and wildlife management. In southern Africa, CBC management policies and actions have provided for increases land area devoted to wildlife protection (Kreuter, Peel, & Warner, 2010), and has provided local communities the opportunity to engage in conservation discourse in terms of narrative and practice (Rodary, 2009). In economic terms, sustained benefits have been realized in Zimbabwe (Balint & Mashinya, 2008), and CBC efforts have enabled Tanzanian communities to address corruption concerns (Brockington, 2007). Ultimately, CBC can be viewed as a successful conservation management strategy for improving both human livelihoods and biodiversity. Where CBC projects have failed in Africa, it is often due to the inability of the management agencies to adequately provide for the improvement of human livelihoods (Rodary, 2009; Wainwright & Wehrmeyer, 1998). Further, where such livelihood benefits have failed to materialize, the conservation benefits have also often failed to emerge (Wainwright & Wehrmeyer, 1998). Despite the apparent success of CBC, however, minimal research exists to fully understand how an empowered and informed community can positively influence CBC goals. Further, there been minimal

work conducted to evaluate the role of community-based research (e.g., participatory action research, photovoice) in community-based conservation efforts.

Community-Based Participatory Action Research (CBPAR)

While CBC has often been recognized as a viable strategy to address many human-environment conflicts across the globe, there has not been a set of principles for success established that would help direct future CBC initiatives. It has been suggested, however, that conservation strategies should first be met at developed at multiple levels of scale for CBC to be effective (Berkes, 2007). Additionally, an approach that may work in one region of the world may not work in another. Each region is situated in a specific social, political, ecological and temporal context, effectively dictating how CBC efforts may operate. Therefore, CBPAR can be ideally suited for addressing locally specific approaches to CBC since it is concerned with addressing the specific concerns of a specific place in a specific time (Ozanne & Saatcioglu, 2008; Somekh, 2006).

PAR as a research method is primarily concerned with empowerment (McTaggart, 1997; Somekh, 2006). It differs from traditional research methods in that there is an explicit desire for change, and the scope and type of change is determined by the participant-researchers themselves (McTaggart, 1997). The PAR paradigm grows from Chambers' (1994) development of the Participatory Rural Appraisal (PRA) approaches that strive to enable communities to monitor and evaluate their life conditions, and plan for strategies to address those conditions. The most important difference between PAR and traditional research approaches centers on PAR's emphasis that the research is not being done *on* people, but rather *by and for* people (McTaggart, 1997). To this end, past PAR research projects have addressed concerns related to

management conditions, institutional organization, civil liberties of groups of individuals within communities, and the defined communities themselves (Ozanne & Saatcioglu, 2008). The focus of this paper is on this latter group, specifically identified as the communities of Samburu East/Waso Division. The action research approach that will be evaluated in this context will be community-based (CBPAR).

While there is no universal evaluation criteria for CBPAR (Somekh, 2006), analysis of past CBPAR efforts reveals a number of best practices that can be grouped into three themes (Wulfhorst, Eisenhauer, Gripne, & Ward, 2008). These include:

1. Community-based control: A set of intrapersonal relations that contribute to building local capacity.
2. Reciprocal production of knowledge: The co-creation of knowledge (local and scientific) that will inform the decision making process.
3. Outcome oriented: The co-created knowledge and actions will be used for societal change.

Descriptions of these three criteria and the elements of concern regarding evaluation in practices follows.

Community-centered control

Involvement at all levels. In order to achieve community control in CBC efforts, local people must be involved at the onset. If community ownership is to be realized, communities should be asked to share in the research process beginning with problem identification, data collection and analyses, and evaluation of possible outcomes (Balcazar, et al., 2009). Problems can arise when the local community feels that the proposed research effort is driven by outside interests or a local group of elites. In these

instances, projects often fail as the goals and vision for the research fail to reflect the broader community (Ballard, Trettevick, & Collins, 2008).

Esler's (2008) study on CBPAR efforts with indigenous Australians illustrated the benefits of including locals in the development of research networks aimed at providing health care for their people. True ownership of the project was achieved due to the researcher's ability to consult with indigenous leaders on the development and direction of the data collection and analysis procedures. Ultimately, the CBPAR effort was sustainable in that the project was completely owned and still operated by the Danila Dilba Health Service (indigenous-run), where the intellectual property rights of all knowledge and outcomes generated from the research is retained (Esler, 2008). Similar results were observed among 261 Colombian immigrants in Chicago, as volunteers from this community conducted research which led to the development of a social services and health care guide of all providers in Illinois (Esler, 2008). The PAR attempt not only included local participants in all aspects of the research process, but this inclusion offered newcomers to the Colombian immigrant community a simple guide to help navigate the complexities of adapting to a new country (Esler, 2008).

Credibility, trust and power. Community-centered control also entails continued and periodic engagement throughout the process. Reid et al. (2009) established a model for linking local knowledge with action in African pastoral systems. The researchers found that the most effective way to achieve community control was to draw from existing knowledge systems from a diverse set of multi-level governing bodies. This effort helped in building a network of shared knowledge, lending to the credibility of the research and identified outcomes. In an African context, CBPAR efforts have established

this credibility while creating networks of enabling environments for public health education (Freudenthal, et al., 2006; Habgood, 1998). Building these types of networks ensures that local communities will feel their traditional ways of knowing are valid, and helps to build the foundation of mutual trust that is so important for any community-based conservation effort to succeed (Esler, 2008; Jacklin & Kinoshameg, 2008; Singleton, 2002).

In Freudenthal et al.'s (2006) study with schoolchildren in Tanzania, creative in-school activities (essay writing, dramas, discussion of household observations) led to a constant exchange of ideas and information regarding possible schistosomiasis prevention in local communities. Over 1000 students participated in this CBPAR effort in a region where the disease was prevalent, and encouraged area teachers to rehabilitate their curriculum to include schistosomiasis education in classroom instruction (Freudenthal, et al., 2006). Community trust was achieved through the production of usable results from the research, and local power structures were effectively challenged by allowing schoolchildren, a group rarely asked to be included in research, to be the drivers of the project (Freudenthal, et al., 2006).

While it is important for CBPAR to provide for ongoing exchange and negotiation of local realities among participants and researchers, this must be situated in an appropriate cultural context (Somekh, 2006). In Guatemala, photovoice was used to allow Mayan Ixil women to produce a book of their personal experiences involving military and political oppression (Lykes, Blanche, & Hamber, 2003). Their story was completely grounded in their own reality, and provided an opportunity for these women to use the book as an instrument of reconciliation with their shared past (Lykes, et al.,

2003). While photovoice as a CBPAR strategy has proven to be effective in the involvement of communities in the data collection and analysis, it is important to note that there may be less community control over the resultant policies that may be developed as a result of the research (Wang, et al., 1998).

Reciprocal production of knowledge

Knowledge produced through and iterative process. An important principle for successful CBC is the valuing of traditional ways of knowing. Berkes (2007) argues that researchers and practitioners should be prepared to constantly negotiate the types of knowledge generated from both discussions with resource users and feedback from monitored ecological systems. In describing the process for including traditional ecological knowledge (TEK) of the effects of climate change on natural systems among Inuit populations, Berkes et al. (2007) illustrated how Inuit TEK helped to frame the local conservation issue as one that not only addresses species and populations, but also how the locals relate to the land/climate changes and their effects on access to a resource. In this study, a working group of members from three local communities recommended multiple areas to be designated as marine protected areas that would help mitigate consequences of climate change on beluga whale populations. For these communities, the protection of critical beluga whale populations, central to the Inuit way of life, was identified as one of the most important areas for concern. The suggestions were considered by the governing authorities, and influenced a recommendation that specific zones determined by data received from ongoing monitoring efforts should be established that would provide seasonal protection for the whale populations. This balance of

scientific and cultural knowledge shows how a conservation issue may be framed in order to best solicit positive feedback from the community.

A CBPAR effort on the Wikwemikong Unceded Indian Reserve (Ontario) involving aboriginal communities allowed for local concerns to come to the forefront and helped produce a guide for culturally relevant development projects (Jacklin & Kinoshameg, 2008). In this study, indigenous participants identified the democratic process of participatory involvement in the research, which included the application of traditional ways of knowing into the data collection effort, to be as beneficial as the outcomes realized (Jacklin & Kinoshameg, 2008). Similar sentiments were echoed in non-native communities, as university professionals were allowed to generate new collective knowledge based on past experiences to develop a curriculum for sustainability education instruction (Junyent & Geli de Ciurana, 2008).

In Australia, volunteer clinicians were engaged in a CBPAR effort to find ways for redesigning delirium care for older patients (Day, et al., 2009). Eight volunteer clinicians met for discussion sessions over six months, allowing for participant observations to blend with health practice, leading to a welcome change in the development of early delirium detection strategies among participants (Day, et al., 2009).

Voice given to marginalized populations. By recognizing the contributions of both traditional ways of knowing and the iterative production of knowledge to be used for community planning, CBPAR methods can provide a voice for marginalized populations. CBPAR explicitly strives to allow those who normally do not participate in the planning process the opportunity to do so (Berger & Peerson, 2009; McTaggart, 1997; Somekh, 2006; Van Niekerk, Lorenzo, & Mdlokolo, 2006). When this participation occurs,

CBPAR facilitators must enter into a reciprocal and iterative process of knowledge production. This constantly evolving production of knowledge has benefited nursing students in evaluating and reflecting on curriculum development (Ball, 2009; Day, et al., 2009). In the Ball study (2009), researchers encouraged nursing students in the United Kingdom School of Nursing to analyze handwritten annotations on graded assignments in order to detect useful approaches for curriculum feedback. Day (2009) found that a participatory approach involving health practitioners in a six-month discussion seminar led to the development of a change in practice for patients with delirium.

Participatory approaches were also used on the African continent as conservation planners in Ethiopia compared indigenous strategies of rangeland and water management through semi-structured interviews and analytical workshops. In this study, formalized outreach efforts were developed related to traditional grazing patterns and illustrated how different generations within the Borana society held different levels of knowledge (Gemedo-Dalle, Isselstein, & Maass, 2006). In most instances, local communities may see conservation agencies and institutions as the agenda setters, and may even hold a mistrust of this agenda from the beginning of any project (Marston, 2001). It is up to the facilitator to effectively and consistently listen to local documentations of knowledge, and find ways for this knowledge to be applied to solutions.

Photovoice has been especially useful in soliciting input and participation from marginalized populations. In a Baltimore study, local youth were given the opportunity to voice their personal concerns on the state of their community to local leaders. Four community photo exhibits provided the youth with venues in which they could share their visions for community rehabilitation (Strack, Magill, & McDonough, 2004). A

photovoice project involving low-income women in Saskatchewan allowed this marginalized group the opportunity to voice their own concerns about their current predicaments. Differences in concerns across participants was celebrated as each woman was given their own exhibit for display (Willson, Green, Hayworth-Brockman, & Beck, 2006). A CBPAR strategy using photovoice also gave Latino individuals with intellectual disabilities the opportunity to overcome their marginalized status in society by giving them the means to provide policy makers with a relevant perspective on disability policy needs (Jurkowski, 2008).

Outcome oriented

Provides opportunities for change. Local communities are interested in involving themselves with projects geared towards providing solutions to current problems. For CBC to succeed, these proposed solutions must be relevant and tangible outcomes, which are often dually focused on conserving natural resources while improving the capacity of the local population to solve their own conservation issues. Taylor's (2009) work with Zimbabwe's CAMPFIRE program illustrates this principle. In this case, devolved governing systems for conservation areas outside of federally protected game reserves have yielded mixed results. Generation of revenue for local livelihoods is a cornerstone for this community-based effort. There has also been a documented increase in elephant populations in this region, supporting the stated desired outcome of species protection in the original CAMPFIRE model. Perhaps most importantly, dividends received from the program appear to be allocated through a democratic process though some revenue has been unaccounted. The mixed success of the CAMPFIRE program has been achieved through the identification of specific outcomes desired, including increased revenue

production, maintaining of wildlife populations and an improved democratic process for governing the allocation of resources.

Successful CBPAR approaches should also identify where opportunities for future change exist. For example, PAR efforts in Uganda recognized the opportunity to bridge theory and practice as decision support tools for management restructuring (Kizito, Mutikanga, Ngirane-Katashaya, & Thunvik, 2009), allowing the Kampala Water Board the opportunity to use more holistic and decentralized methods for distributing clean water to urban areas. By identifying where change can occur, CPAR approaches build on the capacity of local communities to solve their own problems, therefore allowing for the democratization of the community decision-making system (McTaggart, 1997; Ozanne & Saatcioglu, 2008).

Addresses policy in an appropriate way. This democratization described above allows for the appropriate ways of addressing local policy to emerge. Past CBPAR strategies in the Caribbean have empowered youth to propose a HIV/AIDS prevention education tool to UNICEF project workers (Goto, Tiffany, Pelto, & Pelletier, 2008). Additionally, relevant outcomes of CBPAR approaches in conservation contexts need not be relegated to biodiversity improvements, but can also include social-cultural changes such as favorable attitude change of locals towards conservation initiatives (Mehta & Heinen, 2001) and improved critical awareness and institutional strength (Bajracharya, Furley, & Newton, 2005). In fact, perhaps the ultimate measure for positive outcomes realized is whether the participants themselves feel they have benefitted (Somekh, 2006).

While there is no comprehensive evaluative criteria to address the success of CBPAR efforts (Ozanne & Saatcioglu, 2008; Somekh, 2006), the preceding review of

past successes in CBPAR reveals a list of best practices. Specifically, CBPAR projects that allow for community-centered control of the research process, reciprocal production of knowledge, and outcome-oriented results can provide an adequate framework for CBPAR assessment. These three criteria are used in this paper as a assessment tool for evaluating the Samburu photovoice project as an effective CBPAR strategy in the Samburu East/Waso Division region of northern Kenya. Table 2.1 (adapted from Wulfhorst et al., 2008) serves as a guide for this evaluation.

Photovoice

Photovoice is a PAR strategy in which cameras are provided to participants so they may document, discuss and display the needs, concerns and hopes for the future as seen through their own eyes. It is a way to empower those individuals who usually spend time *under the lens* of the photographer, and allowing them the opportunity to be *behind the lens* (Willson, et al., 2006). The power of this method lies in allowing the participant to serve as the expert of their own lived experiences (Wang & Burris, 1997). Photovoice provides a voice for those individuals who have historically been denied an opportunity to record and discuss the conditions that directly affect their lives. The method stems from Freire's (1970) work on critical consciousness and problem-posing education. According to Freire, the goal of education should not be to perpetuate existing power imbalances, but instead to guide the oppressed community's attentions to those circumstances which confine them, and eventually develop options for changing those circumstances (Freire, 1972). This concept of "critical consciousness" provides the conceptual base for the photovoice method, and is adapted to focus on conservation education opportunities in Samburu East/Waso Division.

Table 2.1. Community-Based Participatory Action Research (CBPAR) criteria (adapted from Wulforth et al., 2008)

<i>Criteria</i>	<i>Elements</i>	<i>Questions to consider</i>
Community-Centered Control	Involvement at all levels	<ul style="list-style-type: none"> • Was true ownership and involvement realized? • Was the community the unit of identity? • Was there democratization of both the research and society?
	Credibility, Trust and Power	<ul style="list-style-type: none"> • Was there credibility within the groups? • How did the researcher gain community trust? • Did the project build on current strengths and weaknesses? • Did the research challenge current power structures? • Were the power dynamics constantly negotiated?
Reciprocal Production of Knowledge	Knowledge produced through an iterative process	<ul style="list-style-type: none"> • Was there ongoing negotiation and exchange? • Was the knowledge produced grounded in local realities? • Was the knowledge filtered through a cultural lens? • Was the knowledge situated in an appropriate context? • Was there an opportunity to identify where local knowledge could be blended with traditional science?
	Voice given to marginalized populations	<ul style="list-style-type: none"> • Were all groups given a substantial voice? • Did the project overcome group marginalization? • Were there identifiable differences across groups?
Action and Outcome Oriented Results	Provides opportunities for change	<ul style="list-style-type: none"> • Did the project build capacity for the communities to solve their own problems? • Was democratic empowerment realized? • Was there an increase in critical awareness among participants? • Did participants gain research or technical skills? • Was there a significant change in the research facilitator?
	Addresses policy in an appropriate way	<ul style="list-style-type: none"> • Were the results shared with the appropriate communities? • Were policymakers reached? • Did participants acknowledge any benefits realized?

Wang and Burris (1997) introduced the photovoice method as a means to explore the lives and challenges of peasant women in the rural China. The method was introduced as a way to solicit images and stories of lived experiences from a group who rarely had the opportunity to do so. The method was also appropriate since most of the women participants were illiterate and unable to record their stories or perspectives via other means. Further, the use of photographs and subsequent storytelling provided an appropriate and nurturing environment for the women to critically analyze their current situation (Wang & Burris, 1997; Wang, et al., 1998).

Photovoice, as defined by Wang and Burris (1997) has three goals:

1. To enable people to record and reflect their community's strengths and concerns
2. To promote critical dialogue and knowledge about personal and community issues through group discussions focused on the photographs
3. To reach policy makers

It is important to note that photovoice, while providing a truer perspective on the conditions that affect participants' lives, is not a guarantor of the achievement of higher order critical thinking. It is the role of the facilitator to effectively guide participants towards those identified problems that need to be addressed (Jurkowski, 2008; Wilson, et al., 2007). Also important is photovoice's explicit documentation that the method can help communities *reach* policy makers, rather than *initiating change* at the policy level (Wang, et al., 1998). While photovoice provides opportunities for communities to bring their concerns and hopes for the future to their policy makers, actual change can only be determined by the effectiveness of the messages and the willingness of the policy makers to implement the suggestions.

While not used specifically to address conservation concerns, the photovoice method has proven to be effective in addressing those criteria determined as necessary for CBC to be realized. Past projects have built of the strengths and weaknesses of communities and allowed for credible and locally appropriate concerns to be determined for future courses of action (Lykes, et al., 2003; Wang, et al., 1998). In the Yunnan Province of China, Wang et al. (1998) employed photovoice among women villagers to allow them the opportunity to deliver their concerns for improved water sanitation systems to local authorities. These concerns would never have been given a voice were it not for the focused nature of the photovoice project. Knowledge was also observed to be produced and reciprocated among disenfranchised populations in rural and urban areas, providing individuals with intellectual disabilities the opportunity to provide caregivers with a truer perspective on their disabilities (Jurkowski, 2008); allowing youth to identify how they may develop a sense of social morality for becoming agents of change in their communities (Strack, et al., 2004); and implementing a process where women from low-income neighborhoods could voice their vision for combating poverty (Willson, et al., 2006). Finally, tangible outcomes for realizing true change have emerged from exploratory photovoice projects in public health in Tanzania, where student and teacher photographs and recorded video dramas revealed proper actions necessary for the development of an enhanced curriculum geared towards schistosomiasis education in primary schools (Freudenthal, et al., 2006).

An attribute of the photovoice method is the provision of opportunities for many disenfranchised populations to express their strengths, needs and concerns for the future. Past projects have engaged and empowered individuals with physical and intellectual

disabilities (Baker & Wang, 2006; Jurkowski, 2008; Newman, 2010; Wang, 1999; Wang, et al., 1998), homeless and at-risk youth (Dixon & Hadjialexiou, 2005; Goodheart, Hsu, Coleman, Maresca, & Miller, 2006; Kroeger, et al., 2004; Strack, et al., 2004; Wang, Cash, & Powers, 2000; Wilson, et al., 2007), women (Killion & Wang, 2000; McIntyre, 2003; Willson, et al., 2006), and transsexual's access to health care (Hussey, 2006).

While photovoice has produced valuable results in the fields of public health and education research, the method has not often been used to empower and mobilize communities in a conservation education context. While the method has been used to explore the role nature plays in shaping the development of adolescents in the U.S. (Owens & McKinnon, 2009), it has not yet been applied in rural African contexts. This paper provides an exploration of the photovoice method and its use with a specific, disenfranchised population (Samburu community members in northern Kenya) and a defined community-based conservation context.

Methods

Location

The communities of the Waso Division of Samburu East District surround the wildlife conservancies of Kalama and N'gutuk N'giron and Samburu National Reserve (see figure 2.2.).

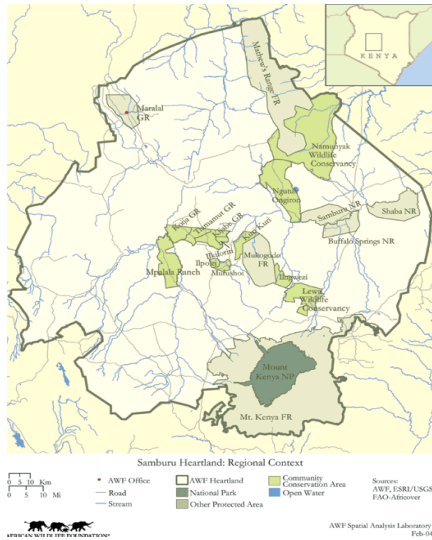


Figure 2.2. Location of communities adjacent to Samburu conservation areas (image courtesy African Wildlife Foundation).

The two community wildlife conservancies employ approximately 60 local scouts and laborers, while SNR employs over 100 rangers (many who come from the county seat in Maralal). In the town of Archers Post, the largest communal center in the region and gateway to the protected areas in Samburu East District, a small number of teachers instruct in three primary schools (approximately 1,700 students total) and one secondary school (approximately 350 students). With few exceptions, past research efforts have rarely solicited input from these rangers, community scouts or local teachers on conservation concerns.

Sample

Over the course of seven months in 2009-2010, 26 Samburu photographers were given point-and-shoot digital cameras and asked to document their conservation concerns. Key participants were identified by the researcher and past community informants, and were based on their interest and willingness to discuss conservation

issues. Typically, the researcher identified one participant, then that informant was asked to suggest a group of other individuals that would have an interest in participating.

The 26 participants were initially drawn from six different groups that later were convened to discuss their photographs in more detail:

1. Primary school teachers from Archer's Post
2. Wildlife scouts in West Gate Community Wildlife Conservancy, Sasaab community
3. Wildlife scouts in West Gate Community Wildlife Conservancy, Naisunyai and other northwestern regions)
4. Youth from Archer's Post
5. Samburu National Reserve park rangers and NGO staff
6. Wildlife scouts in Kalama Community Wildlife Conservancy

Each participant group engaged in four focus group sessions (see figure 2.3) and was given training in basic photography skills, camera ethics, and the art of telling a story through visual images. All photographs were saved to digital files and all discussions were recorded and transcribed. When necessary, a Samburu translator was employed to translate any of the discussions. This translator was also a photovoice participant.

Photovoice sessions

The first session served as an introduction of the photovoice method and its potential utility in helping identify conservation goals in Samburu. Participants were asked to tell a story related to the reasons why they were engaged in working in education or conservation fields. This storytelling exercise was meant to create a creative and comfortable environment for group discussion, and allowed the project facilitator to

understand the different reasons project participants had for working in their respective fields. The project facilitator then gave a visual presentation on the results of the 2005-2007 research, which focused on the challenges and opportunities for sustainable tourism development in the region (Beh & Bruyere, 2007; Bruyere, Beh, & Lelengula, 2009).

The presentation served as an example of how to use photographs and storytelling techniques to convey a complex message. Participants were then given digital cameras and instruction on how to use them in a safe and productive manner. Training was given on how to operate the camera, as well as basic creative elements of photographing (using light effectively, rule of thirds, etc.). Special attention was given to photographing ethics and issues of power imbalances. At the conclusion of the session, participants were asked to use the camera to document a response to the following question: *What would you like to teach others about your environment?*

In the Session 2, participants chose 2-4 photographs that best illustrated their answer to the question posed in Session 1. The selected photographs were either printed on-site or projected on a screen to allow all session participants to discuss the photographs and their accompanying stories. The owner of the photograph was asked to explain what the photograph was, where it was taken, and why the photograph was chosen as the best to address the question given. After the story was related, all participants were allowed to comment further. All participants were given the opportunity to discuss their photographs, and the printed photos were then given to the participants as an expression of thanks. After all photographs were discussed, the participants were asked to use their cameras to address a second question: *Where are the gaps in knowledge regarding conservation in Samburu?*

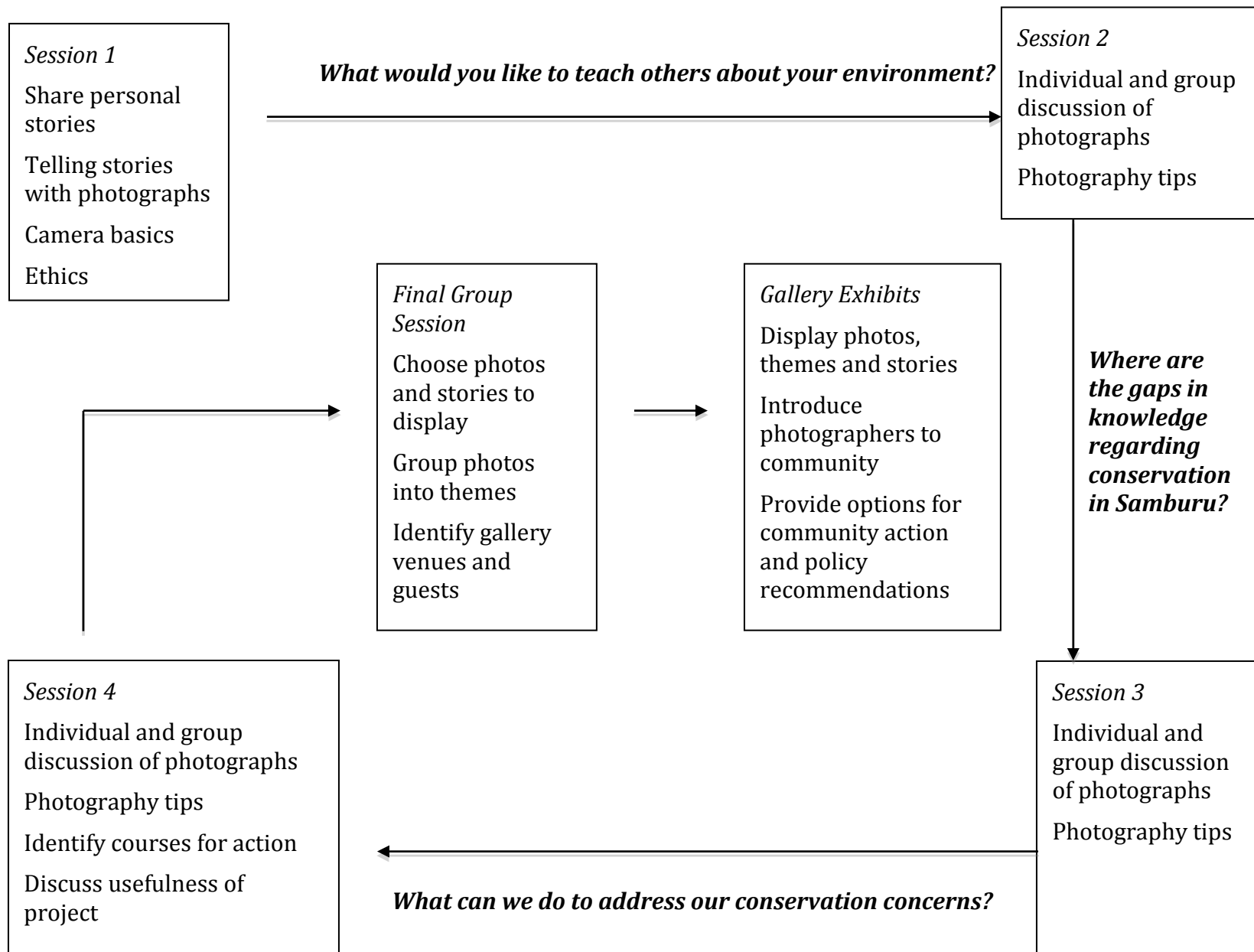


Figure 2.3. Photovoice session schematic.

Participants returned for Session 3 and were again asked to choose 2-4 photographs that best illustrated their answer to the question posed at the end of session two. The same format was followed as in Session 2. Photographs were again printed, distributed and discussed, and at the end of the session participants were asked to address a final question: *In response to the issues discussed in the previous sessions, what can we do as a part of the Samburu community to address our conservation concerns?*

For the final session (Session 4), participants chose their final 2-4 photographs to discuss. This final session allowed participants the opportunity to identify courses for action at the local, institutional and agency levels. Participants were also asked to comment on using the photovoice in conservation research. Participants were allowed to discuss the usefulness of the approach and suggest alternatives for future participatory methods for identifying conservation concerns. At the end of the session, participants were invited to a one-day workshop involving all six photovoice participant groups that would determine which photographs and stories would be included in a final photography exhibit aimed at communicating their collective vision to their community leaders.

After all four sessions were completed with each of the six groups, all participants were gathered at a local village in Archers Post to identify their collective photovoice vision. Each group was asked to choose the 5-10 photographs that best illustrate their group's concerns related to conservation and education, with the understanding that groups might differ from one another. After each participant group identified and shared their selected photographs and stories, all participants were asked to group these into conservation and education themes. After the themes were identified, the photographs and stories were then selected for display at a future date. Participants decided to hold

two separate Photovoice galleries, one at the West Gate Community Wildlife Conservancy (to reach residents and leaders in N'gutuk N'giron group ranch) and one in Archers Post town center (to reach residents and leaders in Gir Gir group ranch). Appropriate community leaders were identified as possible attendees, and the project research assistant was charged with inviting these leaders to the galleries.

The gallery exhibits were displayed 2 months later in two locations. At West Gate Community Wildlife Conservancy, area chiefs and district councilors were invited from N'gutuk N'giron group ranch, as well as the manager of West Gate and Chief Warden of Samburu National Reserve. Project participants were given the opportunity to share their stories of the photographs to these leaders, and provided a culturally appropriate forum for discussing these concerns. The community leaders were then invited to share their impressions of the project and a dialogue ensued among participants and leaders about a path toward success to address the issues. A second gallery exhibit was held the following day in Archers Post, and was attended by West Gate and Kalama Conservancy managers, area councilors, Education and Health Extension Officers, religious leaders, youth group and women's group members and business owners. All attendees were allowed to address the photographs, stories and shared narratives, and encouraged to identify how the Samburu community could work together to address the documented concerns.

Analysis

Over the course of seven months in 2009-2010, 26 Samburu photographers were given point-and-shoot digital cameras and asked to document their conservation concerns. Typically, one participant would be identified, then that informant was asked

to suggest a group of other individuals who would have an interest in participating in the project. All participants in each of the six photovoice groups were asked the same set of questions. Interviewees were given the opportunity to discuss their answers to the questions in as much detail as they liked, and probing questions were asked when necessary to have them elaborate on certain elements of their story. After interviews were transcribed and analyzed, the participants were approached with a constructed narrative to member-check the validity of the analysis. Participants were asked if they agreed with the analysis of the original story, and were asked to elaborate on any of the discussed concepts or clarify those narrative themes that were misinterpreted. The photovoice sessions lasted two to four hours.

For this study, the primary researcher conducted the analysis, though under the direction of the participants themselves. The participants identified the photographs and narratives that are displayed in this paper. Due to the participatory nature of the project, and the necessity of allowing participants to dictate which photographs and narratives were most important for realizing the project goals, this paper evaluates only those images presented during the participant-led final gallery display. The three criteria for successful CBPAR were evaluated based on these chosen images, and the primary researcher used the transcribed and co-created narratives for the photographs, along with field notes and participant observation techniques, to evaluate whether the CBPAR criteria was met.

Findings and Evaluation

Community-centered control

Involvement at all levels. Addressing the goal of including community representation at multiple levels of scale (household, village and region), as well as during each stage of the research process (problem identification, data collection, analysis), the Samburu Photovoice project can be evaluated as moderately successful. The 26 photographers represented six different institutions, and included a wide spectrum of individuals, ranging from village elders to secondary school students. The participants were involved with almost every aspect of the data collection, analysis and representation stages. However, an outside researcher ultimately drove the photovoice approach, though supported by the local communities. Notably, some of the teacher-photographers of the Samburu photovoice project are interested in implementing a similar project with students to identify how the science curriculum at the primary level could be achieved.

Credibility, trust and power. The Samburu photovoice project addressed credibility by ensuring that photographs and accompanying narratives were solicited across multiple levels of scale (e.g. SNR rangers, NGO staff, teachers, area youth) and then shared across those different levels. Each group was given the opportunity to offer, in their own words, what they felt was the way forward in terms of conservation education. This combined effort built on the strengths of the Samburu community as it relates to conservation, and consequently provided a number of locally relevant options for development. For example, Boniface Isigi, primary school teacher at Muslim Primary School, offered this narrative and photograph as what he viewed as a need in the Samburu community:



This is my class [see image 2.1.]. If you can start by first educating our children about the conservation of the environment, then these children will learn and take it as they grow. It will be more effective than if you just talk about it in the media. To me I thought it would be better if we could start teaching children at an early age the importance of conservation so that when they go home they don't go on cutting trees anyhow.

Image 2.1. Students at Muslim primary school

In the above example, Isigi identifies his own students as a potential resource for sustainable development through less cutting down of trees. Isigi eventually built on this potential strength, working with his students to build an indigenous tree nursery on school grounds. The construction of the nursery stemmed from Isigi's conversations with other teachers during the PV sessions as they discussed the viability of tree nursery development in their respective schools.

The project also acknowledges the Samburu community as the primary unit of identity. The Samburu photovoice project was concerned with the improvement of conservation education specifically for the Samburu community. While a number of participants related stories of conservation measures taken in other regions of the country (e.g. Maasai Mara, Baringo, Mt. Kenya), the focus for action was always in the Samburu community. This place-specific relation ensured that the photovoice project was credible, given that the needs and concerns were local in nature.

The identification of weaknesses is also a necessary element for successful CBC efforts, and can add to the credibility of a project (Balcazar, et al., 2009; McTaggart, 1997). By identifying local weaknesses, the Samburu community is able to focus priorities for conservation education. The following two photographs and narratives

illustrate how future conservancy staff trainings should focus on how to effectively relay conservation agendas to the local communities:

Monica Lekalaile (West Gate Community Wildlife Conservancy): *Ok, so these are the people who are being employed by the conservancy [see image 2.2]. Now these people, you find that even though the community has gotten the benefit by these people being employed, they still*



Image 2.2. West gate community scout

misunderstand that these people work for all of them. This conservation area was restricted by the community around. They are the ones who decided that they should keep this place for the wild animals. And you find also that they are the ones who are bringing their animals to graze in that areas. Now they are trying to fight with these people who are working in the place. And they are the ones who have employed them. They are the ones they have put there to protect them. Now when these people came to chase the livestock from the conservation area, there was a community member who was trying to shoot this man. With a gun! So you can see these people are still missing a knowledge.

Kasungu Lorparasoroi (Kalama Community Wildlife Conservancy): *But what I am doing here [see image 2.3], I am trying to talk to them in advance before it reaches a time where they will be forced out. What I can say, it is a good thing you know, the meeting of the scout and the moran [warrior] is usually very hard to have them talking. But now this picture shows if we*



Image 2.3. Scout and warriors

approach them in a good way we can come together and talk and help each other.

Samson Lenamunyi (Kalama): *To add on that, these are two different generations, so it will be good to get a generation with good listeners like now this one. Like now the way this teacher is teaching them it will really help us in terms of environment.*

Sakuna Lenene (Kalama): *This shows a good picture because it shows the Kalama ranger and Kalama community. So we the Kalama rangers, we have not segregated them saying here is our territory. We don't prevent other people from coming here so that it is only us.*

The credibility of the above statements lies in its focus on improved

communication and its role in bringing marginalized groups (e.g. Samburu warriors) into the decision-making process. Rarely do conservancy trainings in Samburu focus on

community outreach techniques. Rather, emphasis is often focused on technical skills (GPS, wildlife monitoring) or administrative tasks (radio operation, office software). By allowing community scouts the opportunity to identify their own concerns, an alternative education theme emerged as a necessary component for conservancy growth.

Concurrently, the images and narratives provide illustrations of how existing power struggles between groups (e.g. community member and conservancy scouts) may be addressed.

The Samburu photovoice project also respectfully challenged the dominant power structure in the area by allowing multi-level discussion on relevant issues. Youth in Archer's Post town, lower tier community scouts in the conservancies, and teachers in area schools were all given opportunities to provide local and regional leaders with their thoughts and ideas for a sustainable future. By first conducting focus group sessions in small groups, with individuals of similar social stature (e.g. community scouts), the participants were allowed to discuss controversial subjects without fear of censure from their superiors.

Additionally, by allowing these groups the opportunity to bring their story to the larger group, they were able to combine this story with the other groups to offer a collective vision to the Samburu leaders during the final galleries. This approach honors the traditional Samburu system of decision-making, which supports communal discussion of ideas by members of society to the appropriate elders (Spencer, 1965, 1973). For the Samburu photovoice project final galleries, invitees included the Regional Director for Education, Managers and Wardens of SNR, Kalama and West Gate Community Wildlife Conservancies, the local councilors, local Agriculture Extension Agent, relevant

community elders, and the greater Samburu East community. One participant commented on the benefits received through the discourse across the different groups this way:

Isaac Longoro (GirGir Primary School teacher): The photovoice project was a good one. It brought people together from different places. Because we got people that we did not know. It was something that could help all of us, because I have seen that when people continued doing it, in fact many of them have the interest. For example an elephant, a person can just kill an elephant and he is saying that it is not a help to that person. But after us teaching, or even telling that person that it is important to save this animal like any other, then people will learn from that. So it was, I learned from others that are not even educated. Because even the language of others, you could hear that they were using broken Swahili, but that person had a message to give to us.

The benefits Isaac realized through the Samburu Photovoice Project had to do with understanding the views of others. For Isaac, learning occurred from those who “are not even educated” and encouraged him to continue to listen to the conservation messages of his colleagues. This approach allowed for ideas to be freely shared across power structures in a culturally appropriate manner

The issue of power was also negotiated in terms of the role of the primary researcher. As an active PV participant, the primary researcher reduced his role to the level of the rest of the participants, and acted more as a *problem poser* rather than *problem identifier*. This subtle difference in approach placed the power of deciding the direction of the project in the hands of the Samburu participants. The participants themselves chose the final gallery photographs and messages. When the accompanying narratives were chosen by the researcher it was at the request of the participants, with the explicit understanding that the transcribed discussions of the chosen photographs would be used. The role of the researcher was only to use those past narratives in the final gallery exhibitions.

Reciprocal production of knowledge

Knowledge produced through an iterative process. The Samburu photovoice project revealed a great deal of knowledge, particularly regarding local conservation concerns. The project occurred during one of the worst droughts in recent memory, and the photographs chosen for the galleries addressed this context. There were many images of carcasses (both wild and domestic animals) and denuded landscapes. The project was not just a celebration of the majestic wildlife of the place, the participants choosing instead to frame their concerns in the context of the day. Their photographs and narratives were also delivered in an appropriate cultural lens: that of the Samburu pastoralist. This lens provided many opportunities for the blending of Samburu traditional knowledge with both scientific knowledge and the development of appropriate management actions. For example, Stephen Lenantoiye (Chief of Security, West Gate Community Wildlife Conservancy) provided this image and narrative when describing how supporting the traditional Samburu lifestyle could be beneficial to the land:

This is where there used to be a settlement place [see image 2.4]. There was a manyatta here. So people migrated and they are not living here. When I went back an took this photo, I found this area of the grass was just slowly coming up. The land is just coming back. People used to settle the other side and they are not aware that they are conserving. So maybe if you want to teach the community about some science, you know some people who are illiterate, you can use this one as a way of telling him or her, if you keep doing what you have already done, and keeping it

from something else, at least you will have done something. And in fact the other thing we want to do is instill in them a sense of being environmentally friendly so they can see that this land is for them. Maybe they can see this project which is going on here now, they can see that somebody from elsewhere is funding, so they take that this land is just to benefit somebody else. They think it can be something that is



Image 2.4. Abandoned settlement.

benefiting someone else who is funding the project. But this land is benefitting them. So just try to teach them that this is their land, and they need to manage it properly.

In this story, Stephen used the photograph to show that traditional pastoral movements is a benefit to land health. This statement is not necessarily grounded in science, but in long-standing observation and deference to tradition. In this case, simple observations from traditional life can easily be blended with scientific research, which has also identifies abandoned pastoral settlements as beneficial to biodiversity (Soderstrom & Reid, 2010). The story implies that the traditional way of living for the Samburu is compatible with sensitive landscape and its flora and fauna. The story is also a one of empowerment, as Stephen states that showing members of the local community that by simply following some traditional ways of life, they are engaged in conservation of their lands. By using these positive stories and images as talking points, community scouts could improve their relationships with the local communities by offering them as locally-driven land management actions to be implemented.

Giving a voice to disenfranchised populations. A necessary element for the co-production of knowledge is the provision of voice to disenfranchised populations. In Samburu, rarely is the input from scouts, rangers, teachers and community youth solicited by decision-makers about local issues. The photovoice participants were given total freedom in the topics they wished to discuss, and overcame marginalization by allowing equal representation in the determination of action items offered to the regional leaders. At the end of the project, this representation was celebrated as photovoice participants and community members were able to carry their action items and vision for the future to their decision makers at local gallery exhibits.

Differences in identified conservation concerns across the photovoice groups were also identified. For example, the Archer's post teachers identified litter and pollution in settled areas as one of the most pertinent conservation issues. This is understandable since the teachers spend their days in the urban centers, where unmanaged trash dumps speckle the local landscape. This issue was of minor concern to the community scouts and rangers, who, spending the majority of their time in protected areas or rural villages, were more concerned with habitat protection and restoration.

Differences were also observed across groups within the same issue of concern. For example, both teachers and community scouts identified the debarking of river acacia (*Acacia elatior*; or *saisiai* in Samburu) by elephants as a legitimate conservation concern. There was a difference in how members of the different groups understood this phenomenon. One teacher stated that any debarking of *saisiai* would effectively kill the tree; while another scout suggested that the type of debarking done by the elephants was not harmful unless the tree was stripped all the way around. The teacher did not believe the story at first (though it was true), but his eventual conceding to the knowledge of the scout is significant. Another teacher offers this impression of the *saisiai* debate:

Isaac Longoro (teacher): You know that man said "you know nothing about saisiai!" But I don't think it was an insult. I don't think it was something bad. Because those trees are not found here. They are found in that other area and it is true that when you remove the bark of the saisiai, it will get finished. The other acacia is different, the ones you find here. We have the Acacia tortilis. So you find that it was a healthy argument. It was not something that was bad because we learned something from it. It is just communication. The thing was, you tell me about something. I pretend that I know. So you don't want me to tell you. Maybe because I as a teacher, I might say that this one does not know because he has not been to school. But you can't tell a person on how to keep a cow, and that person usually keeps cows. So those are the people who are protecting these animals, regardless of them not going to school, and they know better than us here.

In this narrative, Isaac illustrates the knowledge co-creation that is possible when employing the PV method. The ongoing negotiation of what is known about *saisiai* helped to improve the understanding of the tree and its habits.

Outcome-oriented

Provides opportunities for change. The Samburu Photovoice Project provided numerous opportunities for change by allowing the participants to identify, on their own terms, which action items were most relevant in terms of conservation education. For the final gallery photo submissions, the participants chose to group their images and narratives into seven broad themes, clearly identifying their environmental concerns and what should be done to address them (see Tables 2.2 and 2.3). These seven themes serve as a guide for navigating the story of the Samburu Photovoice project. One of the goals of CBPAR is to increase critical awareness among participants. With the identification of the preceding seven themes, the photovoice participants can be seen making connections between pastoral life in this unique, dynamic landscape and its role in affecting conservation in the area. Local conservation and environmental concerns are identified (e.g. destruction of trees, unmanaged litter in urban areas, lack of knowledge of wildlife behaviors) and options for community action are given (e.g. focus on area schools, scouts as drivers for community mobilization).

Addresses policy in an appropriate way. The Samburu Photovoice project also addressed local policy in a culturally appropriate way. Since the Samburu culture still operates in a traditional, gerontocratic manner where important decisions are made by groups of elder men (Spencer, 1965), it was necessary for the Samburu Photovoice Project to honor this tradition. Photovoice sessions grew from small sessions with members from similar

social backgrounds (e.g. teachers, scouts, area youth) where group-specific concerns and actions were identified. These group-specific concerns and actions were then taken to the larger group, where all 26 participants were allowed to comment and discuss further the appropriate conservation education narrative they wished to bring to area leaders. One of the stated goals of the Photovoice method is to address the appropriate policy-makers. In the case of the Samburu Photovoice Project, the participants were empowered to take their collective story and images to identified leaders in the community (e.g. education and agriculture agents from the national government, local chiefs and elders, protected area managers) as well as the community at-large. Each participant was given the opportunity to discuss his/her plan for the future regarding conservation education; and the discussion was reciprocated as the leaders and attendees were encouraged to comment and discuss any photographs, stories or action items that were revealed during the gallery presentations. As a result, the participants of the Samburu Photovoice project developed six specific action items that they wished to see realized and asked area leaders to consider ways to collaborate towards these items.

Specifically, the action items developed were:

1. Focused trainings for scouts and teachers (rangeland monitoring, wildlife behavior, community outreach, teaching conservation)
2. Organized litter cleanup in the urban areas and villages
3. Guided discovery sessions along the Uaso Ngiro River for students
4. Establish tree nurseries at each of the Archer's Post primary schools
5. Encourage alternative livestock penning plans
6. Unification of youth groups to involve in community service

Table 2.2. Participant identified themes of the Samburu photovoice project (part 1).





Theme	Representative Photo	Description and Actions Desired
Trees		<p>Participants acknowledged that the Waso region was much more forested than it is now. Additionally, the participants discussed human-wildlife conflict related to the destruction of trees, as well as the historical significance of trees to the Samburu.</p> <p><i>Actions desired: more aggressive approach from local government in negotiating human-wildlife conflict; stricter regulation on the excessive cutting of trees through traditional cultural norms.</i></p>
Desertification		<p>Many participants identified the link between the deforestation that is occurring on their land and the increasing desertification of the landscape. Increasing livestock herds, the Chinese-funded road building efforts, and the daily clearing of trees for fuel were all given as reasons for this desertification.</p> <p><i>Actions desired: Community-wide tree planting, livestock reduction campaigns; mobilization of youth groups to work on reforestation projects.</i></p>
Human Pollution		<p>The photographers argued that the litter and waste caused by the Samburu community is affecting the health of the local ecosystem. They stressed that the problem was theirs, and that they are ready to set an example for cleanup.</p> <p><i>Actions desired: mobilize local students for a litter clean-up service project; encourage conservancy staff to set an example to local residents by promoting litter-free sites.</i></p>
Wildlife		<p>The lands of the Samburu are home to some of the most majestic animals on the planet. Several photographers mentioned the lack of knowledge they possessed on key species (e.g. lion, cheetah and Greater Kudu) and that the lack of this knowledge prohibits them from engaging in responsible management actions.</p> <p><i>Actions desired: coordinate wildlife training exercises for conservancy staff</i></p>

Table 2.3. Participant identified themes of the Samburu photovoice project (part 2).

Theme	Representative Photo	Description and Actions Desired
Carcasses		<p>This project was defined by a specific spatial and temporal context: the arid Samburu East District in the midst of the worst drought in recent memory. Many animals died during this time, both wildlife and domestic livestock, and the photographers chose to document this as a reminder of how bad things can get for all animals without a sustainable grazing vision.</p> <p><i>Actions desired: implement an aggressive livestock control method; community outreach on the negative effects of overstocking; development of sustainable grazing plans.</i></p>
Culture, Spirituality and Community Action		<p>The photographers consistently spoke of the potential of the Samburu community in addressing concerns. Local schools were identified as starting points for the mobilization of young Samburus in environmental restoration efforts. Park rangers and community scouts have been given opportunity to respond and help the local community realize these restoration goals. This category also comments on the role cultural pride and spirituality has on working towards a sustainable future.</p> <p><i>Actions desired: incorporate traditional stories in community outreach efforts regarding conservation education; garner support for more community involvement on conservation projects; use of elders as drivers of conservation action by the conservancies.</i></p>
The Way Forward		<p>The Samburu participants recognized that through mobilization of the community at all levels, protecting livestock by utilizing alternative penning plans, and ultimately reinvesting in a love for the land was the path for the good life. A focus on the health of land was a constant theme in this category.</p> <p><i>Actions desired: community involvement in revegetation efforts; aligning conservation efforts to follow those traditional lifestyle practices which support sustainable land management.</i></p>

Ultimately, one of the most important outcomes that can be realized in CBPAR is whether or not the participants themselves feel they have benefitted. There is some debate over whether process and democratic outcomes (e.g. establish collective plans for action, solicitation of multiple perspectives of knowing) are as valid as documented species improvement or increases in protected land area. However, in a region where Samburu scouts, teachers and area youth are rarely asked to provide suggestions for the future of conservation education and outreach, allowing them the opportunity to do so through photographs and storytelling reaps many benefits. For example, one community scout felt the project empowered him to now take his acquired knowledge to his local community to facilitate change:

Kasungu Lorparasoroi (Kalama Community Wildlife Conservancy scout): *What I can just say about this project, the way you came and bring us this small project, we should add on this. We should know how we can expand this and attract many people to join us. Even the others in the community. It will be good because we will progress forward. There are many things that I can teach. The way I can teach them is to go to the manyatta and the things like litter that the teachers were showing, you know there are a lot of them in the remote areas, but that day when I saw that litter, if I tell them, that will be easy for me to tell them in the manyatta to try this because it is not good to have this here. So I can teach in the manyatta when I am alone. That one is what can succeed in teaching the community. These are people who need something to be brought to them directly and live what they can see, and you do it in general not favoring or getting a group. Just bring to them the knowledge all in general.*

In this statement, Kasungu recognizes the power photographs and stories can have on influencing behavior in the rural areas in which he works. Implied is his belief that he can be the instigator for this behavior change, a belief that was not held before engaging in the project. Regarding the benefit of the Samburu Photovoice project in promoting the method of inquiry and discovery, one participant commented what he thought the greatest project value was regarding identification of locally relevant conservation concerns:

Joseph Letole (Grevy's Zebra Trust project manager) Yeah, it is like a lot of inquiring. It is a lot of "what do you think about this?" And actually for me, I am learning that it is something that is really coming out clearly. Like how you built on the first questions to the others. So they are like advancing them further. So if you look back at where you started, you can see it has some links to the others. I have learned that there are some things that are coming out clearly. There are gaps that need to be filled. So it is really piecing things together, and it is really something that is...probing. You can actually think through the photo. You take the photo and then you, it really makes you to get involved with what you are seeing. So it is like there is a lot of need. Like if you look at these guys like Stephen and Daniel and Monica, they have been dealing with these things for some time. Three years or four by being a part of this conservancy. And now there are some things that are coming out very clearly. There is something that is lacking. Some information is really lacking. The small issues are really the ones that need to be brought up. There can be a change. Because sometimes when you look at something, you know that is something you can see. It is not something that you only hear. Those are two different things. You can read a lot of books, but once you have a look on something, you can be convinced very quickly. It can make you to think a bit. So what I feel is that if you can get some people together to look at these pictures, at least they can change. Because even a photo like this, or the other one of a bare place, or the other like the one of goats, of hyenas, they can look at these pictures and maybe some of them will force them to have some questions. "Oh, by doing that, you can have these in our place? Is this really something that is going on in our area?" So they will really have a lot of questions and they will develop some interest in at least one or two of them.

In the testaments provided from the photovoice participants, the individuals express personal benefits gained from the project. Feeling empowered to further initiate change in the local community; recognizing the need to solicit alternative views regarding the environment; and understanding how to find the gaps in knowledge are all positive benefits received from the Samburu Photovoice project.

Conclusions

Community-based conservation measures on the African continent have been met with mixed success in terms of both protecting biodiversity and improving human livelihoods (Balint & Mashinya, 2008; Taylor, 2009; Wainwright & Wehrmeyer, 1998). Where CBC has failed, it has largely been due to a lack of adequate multi-level

engagement, allowing existing and emerging power imbalances to dictate how and where conservation benefits accrue. Traditional methods in conservation research in Africa are not well equipped to negotiate these power imbalances, and often run the risk of exacerbating existing ones. CBPAR has evolved as a more holistic approach for conducting research in those areas of Africa where human livelihoods and conservation ideals are often pitted against each other. As a CBPAR strategy, Photovoice can provide a culturally appropriate means for identifying relevant conservation education opportunities in Samburu, Kenya. Using the criteria of community-centered control, reciprocal production of knowledge and an orientation on relevant outcomes as evaluation tools for CBPAR approaches, the Samburu Photovoice project was found to comfortably meet these criteria.

True community-based control in conservation planning involves the community in all levels of the research process. This inclusive approach has lent credibility to conservation projects in Africa and the U.S. and has helped to cultivate an environment of trust among agencies and indigenous populations in Arctic regions (Berkes, Berkes, & Fast, 2007; Freudenthal, et al., 2006; Kofinas, 2005; Singleton, 2002). The Samburu Photovoice project was able to involve the local Samburu community in every aspect of the Photovoice research endeavor except for the initial posing of the problem. However, since the need for research on conservation education opportunities was an identified recommendation of past community-focused research in the region (Beh & Bruyere, 2007; Bruyere, et al., 2009), this should be viewed as a research endeavor supported by the Samburu community. The Samburu Photovoice project established credibility and

trust throughout the project as the focus and identified actions were completely driven by the participants themselves.

Traditional systems of knowledge have much to offer in the development of land management decisions in Africa. Since most of the continent's rich biodiversity lies in lands replete with human communities, most of these communities having lived in these regions for centuries, it serves researchers and scientists well to incorporate traditional knowledge systems in management practice. Additionally, successful CBPAR approaches allow for knowledge to be produced in an iterative and reciprocal process, providing voices to those historically disenfranchised voices to help develop what is known about conservation in a particular region. Evaluating the Samburu Photovoice project, ample and equal voice was given to 26 participants and community members to allow them the opportunity to help direct the future of conservation education efforts in the region.

While the participant number may seem small, the participant group included leaders and followers from six distinct segments of the community (Kalama scouts, West Gate scouts, West Gate managers, primary school teachers, town youth, SNR personnel and NGO professionals). Differences in knowledge and opportunity was identified across multiple groups (e.g. tree characteristics; human litter), and options for the blending of traditional and scientific knowledge were present.

Ultimately, CBPAR approaches should help realize relevant, tangible outcomes. The outcomes can be focused on democratization and socio-institutional processes (e.g. empowered youth; established land management committees), or may include tangible conservation indicators (e.g. increased area of protected land). The Samburu Photovoice project collectively and effectively identified seven broad themes regarding conservation

(five concerns and two ways forward). During the identification of the photographs and narratives that would be used to illustrate these seven themes, the Samburu Photovoice participants were observed to critically analyze their community's relationship with the natural world. Perhaps the most valued outcome of the project was the participants culturally appropriate way of providing their concerns and actions for the future to the relevant policy makers. The two galleries that were used to provide these concerns and actions were proctored according to Samburu tradition, and allowed for all individuals present to comment on the display. Specific action items were delivered by the participants to their leaders, and many of the participants commented on how the project has positively affected their lives. Since Photovoice has as one of its stated goals "to reach policy makers" (rather than to implement policy), it is now up to the Samburu community to take the next step in making their identified action items a reality.

CHAPTER 3

Exploring Five Visual Narratives on Conservation Learning in Samburu, Kenya

Introduction

In the arid rangelands of remote northern Kenya, the local communities of Samburu East District negotiate a pastoral lifestyle centered on herding livestock. The Samburu do this among some of the world's most magnificent wildlife populations on a picturesque landscape replete with acacia trees and doum palms. The landscape, however, is often an unforgiving place, and the Samburu lifestyle is affected by any change in this arid land. Such a change occurred during 2008-2009, when rains failed to fall for 17 consecutive months, rendering the landscape void of adequate forage for livestock or wildlife. In Samburu East, most households lost the majority (if not all) of their livestock to starvation. Compounding the problem was the 17-month drought's effect on the area's wildlife populations. Three national reserves (Samburu, Buffalo Springs and Shaba) and two community wildlife conservancies (Kalama and West Gate) lie within the boundaries of Samburu East District and contain such wildlife populations as lion, cheetah, elephant, and water buffalo. Endangered species such as the Grevy's zebra and wild dogs also inhabit the region. These wildlife populations, though finding some protection inside the reserve and conservancy boundaries, could not escape the effects of the drought and many individuals were lost to starvation.

Additionally, the Samburu community is notably concerned about the deforestation of existing trees in the area, most importantly *Acacia tortilis* and *Acacia elatior*, which are being cut at an alarming rate to meet fuel and lumber needs. Many young elders in the villages of Samburu East can recall a time when the land was much

more forested than it is today, and remember when the land provided much grass for forage for their livestock. Unfortunately, there is little documentation and monitoring of this landscape being undertaken by local conservation professionals (e.g. rangers and scouts) or community leaders (e.g. elders and teachers). Technical trainings, supported by large conservation organizations such as the African Wildlife Foundation (AWF) and the Northern Rangelands Trust (NRT), have been numerous in the region, but very little knowledge exists in terms of the local community's understanding of the ecology of the Samburu ecosystem (Bruyere, Beh, & Lelengula, 2009). While the training efforts of organizations such as AWF and NRT are laudable, their intended outcomes regarding the development of a skilled, competent cadre of conservation professionals that can monitor changes in the local landscape and offer options for natural resource management has not been met. Given that adult learning occurs in unique and dynamic settings (Merriam, 2001), this study asks the question *What is the culturally appropriate learning environment that may best support conservation education in Samburu?* Two methodological strategies were used, photovoice and narrative inquiry, to obtain visual representations and storied experiences of the phenomenon of conservation learning in Samburu.

Conservation learning in Samburu

While support for environmental education has often been identified as a necessary element for addressing many of the world's environmental and conservation problems (Skavanis & Sarri, 2004), few studies have focused on how effective conservation education programs could be initiated in specific African cultural contexts (Bray, Clarke, & Stephens, 1998; James, 1998). This study uses past examples of

culturally specific approaches in other fields as a reference for the need to address this lack of research. Evaluation of the impact of culturally appropriate education has been most useful in the public health and education fields, for instance revealing how carefully constructed outreach approaches can lead to improved comprehension of knowledge regarding AIDS prevention among African American males (DeLamater, Wagstaff, & Havens, 2000). In this study, the use of culturally appropriate videos, accompanied by the use of respected mentors as health educators, improved the knowledge of 562 participants regarding general knowledge of the disease, as well as an increase in participant engagement in preventative behaviors over a six month period. Of special note is the role that a respected mentor played in improving scores, providing a more dramatic increase in knowledge and preventative behaviors (DeLamater, et al., 2000). Similar results were documented in a Hawthorne's (2001) study on the use of outreach approaches that respected Pakistani culture as a medium for improving knowledge and behaviors regarding glycemic control of 200 Pakistani women living in Great Britain with Type 2 diabetes. The study evaluated the effectiveness of the use of Pakistani health educators employing pictorial flashcards as a tool for knowledge comprehension. After six months of intervention, multiple regression analyses revealed an improvement in glycemic control (Hawthorne, 2001).

Culturally specific education has been evaluated in other education fields as well, including Au's (1980) early study of reading comprehension in native Hawaiian students. In this study, reading exercises for Hawaiian primary school students were structured according to the traditional way Hawaiian's shared stories about a particular issue, called *talk story* (Au, 1980). The use of this traditional form of storytelling was found to

increase student's participation in the reading exercises and improve their level of comprehension regarding the intended learning themes. In this case, an education approach that deliberately mimicked the traditions of the marginal community (native Hawaiians) was found to improve overall learning (Au, 1980). Additionally, Ellis (1996) also evaluated the effectiveness of a culturally appropriate communicative approach with Asian communities to improve English language instruction. Most notably, it was argued that there is a need for cross-cultural education to be adaptive, allowing for elements of the culture of interest to be incorporated into the education approach at multiple levels of instruction (Ellis, 1996). These past studies suggest the need to develop education programs in different cultures with a deliberate attempt to include elements of the respective cultures in content delivery. This may be achieved through involvement of respected cultural mentors (DeLamater, et al., 2000; Hawthorne, 2001), creative visual representations (Hawthorne, 2001), structuring lessons to align with traditional teaching approaches (Au, 1980), and a willingness to allow for adaptive instruction which continuously incorporates cultural elements during the entire teaching and learning process (Ellis, 1996).

While cultural approaches to instruction have been assessed in other education and public health environments, there have been few studies evaluating similar approaches in African conservation contexts. Aikenhead & Jegede (1999) argues that in many instances, science education may often seem like a foreign culture to indigenous students since traditional approaches to teaching the subject matter are dominated by Western culture. In order for non-Westerners to fully grasp scientific concepts, education and outreach efforts should attempt to incorporate flexibility and playfulness in its

instruction, allowing for students to relate to the material (Aikenhead & Jegede, 1999). This type of flexible instruction has led to the empowerment of local communities in Brazil and Madagascar as they attempt to effectively manage their natural resources that were “lost” to the dominant colonial culture (Kottak & Costa, 1993). These past studies have further encouraged the current movement to celebrate the use of traditional biological and ecological knowledge in formal education (Kimmerer, 2002; Snively & Corsiglia, 2001).

There is a lack of research that reveals similar results regarding the positive contributions of culturally appropriate education in African contexts, and there has been little documentation of similar approaches to teaching conservation principles. King & Homsy (1997) identified the use of traditional healers in HIV/AIDS education to be a valuable resource in improving preventative behaviors of African citizens. While acknowledging how little traditional healers have been used in outreach efforts, the study documented 21 cases of traditional healer use in 15 African countries, and found knowledge and positive behaviors to increase in each of these settings (King & Homsy, 1997). Similarly, a study addressing women’s understanding of AIDS prevention techniques in Central Africa support more culturally appropriate interventions, such as those incorporating traditional beliefs and stories in the interventions, helped inform the development of an ethnographic-research framework to be used to develop such interventions (Schoepf, 1988). While there is documented success of culturally appropriate education in African contexts (mostly supporting the use of respected members of the community in the instruction process), as well as support for similar approaches being effectively employed in science education environments, there is still a

need to uncover the appropriateness of incorporating cultural elements in conservation education in Kenya. While much attention has been paid to conservation measures in the country (Suda, 2000), there has been little attempt to address the applicability of including Kenyan culture into formal conservation education and training that may lead to improved capacity of Kenyan communities to deal with conservation concerns (Mayaka & Akama, 2007).

In Kenya, incorporating environmental education into the national curriculum has been met with resistance, though support for its inclusion is based on realizing sustainable development ideals for the country (James, 1998; Korir-Koech, 1991).

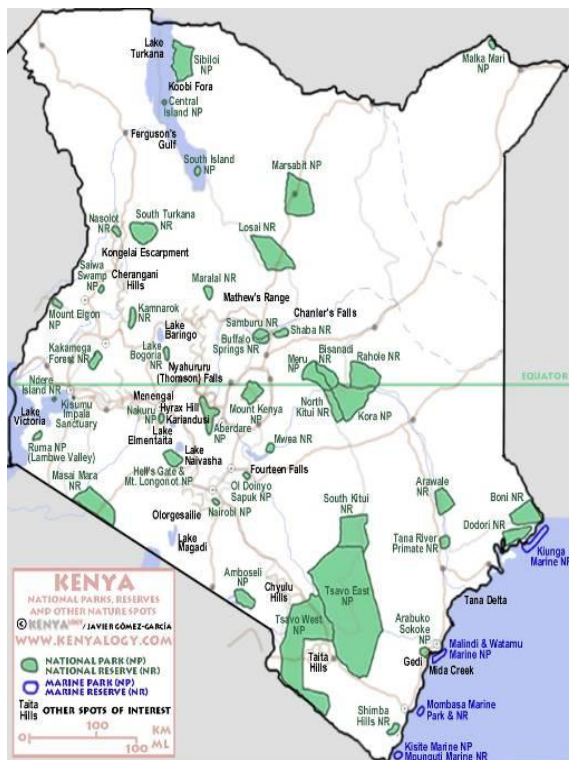


Figure 3.1. Map of protected areas in Kenya.

Unfortunately, due to the highly structured and standardized national curriculum and other resource barriers, there is little opportunity to include environmental education as a separate topic of instruction at the primary and secondary level (McDuff, 2000). Additionally, while over 12% of the total land area of Kenya is in some form of protected status, including national parks, national reserves and private conservancies (see figure 3.1), there are few instances of schools and parks working together to develop locally-specific curriculum on conservation principles (Ali & Maskill, 2004; McDuff, 2002). Moreover, due to the standardized nature of the

curriculum, the environmental concepts that are taught are focused on the same landscapes regardless of context. What one learns in science class in Nairobi is the same that is learned in Mombasa, or Kisumu, or Samburu.

In the north-central region of Kenya, communities living in Samburu East District are challenged to meet livelihood needs through a pastoral economy focused on the grazing of cattle, sheep and goats. The arid lands of this region also harbor a vast number of wild animals (lion, dik-dik, zebra, giraffe, elephant). In the Uaso Division of Samburu East District, the study area for this paper (see figure 3.2), the pastoral Samburu communities live within and around five protected wildlife areas (Samburu, Buffalo Springs, and Shaba National Reserves; and Kalama and West Gate Community Wildlife Conservancies).

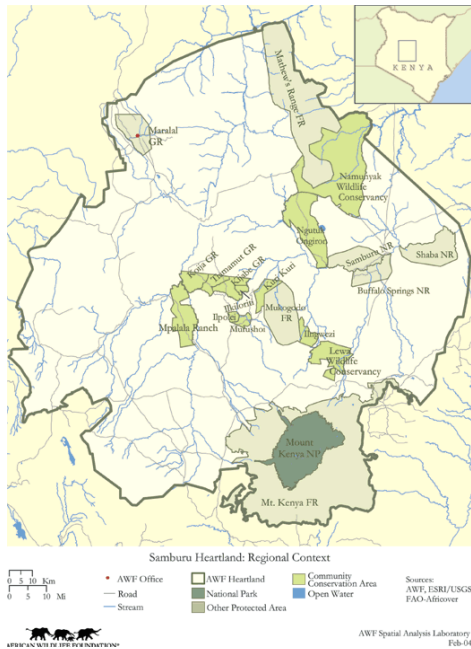


Figure 3.2. Location of the Samburu study area (image courtesy African Wildlife Foundation).

Throughout this landscape, over 200 conservation professionals (e.g. rangers, scouts and teachers) live and work in the various protected areas and local schools

scattered about the district. While there is ample opportunity for dialogue between park officials and area teachers to discuss environmental education development, no such dialogue exists. In fact, relations between the groups are often hostile at worst, non-existent at best (Bruyere, et al., 2009). Additionally, past research has revealed a significant lack of capacity of local conservation professionals to address current resource conservation and wildlife tourism concerns (Beh & Bruyere, 2007; Bruyere, et al., 2009). In a region containing five protected wildlife conservation areas, and including over 200 rangers, scouts and teachers capable of both monitoring the health of this landscape and transferring knowledge to an entire generation of future environmental stewards, an effort to incorporate an effective conservation education program for these professionals is warranted. Moreover, since multiple trainings on conservation principles and management strategies have been implemented in the past with no clear evaluation of acquired knowledge in trainees, this conservation education program should be preceded by an analysis of focus *how* these principles and strategies may best be taught within the appropriate cultural context.

Theoretical Framework

Adult learning

It is generally accepted that learning occurs in different ways for adults than in children. Some of the earlier research on the phenomenon of how adults learn (andragogy), has suggested that adult learning occurs in contexts that allow for a great deal of self-direction; supports the use of past experiences to help negotiate newly learned material; incorporation of new material that relates to identified social roles; is problem-centered; and is motivated by internal and external forces (Knowles, 1989). Knowles' typology has been challenged, most notably Grace's the assertion that this list

ignores the role socio/historical/political contexts play in influencing learning in adult populations (Grace, 1996), as well as responses that the ultimate goal of adult learning is often its application to solving current problems (Mezirow, 1997). Merriam's (2001) documentation of the history of the theoretical foundations supporting adult learning theory combines Knowles' early research on the phenomenon with these more recent criticisms to identify three main goals that adult learning should achieve:

1. Education for adults should develop the learners' capacity to be self-directed.
2. Education for adults should encourage transformational learning. Specifically, it should empower the learners to engage in critical self-reflection.
3. Education for adults should prepare the learners to identify opportunities for addressing identified problems in their respective communities, and act upon them (Merriam, 2001).

Two complimentary approaches to realizing these goals, context-based and experiential learning, have often been championed as appropriate for teaching adults.

Hansman (2001) has argued that learning occurs in multiple settings that extend beyond the formal classroom. Her assessment of the adult learning phenomenon within English instruction at the university level supports her dedication to context-based learning, suggesting that the approach includes both the experiences of learning material (the content itself) and the ability for the material to be discussed among learners' peers (Hansman, 2001). This combined approach allowed university students to learn together, building upon the inherent need for adults to share individual knowledge and experiences in a scenario of *mutual engagement* and *shared repertoire* (Hansman, 2001). Dedication to this style of learning allows for the development and inclusion of internship,

apprenticeship and mentoring programs in university English instruction. Context-based learning, with its dedication to supporting learning experiences that encourage group dialogue, also plays a major role in the application of experiential education approaches within an adult learning context.

Experiential learning has drawn from the early work of John Dewey and Kurt Lewin, which suggests that relevance to the learner's life is the best evaluator of appropriate instruction, and has applied this practical use indicator as a way for developing connections between material and practice in multiple settings in teaching the practice of law (Quigley, 1995). The experiential approach, defined by its dedication to improving relevant skills and behaviors in learners, was also evaluated as successful in evidence-based instruction for medical students (Green & Ellis, 1997). While a number of references have been made to experiential learning in multiple settings, many of the recent applications and evaluations of experiential learning in environmental contexts have centered around the application of Kolb's (2005) six assumptions of adult learning:

1. Learning is a process
2. All learning is a re-learning of the knowledge that is already possessed
3. Entails a "back and forth" of discussion regarding learned material. In other words, learning occurs within the dynamic of learner action, perception, reflection and abstract conceptualization of the phenomenon of interest.
4. Learning involves the total person
5. Learning involves synergy between the participant and the environment
6. Learning is a process of creating knowledge, rather than revealing it (A. Y. Kolb & Kolb, 2005)

These assumptions have been used as a defense to incorporate research projects into undergraduate wildlife curriculum (McCleery, Lopez, Harveson, Silvy, & Slack, 2005; Millsbaugh & Millenbah, 2004). Additionally, Kolb's implications for adult learning has allowed for sustainable agriculture education to be restructured at the University of California-Davis, allowing for students to take interdisciplinary coursework in both the natural and social sciences, as well as linking students to field work as a supplement to in-class instruction (Parr, Trexler, Khanna, & Battisti, 2007). The use of Kolb's principles of adult learning have been identified as appropriate guides for the development of evaluative thinking capacity, higher-order cognition, and a necessary element for successful sustainability education in higher education (Zoller & Scholz, 2004). However, while experiential learning has received recognition as being an appropriate mode of adult instruction regarding the environment, it has proven difficult to identify appropriate instruments for assessing the types of learners that could fit into such education settings. While numerous learning style inventories have been developed to address this issue, most suffer from varying levels of construct validity. Additionally, no empirically tested learning style inventories have been employed in African contexts.

Learning style inventories

In Cassidy's (2004) assessment of learning style inventories, 23 learning theories and models were evaluated. The large number of theories and models (not exhaustive) illustrates the difficulty of identifying one legitimate inventory that is most useful for assessing learning style. Additionally, it was found that each model had some level of criticism regarding validity associated with it, suggesting that there is no learning inventory that can be understood as legitimate across all learning environments (Cassidy,

2004). In another review, three learning style inventories (Learning Study Strategies Inventory, Motivated Strategies for Learning Questionnaire, and the Meta-cognitive Awareness Inventory) were evaluated among 318 undergraduate university students, only to acknowledge that none of the inventories were successful at assessing validity at the individual student level (Muis, Winne, & Jamieson-Noel, 2007). It was also found that when preferences for learning strategies were assessed across 154 undergraduate students, five separate learning orientations emerged as being valid strategies (Towler & Dipboye, 2003). The implication is that measurement validity may be achievable, though it will first take careful consideration of the relevant population's current learning orientation, and an instructional approach that addresses those identified orientations (Towler & Dipboye, 2003).

As mentioned above, Kolb's (2005) model for appropriate environmental education for adults has often been celebrated as a framework for structuring environment-related coursework in higher education. However, when Kolb's learning style inventory has been tested for its validity, it has been criticized as being a poor measure for individual learning styles (Brew, 2002; Green & Ellis, 1997; Mainemelis, Boyatzis, & Kolb, 2002). A dramatic difference in learning styles was identified in the testing of 198 MBA students using Kolb's inventory, leading the researchers to determine that different learning inventories measure different elements of learning for different students. Therefore, the results of the inventory test suggest that there is no one style that can work best for learners (Mainemelis, et al., 2002). Additionally, Kolb's inventory was tested across gender lines with Australian students and revealed poor psychometric performance in assessing male students learning styles. While

acknowledging that learning style inventories have been moderately successful in identifying instruction opportunities for environmental education (D. Kolb, 1984; Sugarman, 1985), it is important to note the inconsistency of results concerning the validity of such inventories on identifying individual learning styles. Furthermore, these inventories have not been tested in rural African contexts with semi-literate communities. Therefore, in order to obtain an understanding of the most appropriate learning environment in which Samburu adults learn best, it is necessary to employ a more culturally-focused and inherently more qualitative assessment of appropriate adult learning environments that best support learning about conservation principles in Samburu.

Narrative inquiry and lived experiences

Regardless of geographic context, all human beings lead storied lives that are shared and co-created over time (Connelly & Clandinin, 1990). It is in these shared stories that cultures develop, and, throughout time, are reshaped to fit the current context of the day. Narrative inquiry (NI) has evolved as a qualitative strategy for determining and identifying those experiences that shape the lives of individuals (Clandinin, 2007; Connelly & Clandinin, 1990). Though there is little debate on the value of storytelling in shaping and influencing human behavior, the stories themselves differ dramatically across individuals, and the analysis of these dynamic stories has received little attention outside of educational research (J. S. Bell, 2002; Clandinin, 2007; Hart, 2002). However, when applied in cross-cultural educational contexts, examining the stories of learners can help to illustrate the “underlying assumptions” of specific learning phenomena (A. Bell, 2003; J. S. Bell, 2002). The key is in the thoughtful re-telling by the researcher of the

shared stories as narrative of experience that shed light on a particular phenomenon (Connelly & Clandinin, 1990).

Analysis of narratives occur in a specific temporal and spatial contexts, and must be understood as valuable only as a part of this context (J. S. Bell, 2002; Hart, 2002). In this study on learning conservation in Samburu, the narratives provided tell a story of learning in a time of hardship since the 2008-2009 drought was an inescapable facet of each individual's life. The temporal contexts of shared stories lends the narrative inquiry approach its strength, in that the interpretations of experience cannot be separated from the realities of the place from which they came (Connelly & Clandinin, 1990; Hart, 2002). The Samburu narratives, firmly situated in the times of the day, provide a glimpse into the learning phenomenon as understood from the realities of Samburu life.

Narrative inquiry has been most often used in educational research. Bell (2003) used the method in Canadian schools to assess the effectiveness of direct experiences with the natural environment on learning science. In this study, teachers were interviewed and asked to comment on observed changes in student learning and morale after experiential exercises. The stories shared offered Bell (2003) environmental metaphors (e.g. restoration, naturalization) that helped describe personality changes in classroom climate. Glover's (2003) narrative inquiry study in an urban setting encouraged participants to develop a communal narrative on the improvements and revitalization of a local neighborhood. While providing a positive communal narrative on neighborhood restoration that could be shared with communities in similar straits, the study also effectively gave a historically disenfranchised group of individuals, urban youth, and a meaningful voice in the rehabilitation of their community. Additionally, in a

narrative inquiry study focused on evaluating the role teacher personality traits play in the implementation of effective environmental education programs, Barrett (2007) found through the shared stories of teachers that everyday practices and language (e.g. inherent masculinity as a hindrance to the acknowledgement of an interconnected world) prevented even the most motivated teachers from employing environmental education pedagogy in the classroom (Barrett, 2007).

One of the most notable and equitable elements of the narrative inquiry method is its ability to surrender control of the research process, allowing for individuals from vulnerable communities the opportunity to help shape the direction of the research (Clandinin, 2007; Glover, 2003; Riley & Hawe, 2005; Rockquemore & Laszloffy, 2003). For example, a narrative approach was employed among First Nation Canadian health counselors to understand the complexities of mental health concerns in their community (Stewart, 2009). In this study, narratives were constructed among a group of individuals who have historically been either the focus of anthropological research, or, simply put, the receiver of social injustice. The results from the narrative analysis identified areas where traditional healing ceremonies could be incorporated into standard mental health practice (Stewart, 2009). In the Samburu context, this devolution of power from *researcher to researched* is an action not often witnessed on the ground. If we are to believe that the phenomena of the learning experience can be found through the analysis of narrative, then shifting the power of the guiding of narrative research into Samburu hands is not only a welcome approach, but a necessary one as well.

The Samburu are governed by the stories of their elders (Spencer, 1965, 1973), and, being a culture of oral storytellers, the use of the narrative inquiry method to

understand their lived experiences makes theoretical and methodological sense. Most of the Samburu communities are illiterate, and even those with literacy skills are more willing to share stories rather than complete written surveys (e.g. learning style inventories). Additionally, there is little research on the effectiveness of the application of learning style inventories in rural African education contexts. Since narrative inquiry has the benefits of lending legitimacy to the stories of individuals and providing a voice for historically disenfranchised communities, the method is appropriate for the exploration of the conservation-learning phenomenon in Samburu. However, though the Samburu are a tribe with a proud oral tradition, there is no guarantee that the narrative inquiry method would necessarily render any Samburu individual willing to tell his or her story.

Photovoice

Photovoice is a participatory action research strategy in which cameras are provided to participants so they may document, discuss and display the needs, concerns and hopes for the future as seen through their own eyes. It is a way to empower those individuals who usually spend time *under the lens* of the photographer, and allowing them the opportunity to be *behind the lens* (Willson, Green, Hayworth-Brockman, & Beck, 2006). The power of this method lies in allowing the participant to serve as the expert of their own lived experiences (Wang & Burris, 1997). Photovoice provides a voice for those individuals who have historically been denied an opportunity to record and discuss the conditions that directly affect their lives. The method stems from Freire's (1972) work on critical consciousness and problem-posing education. For Freire, the goal of education should not be to perpetuate existing power imbalances, but instead to

guide the oppressed community's attentions to those circumstances which confine them, and eventually develop options for changing those circumstances (Freire, 1972). This concept of "critical consciousness" provides the conceptual base for the photovoice method, and is adapted to focus on conservation education opportunities in Samburu East/Uaso Division.

Wang and Burris (1997) introduced the photovoice method as a means to explore the lives and challenges of peasant women in the rural China. The method was introduced as a way to solicit images and stories of lived experiences from a group who rarely had the opportunity to do so. The method was also appropriate since most of the women participants were illiterate and unable to record their stories or perspectives via other means. Further, the use of photographs and subsequent storytelling provided an appropriate and nurturing environment for the women to critically analyze their current situation (Wang & Burris, 1997; Wang, Yi, Tao, & Carovano, 1998).

Photovoice, as defined by Wang and Burris (1997) has three goals:

4. To enable people to record and reflect their community's strengths and concerns
5. To promote critical dialogue and knowledge about personal and community issues through group discussions focused on the photographs
6. To reach policy makers

It is important to note that photovoice, while providing a truer perspective on the conditions that affect participants' lives, is not a guarantor of the achievement of higher order critical thinking. It is the role of the facilitator to effectively guide participants towards those identified problems that need to be addressed (Jurkowski, 2008; Wilson, et al., 2007). Also important is photovoice's explicit documentation that the method can

help communities *reach* policy makers, rather than *initiating change* at the policy level (Wang, et al., 1998). While photovoice provides opportunities for communities to bring their concerns and hopes for the future to their policy makers, actual change can only be determined by the effectiveness of the messages and the willingness of the policy makers to implement the suggestions.

While not used specifically to address conservation education concerns, the photovoice method has proven to be effective in identifying needs of disenfranchised populations in education and public health research (Baker & Wang, 2006; Chio & Fandt, 2007; Newman, 2010). Past projects have built on the strengths and weaknesses of communities and allowed for credible and locally appropriate concerns to be determined for future courses of action (Lykes, Blanche, & Hamber, 2003a; Wang, et al., 1998). In the Yunnan Province of China, Wang (1998) employed photovoice among women villagers to allow them the opportunity to deliver their concerns for improved water sanitation systems to local authorities. These concerns would never have been given a voice were it not for the focused nature of the photovoice project. Knowledge was also observed to be produced and reciprocated among disenfranchised populations in rural and urban areas, providing individuals with intellectual disabilities the opportunity to provide caregivers with a truer perspective on their disabilities (Jurkowski, 2008); allowing youth to identify how they may develop a sense of social morality for becoming agents of change in their communities (Strack, Magill, & McDonough, 2004); and implementing a process where women from low-income neighborhoods could voice their vision for combating poverty (Willson, et al., 2006). Finally, tangible outcomes for realizing true change have emerged from exploratory photovoice projects in public health in Tanzania,

where student and teacher photographs and recorded video dramas revealed proper actions necessary for the development of an enhanced curriculum geared towards schistosomiasis education in primary schools (Freudenthal, et al., 2006).

One of the greatest attributes of the photovoice method is the provision of opportunities for many disenfranchised populations to express their strengths, needs and concerns for the future. Past projects have engaged and empowered individuals with physical and intellectual disabilities (Baker & Wang, 2006; Jurkowski, 2008; Newman, 2010; Wang, 1999; Wang, et al., 1998), homeless and at-risk youth (Dixon & Hadjialexiou, 2005; Goodheart, Hsu, Coleman, Maresca, & Miller, 2006; Kroeger, et al., 2004; Strack, et al., 2004; Wang, Cash, & Powers, 2000; Wilson, et al., 2007), women (Killion & Wang, 2000; McIntyre, 2003; Willson, et al., 2006), and transsexual's access to health care (Hussey, 2006). While photovoice has produced valuable results in the fields of public health and education research, the method has not often been used to empower and mobilize communities in a conservation education context. While the method has been used to explore the role nature plays in shaping the development of adolescents in the U.S. (Owens & McKinnon, 2009), it has not yet been applied in rural African contexts. The narratives supplied by the Samburu photovoice project, consisting of the storied and lived experiences of community scouts, teachers and other members provide the data for analysis in this paper. The visual narratives provide an illustration of the culturally appropriate learning environments that can be created to effectively teach about conservation in Samburu.

Methodology

Sample and structure of the narratives

Over the course of seven months in 2009-2010, 26 Samburu photographers were given point-and-shoot digital cameras and asked to document their conservation concerns. Key participants were identified by myself and community members, and were based on their interest and willingness to discuss conservation issues. Typically, I would identify one participant, then that informant was asked to suggest a group of other individuals who would have an interest in participating. After the photovoice sessions were completed, five individuals were selected for an additional semi-structured interview. These five individuals were selected due to their enthusiasm for the project, their different levels of experience working in the conservation and teaching fields, their differences in age and education level, and finally due to their different geographic locations (see table 3.1). The narratives and images of these five individuals are the only stories of the total 26 photovoice participants displayed in this paper.

Three participants have been teaching science or working in conservation in Samburu for an extended time (6+ years), while two participants are relatively new to the field (<2 years). In terms of education, a spectrum of highly educated (e.g. any post-secondary education) and less educated participants (e.g. primary school) was desired. I wanted to have the opportunity to explore narratives on learning from those individuals who had much experience with the Kenyan formal education system and those who did not. It is important to note that no women are represented in the sample. There were only two women who participated in the original photovoice project, and this is representative of the number of women employed in the area conservancies. Neither of

Table 3.1. Description of the five participants.

Participant	Position	Age	Education	Geographic Region	Years teaching or working in conservation
Isaac	Teacher	Mid 30s	Teacher's College	Girgir	10
Stephen	Conservation professional	Early 40s	8 th grade	N'gutuk N'giron	6
Joseph	Conservation professional	Early 20s	Post-secondary certificate	N'gutuk N'giron	2
Kasungu	Conservation professional	Early 20s	3 rd grade	Girgir	1
Boniface	Teacher	Early 40s	High School graduate	Girgir	20

these women from the photovoice project was willing to participate in the formal individual interviews. It is recommended that future evaluations on conservation education in Samburu should address this gap. Additionally, a diverse age range was desired (e.g. early 20s to early 40s). Finally, participants were selected from the two regions of Samburu East District that are effectively split by the Samburu National Reserve (N'gutuk N'giron to the west and Girgir to the east). This distinction was made to identify possible differences in participant stories from different education and opportunity contexts. For example, the communities of Girgir are much more developed in terms of infrastructure and access to local government support due to their proximity to the main highway. N'gutuk N'giron residents, on the other hand, live the more remote western region where the roads are not paved and there is little, if any, public transportation. Due to their remote nature and lack of resources, schools in this region

are equipped only to allow students to progress to 8th grade. There are no secondary schools in N'gutuk N'giron. Additionally, tourism to this region of Samburu East has yet to be fully developed and as yet does not receive the visitation that Girgir does.

Over the span of one month, all participants in each of the six photovoice groups were asked the same set of questions. Participants were asked one question and encouraged to take as many photographs as they wished that they felt answered the question. After one week, participants returned to the group to display their chosen photographs and share their story. During these initial photovoice sessions, all participants were asked these four guiding questions, one for each of the four sessions:

1. Why are you interested in conservation?
2. What do you want to teach me about the environment?
3. What information and knowledge of conservation needs to be learned?
4. What do we do about it?

Participants were allowed to take photographs of anything they felt related to these questions, and returned to the group to discuss each of their selected photographs and share their stories. For the individual interviews, two additional questions were initially asked to generate a discussion on conservation learning:

1. Could you tell me about one of your favorite teachers?
2. What are your thoughts on the photovoice project?

The first question was meant to elicit a story from the participant that would give some insight into their individual learning process. By asking each of the individuals to comment on one of their favorite teachers (not relegated to formal schoolteachers), I hoped to encourage the participants to discuss the extrinsic and intrinsic qualities of their

teacher and provide a detailed typology of what a successful teacher in Samburu might look like. The second question was asked to solicit feedback on the participatory approach of the photovoice exercise. I hoped that the participant responses to this question would help illustrate the effectiveness of this participatory approach in facilitating dialogue regarding the conservation learning phenomenon in Samburu. Participants were given the opportunity to describe those elements of conservation knowledge that was learned either through the photographing and personal storytelling or through the group discussions that were the focus of each of the photovoice sessions.

Interviewees were given the opportunity to discuss their answers to these two questions in as much detail as they liked, and probing questions were asked when necessary to have them elaborate on certain elements of their story. After interviews were transcribed and analyzed, I returned to the participant with a constructed narrative to member-check the validity of the analysis. Participants were asked if they agreed with the analysis of the original story, and were asked to elaborate on any of the discussed concepts or clarify those narrative themes that were misinterpreted. Overall, each of the participants was interviewed on five to six separate occasions, including the group photovoice sessions. Each of the multiple interviews generally lasted about 90-120 minutes, while the group photovoice sessions lasted two to four hours.

Role of the researcher

One of the most important elements of conducting narrative research is acknowledging the role of the researcher in interpretation (Clandinin, 2007; Connelly & Clandinin, 1990; Lieblich, Tuval-Mashiach, & Zilber, 1998). In the narrative inquiry tradition, I did not play a passive role; rather, I was intricately involved with almost every

aspect of the story. Ultimately, the final narratives used to relate the particular phenomenon to the reader are a co-creation, an interpretation of the phenomenon as lived by the storytellers as well as the story collectors (A. Bell, 2003; Connelly & Clandinin, 1990).

During the Samburu study, I played a number of community roles. Since my first arrival to Samburu in 2004, I have played the role of park ranger, researcher, uncle, community organizer, schoolteacher, bartender, nurse, driver and technical trainer. I have been fortunate to call Samburu East home for extended periods of time, where I learned the local language and practiced local customs when appropriate. My ability to converse in Swahili with a wide range of rangers, scouts, teachers, students, and elders helped create an atmosphere of respect which lent to a much freer dialogue with project participants. Though I have arranged the shared narratives in this study according to my interpretation of the participant perspectives, this interpretation is grounded in my shared local reality of my Samburu experience. The interpretations are credible because I have shared these experiences with the participants on multiple levels. Due to my level of involvement with the participants and my participatory role in co-creating the following narratives, the narrative transitions and discussions are given in the first-person.

Holistic-content perspective

An holistic-content perspective was used as an analysis strategy for the narratives because of its effective use in phenomenological and case study research (Lieblich, et al., 1998). The perspective is defined by the use of the entire life stories of the participant, and the analysis of these stories is used to understand the individual's connection to the phenomenon in question. Past research has employed the holistic-content approach with

particular success in uncovering and exposing the narratives of violence and oppression (Boonzaier & de la Rey, 2003; Draucker & Martsolf, 2010), gender boundaries (Essers & Beschop, 2009) and opportunities for mutual support (Collie, Bottorff, & Long, 2006; Lee & Poole, 2005; Winter & Daniluk, 2004).

In South Africa, the holistic-content analysis allowed researchers to recreate the stories of 15 South African women to provide a grand narrative identifying the ways these women could reconstruct their violent situations in a way that challenged the dominant governing authorities. These restructured stories, now consolidated, provide support for an alternative discourse regarding women's role in their community, effectively putting a voice forward that supports South African women's resistance to violence directed towards them (Boonzaier & de la Rey, 2003). In the United States, holistic-content was used to develop a typology of individuals (male and female adults) who have been subjected to sexual violence. The approach allowed researchers to honor the richness and meaningfulness of individual participants, and offered a typology including six different groups of sexually abused adults. This typology can now be used as a guide in formal treatments, allowing care workers to address both intrinsic and extrinsic types of violence to be treated (Draucker & Martsolf, 2010). Gender boundaries were explored using holistic-content analysis as Essers & Beschop (2009) employed the method to provide support and encouragement to Muslim women entering the workplace in the Netherlands. The approach allowed four women to share their stories on the religious, ethnic and gender obstacles that can be overcome and provides the reader with an understanding of the collective agency that can be gained in the workplace when one acknowledges the positive role of identification of the self in realizing true

entrepreneurship (Essers & Beschop, 2009). Additionally, the holistic-content approach has helped develop restoried women narratives which have increased support for the use of art therapy in promoting togetherness and well-being (Collie, et al., 2006) and documenting the support needs of egg donors (Winter & Daniluk, 2004). What is important to note is that in each of these studies is that the restructuring of narratives allowed by the holistic-content analysis method supported the use of the individual stories to concurrently stand by themselves as personal testaments, as well as providing for the combination of stories to lend support for a particular action to be taken regarding specific phenomena.

The holistic-content approach, while used often in research involved with the retelling of women's stories, is not a gender-specific analysis strategy. It has also been used with heterogeneous adolescent populations to address a number of societal problems. Fatusi & Hindin (2010) have used holistic-content analysis to uncover the theoretical foundation necessary for understanding obstacles prohibiting the positive transition of adolescents to adulthood. Their exploration of adolescent narratives using the holistic-content approach reveal an adolescent life cycle that must be understood by care practitioners as a product of the dynamic social structure in which it is housed (Fatusi & Hindin, 2010). Narrative inquiry and holistic-content analysis also provided researchers with an understanding of the place-specific barriers that need to be addressed and overcome when encouraging adolescents to quit smoking (Moffat & Johnson, 2001) and for providing adolescent mentoring in life skills in an online environment (Rhodes, Spencer, Saito, & Sipe, 2006). While the narrative inquiry method and holistic-content analysis approach has rarely been used in either conservation education or East African

contexts (Mungai & Samper, 2006), its use in placing the stories and lived experiences of disempowered and disenfranchised populations into a larger societal discourse has revealed opportunities for inclusion in social practice. The Samburu study is not focused on a particular gender, age group or ethnic makeup, though it does attempt to provide an opportunity for those individuals who are not often given a chance to voice their concerns the ability to do so.

In the Samburu study, multiple stories relayed by the five participants were recorded and transcribed, and were read several times until patterns emerged. Although the stories were given at multiple stages of the inquiry (e.g. multiple photovoice sessions and individual interviews), the phenomenon in question was always the Samburu learning context. These multiple stories and their accompanying images were arranged in a way that provided a narrative on specific elements of the learning phenomenon (e.g. collective learning styles, positive personality traits). The narratives provided in this paper, therefore, are not chronological. Rather, the stories are arranged into a narrative of experience, specific for that individual. This style of presentation is consistent with other narrative inquiry studies, providing readers with insights into gender and race related issues regarding access to education (Johnson-Bailey, 2002) and providing a blended community narrative on the role grassroots efforts (i.e. community gardens) play in reshaping urban collective identities (Glover, 2003). Transitions are offered between narrative themes, bridging participant testaments on various aspects of the learning process when necessary. Participant photographs are displayed when appropriate, though the power of shared narratives is in the relayed story.

While past research in qualitative research methods has acknowledged that the use of holistic-content as a narrative analysis approach has often been criticized due its apparent lack of detailed information on a standard interpretation procedure (Ollerenshaw & Creswell, 2002), Lieblich et. al (1998) provides us with a straightforward and intuitive approach to analysis that has been employed in a variety of contexts. In accordance with Lieblich, et. al (1998), I employed the following approach for reading and analyzing the participant stories honoring the holistic-content approach for analysis:

1. I engaged in several readings of the story until general patterns or foci emerge. I then returned to the participant as needed to discuss the patterns and foci that I identified. I then developed a co-created narrative based on these patterns and foci.
2. I then developed an initial understanding, or *global impression*, of each of the stories. This global impression provides the reader with an understanding of the primary features involved in describing the participant's illustration of the identified phenomenon of interest (e.g. learning in a Samburu context).
3. Building on the established global impression, I then developed the major themes for each of the stories. These major themes are the events and topics of interest that the storyteller devotes the most time to in the story, and are events that are often returned to in multiple contexts throughout the telling of the story. It was my responsibility to return to the co-created narrative to check the validity of the identified themes.

4. I then developed conclusions and implications of the stories to the phenomenon of interest based on the identified major themes. This included combining the appropriate selections of the subtexts, as well as defining the content categories that arrange the subtexts and are related to the phenomenon of interest (culturally appropriate learning environments for teaching conservation in Samburu).
5. Finally, I drew conclusions based on the content categories and develop implications for application in the field.

This structured and reciprocal approach to analysis was used in the Samburu study for each of the participants (see figure 3.3).

Findings

Isaac: Global impression

Isaac Longoro is a teacher at Girgir Primary School in Archer's Post, Kenya. He has also taught in West Gate and Lorubai primary schools, and was born in Samburu East District. Isaac participated in the very first Photovoice group in June 2009, joining four other teachers from the three primary schools in Archer's Post in setting the tone for the project. In addition to teaching formal classes at Girgir, Isaac also directs the school wildlife club, engaging students in extra-curricular projects like litter cleanup and managing a chicken coop on school property. He is a soft-spoken, respectful man who truly loves his teaching profession.

I first met Isaac as a teacher at Lorubai Primary School and was immediately struck by his gentle approach in describing his love for the natural world. Isaac's story of conservation in Samburu revolves around his expressed need to instill in students a sense

of empathy and wonder in students. He recognizes the powerful role teachers have in creating the future generations of Samburu conservationists, and his ruminations on the value of nature walks and poignant discussion on the development of a stewardship ethic in these future generations cannot be misunderstood. Isaac's story has important implications for adult learning in Samburu, identifying the need for a teaching approach that includes exposure to elements of the natural world, an internal sense of responsibility to the teaching profession, and a service-oriented outcome of learning that stems from guided discussion sessions. Isaac begins his story by describing his recent walk along the Uaso Ngiro River, the lifeblood of the Samburu East ecosystem. Isaac uses this activity as a reference point for illustrating the need for Samburu learners to engage in direct experience activities with the natural landscape. His personal experience in this action has given him not only an appreciation for the learning opportunities available just beyond his doorstep, but also given him a personal sense of a connectedness to the place. Isaac contrasts these experiences throughout his story, revealing that the dominant learning structure he is currently engaged in, that of the formal Kenyan primary school education curriculum, does not allow for such experiences to occur.

Another dominant impression illustrated by Isaac's story is his emphasis on the role positive mentors can play in guided discussion. Throughout his story, references are made to those teachers (and for Isaac, all of his "good" teachers come from the formal education system) who go above and beyond the regular duties of teaching. Isaac mentions that he values the teaching methods of Charles, a teacher who "had that interest of doing his work willingly. He was not somebody to be forced or pushed to do his work." This personality quality is one that Isaac has internalized, as he constantly

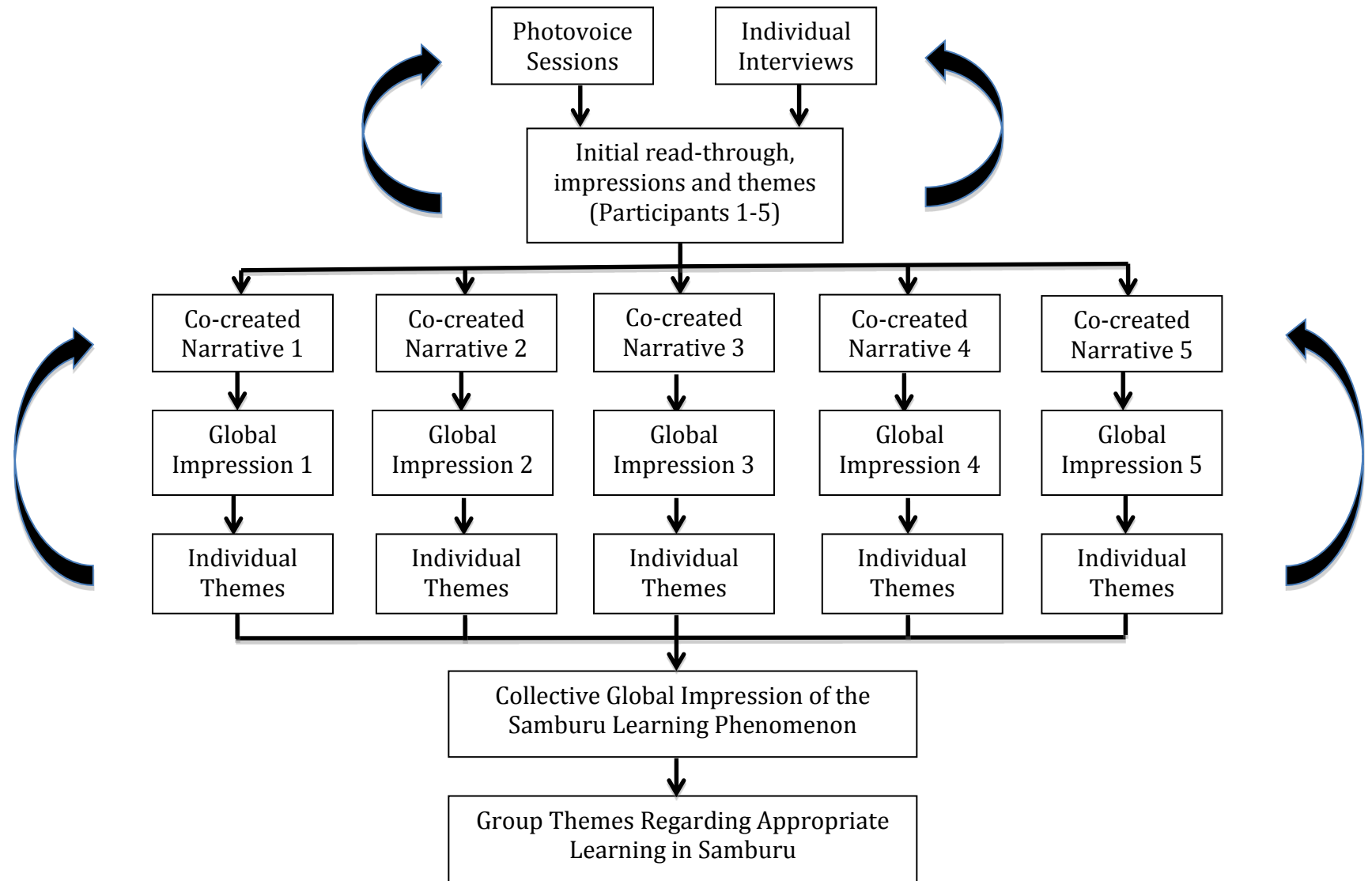


Figure 3.3. The holistic-content analysis strategy for the Samburu study (adapted from Lieblich et. al, 1998).

challenges himself to emulate this favorite teacher and provides an example of this in his description of how he encouraged a student at West Gate Primary school to excel in writing. His story also suggests that teachers and mentors, regardless of their motivation for teaching, can facilitate a positive learning process through discussion. Isaac admits on a couple of occasions in his story that discussion of ideas and concepts can lead all learners to an alternative way of thinking about complex issues. For Isaac, these discussions are free to lead to conflict (witnessed in his relation of the heated discussion of photovoice participants on the ecology of *Acacia elatior*). Rather than stifle this conflict, Isaac celebrates the engagement as a “healthy argument,” and suggests it is a way to realize collective learning.

Finally, Isaac’s story leads the reader to understand that he believe one of the primary purposes of education is to empower students to contribute to society. Of all the photovoice participants and interviewees, Isaac was the most concerned with the amount of litter strewn about the Archers Post landscape. In each of the first three photovoice sessions with the teacher group, Isaac selected images of plastic bag trash piles as a topic for discussion. He does not necessarily see the local government as being responsible for the cleaning up of these piles, but instead considers the teacher and student roles in community cleaning. For Isaac, he uses his story to illustrate the role the education system can play in offering a service to the community in which it resides. His story on this matter is not accusatory, but does suggest that the education system does not do enough in promoting civic service.

Isaac's story: You can't tell someone how to keep a cow

If the river has such kind of good sceneries, I may go from here to Nairobi National Park, and go and see the same animals I see here. Or I may go up the river to see some of the things up there. But that is expensive. Maybe if I follow the river from Archer's Post to Shaba (see image 3.1). I can get the same things I am going to search for in a far place. So you find that me, I have that interest in both animals and plants. Most of the plants that we have, the green plants that are here, they are from just around this river.

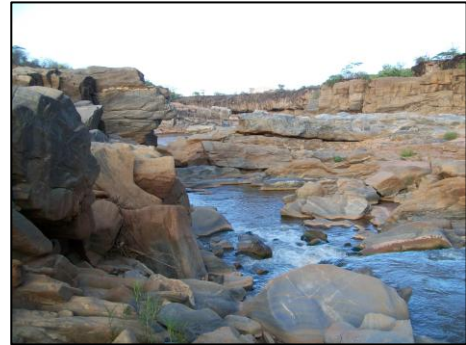


Image 3.1. Uaso Ngiro river (courtesy Isaac Longoro)

We have unique plants here that you cannot get anywhere else. Like for example this doum palm. Also the sceneries. For example, down there, I have seen that there are rocks that you may see. Different layers of rocks that are there. You know maybe I just have my own interest. So it is something that I usually do. Not even when you sent me to do it for the photovoice project [laughing]. So it is usually what I used to do. You may get me loitering along the river, down there, coming up, going up this way up to that place. There is a certain road there. I don't know what the name of it is, but I used to go up to there. The lodge that is up on there – I don't know the name. And I have not worked in any lodge or joined any of the rangers, I just have that love in myself.

So the wildlife populations that you are seeing around this area, it is because of nothing else but this river (see image 3.2). We are all getting water from there, it is very near. So to me, I see, and it is something that is there.



Image 3.2. Uaso Ngiro river (courtesy Isaac Longoro)

The animals that are found around this area, Uaso Ngiro is like a magnet that is bringing them towards where we can get them in this national reserve. Because I know most animals like where there is water. Yeah, you will die quickly without water. For example, if it were not for lack of rainfall, we could not have lost the animals we had lost during this drought. It is because we have no water there, so there are no plants to grow as food for these animals. So you find that, another thing that I have seen is that the river, we don't have anything else to depend on. Some other people do cultivation, but we depend on this river. At least people are gaining from it. You know many people are employed along the Uaso Ngiro river. These lodges and camps, and the Samburu County Council, they are really earning a lot [through tourism] from this river.

Even wild animals, even birds, whenever I see a child throw a stone at a bird, I really feel it. So it is something that I don't like people doing. Because, to us, you see the animals like rhino, it has gone, we don't know where it has gone to. It is now history to us. When you show a child, a child might say "this is a dinosaur." But the animal is maybe existing in our country, but in a very minor number that not all of us can see. The first time I saw a rhino is when I went to Lewa Downs. So our children now, they are not seeing it. But some years ago this animal was walking around just like any other animal. So we need to have that love to both plants and animals.

Then, when I went to West Gate, I was teaching there. That was when, before that I could even see the interest, when I hear that people are going into Samburu National Reserve, I would have that interest, or that eagerness just to go and see the wild animals. So when I went to West Gate, I could get books from the San Diego Zoo, and those tourists who were coming, especially the ones from USA. They were bringing a lot of books. So after reading those books, I saw the interest in them and having that love towards wild animals. So it added on what I had. You know it is just something that is in me and I may say that it is a hobby. You know, you like reading. To me, if I get books about animals, I like them more than anything else. I like reading about these animals, knowing their behaviors, their way of life. So it is just maybe something that I have an interest in. It is just something inborn to myself. I really enjoy it.

Isaac's love towards the natural environment draws from his personal experiences teaching and learning in the Samburu environment. While he mentions that this love is just "inborn," his rich description of the Uaso Ngiro and the many plants and animals that may be found along its banks suggest that these tactile experiences have shaped Isaac's view towards the environment. Isaac continues to discuss some of his favorite teachers from his past.

I had two teachers who taught me a lot. One is our present MP [Member of Parliament], Raphael Letimoro. He was our teacher and he had love towards his work. He was a hardworking man. He loved teaching. So that one made me want to teach the way he is teaching. I also had another teacher who was known as Charles. He was teaching us science. He also had that interest of doing his work willingly. He was not somebody to be forced or pushed to do his work. So those were the teachers. I had always admired the way they taught us because I could ask myself if those teachers were not working the way they were expected to, then I could not have been a teacher myself.

It was the way they were doing their work. Like they could even use their free time, for example, like after lunch, immediately after lunch they could come to the classes. They could even offer their time on holidays. They could even

come on Saturdays to teach us. So I saw there was a difference on those who were coming on Saturdays and those who were not coming on Saturday. Because somebody can say "I cannot use my time for teaching when I am supposed to be free."

For Isaac, personality plays a large role in being an effective teacher in Samburu. Both of the teachers Isaac mentions have qualities of high motivation and true love for the teaching profession, and both of these are identified as effective elements for teaching the subject matter. I have often witnessed Isaac to be one of the most prepared and attentive teachers at Girgir, and this may be attributed to his admiration for some of the teachers in his own life, and his willingness to imitate their positive qualities in his own style. When asked to think more on the valuable personality characteristics for an effective teacher, Isaac offered a story of how he connected on a personal level with a student in West Gate Primary School.

The time I remember most was in 2003 and I was in West Gate Primary School. Pupils were coming all the way from N'gutuk N'giron and all of those areas. So they were all coming to our school. What I saw in my students, one of the boys, I think he just had an interest in me. Because he was seeing how I was doing science and whatever. Now he had no problem with science. What he had a problem with was writing of composition. And I tried to help him, because he was very special to me. And he kept telling me to help him. And later, that boy, after finishing he came back to me and told me "thank you for all of what you did to me. Because I have seen that I am able. I thought that I could not write, that I could not read, but because of your help I can now be able to go ahead." So that is the thing that I remember most. It is because I was just there. He was visiting me always. I had to teach him on how to write from the t-shirts, and explain to him what those words mean. And also reading story books. We read so many of them.

There was another boy I taught in West Gate. And this boy, I don't know the interest he had in me because this boy could not fail in my subject – science. Maybe he had that confidence and he was calling me, I heard him one day calling me a scientist. So, this boy later, when he sat for his KCPE, he couldn't do well. He got a 49 out of 100. So when I asked what was wrong, he told me it was overconfidence, "but mwalimu [teacher], I have not failed it." He couldn't admit that he failed it. "These are not my marks," he would say. But he went to secondary school, and he also did not do well there, but at least he tried. I don't

know why he did poorly. He was doing well, but when he sat for KCPE, he got below average, that is 49%.

This is a common story of educational struggle throughout the Samburu East District.

Too many bright minds, seemingly attentive in the classroom, tend to perform poorly on national exams. Isaac ponders this phenomenon.

Maybe the problem is because of the large number of children that are found in one class. And also, you know in primary school, most students have not got that interest in sitting down, reading notes. You know maybe I will give some summary notes, but they just listen to the teacher. Some of them are not even listening because they are many, they are just playing there. And maybe because I may not see that another is doing some cheating things, you find that they just waste time. So that one might contribute. Also that large number. Others get an advantage, you might have a class that gets 120. Others will get these young kids. Most of them are young, and they like playing more than even that concentration of sitting down and listening.

Also, most of the lessons are not practical, so sitting down for 70 minutes to concentrate is hard for them. Although, some other places in Kenya, they are performing. We don't know the criteria that they are using. But that is what I think. It is not something that I am sure of. Class size...pupils interest....but because some of them, when they go to secondary schools, no one will tell them to read. Some of them even do well because there now, you see the brain has broadened and they see that I am supposed to do my own thing now and forget what I was doing. People usually become serious when they read at secondary school. But not all of them.

While Isaac recognizes the need for teachers to connect on a very personal level with students in order to achieve success, he also identifies particular methodological approaches to teaching content as necessary for developing the future environmental stewards of Samburu. Practical, hands-on experience, coupled with guided discussion, is championed as the most effective way to teach and learn science. Consider this story by Isaac, related to me after we collaborated on a water quality experiment along the Uaso Ngiro River. The experiment was conducted with a water testing kit delivered from the U.S., and we were practicing collecting, documenting, and analyzing river water samples

so that we could introduce such an experiment to his primary school students in the future.

My favorite subjects in school were Science and Social studies. In science I liked the practicals, how to do things practically. Like when you do something in science, for example we have done that experiment with the water just now. And we have seen changes. See? Like what I have seen today, I couldn't believe whether a paper can change a color due to water. Also we have seen some changes here. So when you do experiments, you teach science practically. You know what they have seen is better than what they are told. Because maybe I have seen this is a banana, and I can't forget what I saw using my eyes. But when you tell me a banana is here, well I have not seen it.

Ah, the challenges, some of them, the practicals are funny. Yeah, because some of the students can embarrass you. You do something there, and you can see that you have done it perfectly. But when you go to class, you find that some of them fail to give you the results that you want. So it will be, you have to do it for a second time. But the main thing, the students, when they see that you are doing it for a second time, they forget about the other one. They just, maybe they have not seen that you have not brought the wires together, you have not done something. Some of them, at times you find that some of them even can do it on their own. And they do it perfectly more than the teacher.

I remember one day when I was doing a lesson on electricity. Just a simple lesson on electricity. So I could not.....ahh, something came in and I could not even join those wires together. A boy just came and joined them and they continued. Then I just left them doing their work and it was perfect. So at times they can do good. And maybe when you see them, when you have seen that they have done well, then you congratulate them. And then you can be happy. You know that one, you have to agree with your students that if one of them can do something, you see that that one does well, then you give that child that chance of doing it because it is just you to give instructions, and then they follow. You don't have to go into a class fearing anything. You have to go there with, you must be ready always when you go into the classroom. So before you do it, you have to check first.

It is not just the practical lessons that lead to informed learning. For Isaac, group discussion can also be used in the classroom to facilitate collective learning.

You know in social studies we talk about geography, history and government. I like history and geography. I like reading about what is going around in the whole world. For example, I may know something that has happened in the USA when I am in Kenya because I can hear through the radio. I can listen to Voice of America. When you sit down, for those who like reading the newspaper and listening to the radio, they could come. You know people are different. So you may get such a people who are interested in that. So you might

get, for example, “Ocampo came to Kenya.” So when you start like that, someone else may contribute. For example, our Attorney General has been given an order that he will not visit America. So I know that. I was not with that man but it has come from the news and now I know it. That is current affairs. A teacher can just inform students. Even me, when I go there I can say something that I heard from the radio. And they also know. Because when you talk of it, some of them will also contribute.

Isaac’s talk of the value of discussion in the learning process expands to include not only past experiences from the classroom, but incorporates what was learned during a particular discussion in the Samburu photovoice project. In this story, conflict arose between two members of the project, a schoolteacher and conservancy scout, as they debated the characteristics of a highly valued tree in the area, the river acacia (*Acacia elatior*). Conflict, as it is framed in this discussion, is viewed to be a healthy enterprise, which Isaac argues leads to not only a greater understanding of the topic, but also allows for learning to occur across groups that are often separated by job responsibilities.

The photovoice project was a good one. It was a good one because I like adventure. So, to me, it is something that can give me a chance of moving around. You know that picture of a dead elephant (see image 3.3), you know I got it in a far place. So not everybody can go there. At times, this river is really rich. You can even get fossils in this river. I have seen several bones that are from a long time ago. I don’t know if we can know the origins of those bones. If they are wild animals or domestic animals. So this one, it is a good work. Because you know, like me I like having a camera to take photos, about wild animals and plants. Even at my house. So it was something good to me.



Image 3.3. Elephant carcass along the banks of the Uaso Ngiro (courtesy Isaac Longoro)

It was....it is something that, well one, it brought people together from different places. Because we got people that we did not know. It was something that could help all of us, because I have seen that when people continued doing it, in fact many of them have the interest. You know maybe a person might cut that tree because they do not know the importance of that tree. But after coming to a

certain place, that person may protect that tree. The person will protect the animal too. For example an elephant, a person can just kill an elephant and he is saying that it is not a help to that person. But after us teaching, or even telling that person that it is important to save this animal like any other, then people will learn from that. So it was, I learned from others that are not even educated. Because even the language of others, you could hear that they were using broken Swahili, but that person had a message to give to us.

For example, what people were arguing about, that certain plant, the acacia. Yeah, the saisiai. You know that man said “you know nothing about saisiai!” But I don’t think it was an insult. I don’t think it was something bad. Because those trees are not found here. They are found in that other area and it is true that when you remove the bark of the saisiai, it will get finished. The other acacia is different, the ones you find here. We have the Acacia tortilis. So you find that it was a healthy argument. It was not something that was bad because we learned something from it. Although me, I knew because I had worked over there. So people, even whoever said that, somebody learned that yes, it is dangerous to do that to acacia.

It is just communication. Because there was nothing to argue about that. The thing was, you tell me about something. I pretend that I know. So you don’t want me to tell you. Maybe because I as a teacher, I might say that this one does not know because he has not been to school. But you can’t tell a person on how to keep a cow, and that person usually keeps cows. So those are the people who are protecting these animals, regardless of them not going to school, and they know better than us here. So that was just brought by lack of communication between them. You know that one left school early and he was a very bright man. He is a bright man.

In this example, conflict is seen as a positive element for learning. Isaac recognizes that there is much to learn from individuals who live in a different place, and that a teacher can at times express humility and agree to learn from those who are in the field. Isaac acknowledges that although some individuals may not have had much formal education, their knowledge on the local environment should not be disregarded. In fact, this local knowledge should be both respected and celebrated. Isaac continues to explain how we may incorporate practical lessons, empathetic teaching approaches and guided discussion sessions to realize a change in the Samburu environment. For Isaac, these effective teaching and learning elements can be used to provide a real service to the Samburu

community. Specifically, Isaac describes how the use of photographs and community discussion may lead to actual service projects related to environmental restoration.

You know, maybe people are doing this and you can't expect every person to be satisfied. And we need, out of 10, at least 2 to learn. That is how we go. Maybe it might help many and people will learn from maybe what they are seeing. Others will just give their comments. Others will learn, those who, you know there are those who are doing things that are wrong. Because maybe we don't have an advice from others. And the change of a person is here, it is very slow. They will just change slowly and you see that, like what I was talking about with polythene bags, I really feel polythene bags, and this was not the time I was feeling something about these polythene papers. It is something that is in me. But I cannot go on collecting all over. You can't see them in my, you know I don't have a fence. I am just in an open compound. But around my home, you can't find one polythene bag. Now you see old dry cell batteries. I used to put them in a latrine. And I don't think that people can see that and say "why?" But to see a picture like this, and the statement is written down maybe, at least a few people can learn from it.

It can work. You will learn from, I think, what we did, even you, you have learned from all of us. And you have seen where Isaac is interested in. Where anybody else is interested in. And you have seen who can you work with among that group. And who is ready to work. So that one can work because you don't have to go and ask people questions. And a picture, if you will be given this picture and told to write about this picture, if you are a good writer, you will write a lot about it. A whole page. You can as well give me the picture and tell them to frame a small story about it. Then, whoever took it, you could also ask them to give it. Even students, to frame a small student. Then you bring them together and they extract something good from it.

Isaac views the photovoice project as just the beginning, and explains how the project can build on the existing socio-cultural structure of the Samburu community to mobilize the community and realize change.

We have to start with the primary and secondary school students. Because they are a group of people who have got control from teachers, and at least they are disciplined. Also women's groups, youth groups like through people like Obonyo and these people like Sammy. So these ones can organize the youth groups. Get them together. And also



Image 3.4. Women digging through litter (courtesy Isaac Longoro)

people like....health officers. For example the public health officer. And you can also connect when you have World Environmental Day, if you will be here. Because that is the time now you will get people when they are involved. But in fact most of the young people here, some of them do that work, but when they get maybe some people like you, they think that you are a sponsor, and you have money. So you will see that they have that greediness. But if you have people like teachers, plus their students, and women's groups, like the kinimama [group of women] here, and also youth groups like Obonyo, those boys who usually play there. At least doing something.

What I am talking about is maybe the collection of polythene bags and cleaning the community (see image 3.4). I think the other groups that we wrote the other day, did we talk about people like MP [Member of Parliament]? These people coming together, these are the heads of departments all over. You know the education officer has may people all over. They all have their group of people. And the MP, these people are ok. But when it comes to working, the other groups that I gave you, they are the ones to work.



Image 3.5. Pile of polythene bags in Archers Post (courtesy Isaac Longoro)

Like a nursery. Like collecting rubbish (see image 3.5). It is just something that I tell teachers we do it together. Because there were times when we were doing it together. We were collecting the polythene bags around. These are the ones just to give the right comments that ok, we are going to do this. It is ok. Some of them might even say "no, no, you know you have to add something here, oh." So if we start anything, we must show them, just to see that this is what we would like to use to teach our people about the environment.

Realizing that a large group of individuals dedicated to mobilizing the surrounding community in environmental projects may have a difficult time realizing their objectives, Isaac suggests to start the movement similar to the Photovoice project. Isaac articulates that the Samburu, due to their traditional collective approach to solving tribal concerns, should apply these same approaches to managing an environmental movement in the local context.

The setup for the photovoice groups was good. It was the best way to do the small groups first. Because when you have a large group of people, they can then understand each other. You know some people, you know I can stand in front of a large group of people and feel comfortable. Because I am a teacher and that is my work. But to others, they fear that the students will know better than them. They might get such a kind of a thing. So it is good that you use people like from the conservancy being together, like that. Because this depends on the interest of people.

Isaac: Major themes

Exposure and discussion

From the beginning of Isaac's story relating what he saw and felt during one of his walks along Uaso Ngiro, it is apparent the value he places on direct experiences in nature. He mentions that these activities are "...something that I usually do. Not even when you sent me to do it for the photovoice project," suggesting that Isaac has long valued the wandering approach to unstructured nature walks. Isaac's story immediately purports to the reader that though he may be a teacher in the formal education system, he is a man who learns from the environment in which he walks. What is most striking about his description of the river walk, however, is not so much the actual knowledge he gains from such an enterprise, but more so the feelings of love and empathy that are cultivated by viewing the natural landscape. Consider his story of the children throwing stones at birds, in which Isaac expresses his displeasure. "Even wild animals, even birds,

whenever I see a child throw a stone at a bird, I really feel it,” he proclaims. For Isaac, people are hostile towards wildlife because they are not exposed to them. In order for the Samburu to “...have that love to both plants and animals,” Isaac suggests there be more educational experiences to actually see these plants and animals. This development of empathy comes from his personal experiences, not only on self-guided river walks and visits to game reserves, but also through the reading and discussion of wildlife books. Furthermore, Isaac suggests that collective discussion on environmental concepts can lead to a more thorough understanding of conservation.

Perhaps Isaac’s most poignant story on the value of open discussion in the learning process comes from his relation of the events surrounding the destruction of *Acacia elatior* by the stripping of its bark. In this story two participants, a primary school headmaster from Girgir and a community scout from N’gutuk N’giron, were engaged in a heated discussion regarding the way *Acacia elatior* was affected by bark stripping. The tree is an important part of both the riverine ecosystem and various cultural practices of the Samburu people, and the discussion began with a talk of concern over its perceived demise. The community scout, an individual with only a primary school education, was challenging the headmaster’s statement that the tree is only killed when the bark is stripped completely around its trunk rather than by simply stripping a portion of it. “You know that man said ‘you know nothing about *saisiai*!’ But I don’t think it was an insult. I don’t think it was something bad. Because those trees are not found here,” Isaac explains. For him, there is a need to respect what is known by individuals from other areas, however remote, and value this observational knowledge from individuals with

little formal education. Isaac goes on to explain why these types of arguments assist in the learning process:

*So you find that it was a healthy argument. It was not something that was bad because we learned something from it. Although me, I knew because I had worked over there. So people, even whoever said that, somebody learned that yes, it is dangerous to do that to acacia. It is just communication. Because there was nothing to argue about that. The thing was, you tell me about something. I pretend that I know. So you don't want me to tell you. Maybe because I as a teacher, I might say that this one does not know because he has not been to school. **But you can't tell a person on how to keep a cow, and that person usually keeps cows.** So those are the people who are protecting these animals, regardless of them not going to school, and they know better than us here. So that was just brought by lack of communication between them. You know that one left school early and he was a very bright man. He is a bright man.*

The metaphor of the keeping of cows is an important one. In a community of traditional livestock herders, the Samburu would laugh at any individual who tried to tell them of the proper way to handle cattle. It is not necessarily that the Samburu are unwilling to learn about new approaches to handling cattle, but rather the point is that they are traditional herders, and with that tradition comes a way of knowing that is based on shared life experiences handed down through generations. In a broader Samburu learning environment context, Isaac's statements suggest that through respectful discussion with those individuals outside of the formal education system, much can be learned about the local landscape.

This approach was celebrated by Isaac as he reacts to the question regarding the benefits of the collective photovoice approach. Since the approach was dominated by the group discussion process, Isaac explains that this bringing together of people from different areas of the local landscape, a beneficial learning process was cultivated. "I learned from others that are not even educated. Because even the language of others, you could hear that they were using broken Swahili, but that person had a message to give to

us.” For Isaac, open discussion breeds respect for the many different ways people know about the world, and for Samburus, the approach is necessary to paint the big picture of conservation in the region. Learning opportunities centered around direct exposure and open discussion, however, is not the only appropriate learning environment for Samburu. Isaac’s story also suggests the need for project-oriented instruction, and the role this approach can play in developing a service-minded individual dedicated to improving his or her community.

Practical learning

Over the course of the five years I have spent living and working in Samburu, an number of teachers, rangers, and other community members have used the words “practical learning” to describe the role of project-oriented instruction in education. The words run parallel to the use of “field assignments” or “lab exercises” in the Western tradition, and should be understood as such throughout the following description of Isaac’s story. Before engaging in the final individual interview, Isaac and I used a simple water testing kit from the U.S. to measure the water quality of the Uaso Ngiro river. As we followed the steps of systematically collecting, documenting and observing our water samples, we discussed how similar experiments could be implemented in his classroom. We talked of the value of inquiry learning, where one could challenge the student before experimentation to identify what could be learned from the endeavor. While Isaac played along, he was most impressed by what the results of the water tests meant in terms of what is learned from the process itself. He related the experience to an understanding of a banana resting on my table. “Because maybe I have seen this is a banana, and I can’t forget what I saw using my own eyes. But when you tell me a banana is here, well I have

not seen it.” While the comments address the value of exposure (as discussed earlier), there is also a lending of support for what is learned through actively engaging in experimentation. While Isaac’s story transitions from this point back to the value of exposure and discussion, he returns to this theme of practical learning in a different way. This transition identifies project-oriented and place-based activities as a way for initiating change in the community.

As mentioned earlier, Isaac is often frustrated by the amount of litter scattered around the Archers Post community. Of particular concern is the amount of plastic bags (“polythene bags” in his story) that make up the bulk of this litter. The photovoice sessions and discussions allowed Isaac the opportunity to express the need for his students to actively collect these polythene papers. This effort would not only teach students a valuable civic lesson, but also encourage learning in the community at large. Isaac expresses that “...we need, out of 10 at least 2 to learn. That is how we go. Maybe it might help many and people will learn from maybe what they are seeing...And the change of a person is here, it is very slow.” While the story recognizes change will come slow in Samburu, it cannot be denied that Isaac feels it is the role of the teachers to promote learning activities that contribute to the environmental health of the Samburu community.

Stephen: Global impression

When I first met Stephen Lenantoiye, a tall, thick, gregarious man who sticks out in a crowd of short, thin, reserved Samburu livestock herders, I was immediately struck by his eagerness to talk about any issue under the sun, no matter how uncomfortable the subject. Stephen would discuss these issues with the energy and enthusiasm of a child,

though his words were far from the immature statements made by youth. Stephen is the Chief of Security for West Gate Community Wildlife Conservancy, and his position sets him in the middle of most community disputes and discussions regarding land use and wildlife concerns.

For Stephen, true learning about conservation occurs in a very deliberate Samburu context. In this context, individuals are exposed to environments and concepts foreign to them and are then conditioned to return to group settings to discuss what was learned and how this new knowledge could be applied to better society. To this end, Stephen is critical of the formal education system, even though he scored the highest in his class up through 8th grade (the terminus of Stephen's formal education career). Though the conservancy he works for identifies formal education as its main priority in terms of community outreach (a priority Stephen fully supports), he is critical of what he considers the irrelevant content that is taught in these schools. This criticism can be found throughout Stephen's story, even admitting that his favorite "teachers" have been those individuals outside of the formal education system.

In his story, Stephen identifies the Samburu elders as the best teachers. His admission that he learned more from his elders than in school reflects the community from which he has come. In N'gutuk N'giron, there are no schools capable of providing instruction beyond the 8th grade level, and even that is relegated to one school in the group ranch. Stephen's story of the value of elder instruction, however, is not focused on the common subjects learned in school (e.g. mathematics, science, social studies), but rather on those tenets of Samburu culture that he understands as necessary for the perpetuation of culture (e.g. respect and the connection to ancestors). As one reads the

story of Stephen's uncle relaying the story of how the Samburu were once considered to be not far removed from animals ("...they were just walking like livestock"), a sense of reverence for those ancestors which held a shared hardship in the world is gained. Stephen celebrates the strength of those in his uncle's stories, and goes on to explain that he viewed this elder teacher as a sort of soothsayer, or predictor of the future.

It is important to note that in the retelling of these stories from his elder, Stephen is identifying his own pride in the Samburu culture. Perhaps more importantly, the stories of the Samburu elders create a sense of shared responsibility for the wildlife of the region. This becomes clear in the analysis of the acquired stories he shares about the elephant. As the illegal poaching of the African elephant continues to be a major concern for the protected area staff of Samburu, the elder stories of elephants become for Stephen a type of traditional regulation. He explains that the Samburu decorum of respect that has been traditionally protecting the elephant allowed the community to "discriminate" and eventually disown those who breached that respect, "...even if it is your brother." For Stephen, it is important to maintain the exposure to these traditional stories not only for the perpetuation of the Samburu culture, but also because it provides a locally relevant code of conduct for conservation practice.

As with Isaac's story, Stephen acknowledges the value of direct experience and exposure to different landscapes and culture, combined with thoughtful discussion of what is learned during these experiences. The exposure and discussion concept is prevalent throughout the story, and lends the reader to the impression that Stephen understands this approach to learning to be consistent with the Samburu way of knowing. As Stephen explains what he learned through his experiences in Maasai Mara, he reveals

that his own teaching style would be that of promoting similar activities for his own people. There is no mistaking Stephen's dedication to the Samburu lifestyle, and this story of promoting conservation learning through exposure and dialogue, itself a purely Samburu approach to existence, can be understood as his personal intention for helping the Samburu grow.

Stephen's story: Do you see what I see?

What did I learn in school? In fact nothing. When we were in school, we were being taught other subjects, but no one knows. The only thing that we know when we are in school is just that there are national parks, national reserves....nothing even....just that these are run by the government. So I just finished my primary education level in 1986, 1987. So at that time, no one had an idea of conservation. So the idea I came up with in terms of conservation is when we are trying to protect the core conservation area of West Gate Conservancy. That was recently, in 2007.

I started to know about conservation when I was with Mobile Safaris and other campsites, like Bill Winters Safaris and others. So when I went to Maasai Mara National Reserve, that is when I saw something about conservation. That's a place where I knew that conservation, I knew that there was a need for us to conserve our area like the Maasai are doing. In fact I saw the Maasai, they were just pastoralists like us. They have wildlife, but it wasn't as much as it was in Maasai Mara. But even me, I started to know that there is a need for us to conserve the things that we have, and that when we conserve properly, if we properly conserve, then they will increase. They will multiply like the domestic animals. And actually when drought comes, it kills all of the cattle, goats, and donkeys. Within two years you will see the numbers shoot up. So I think that if we can conserve our wildlife they will be similar even to our livestock. So I started to recognize that there is a need to conserve our wildlife, and generally the environment. I have been noticing that these people have been benefitting a lot from wildlife.

In fact, their environment is very attractive. Generally the whole environment. Yeah, there are some trees cut around there, but totally what I have seen, they don't cut many trees. But us, we cut. We don't know the importance of these trees. I realized that if we could conserve our environment just the way we are seeing the Maasai people doing, we will benefit the way they are benefitting. Because during that time, we are getting nothing. Concerning wildlife, you know we could see the tourists who are just walking around, but no one knew how we could benefit through those tourists. They just take pictures, they take whatever, and then they go. They just say that it is the Kenya Wildlife Service (KWS) who is owning these animals, and they do not belong to the community. So actually when we come there, the only benefit, the only target is for us to hunt and kill

these animals to eat. But others, no benefit. But once we went to that area in Maasai Mara, you can see how they are conserving that environment, we see that there is a need for us to go and conserve our area, and then we will be benefitting in a similar way. So we can conserve instead of getting only losses. Because conflict, human-wildlife conflict is still high, we are just losing our livestock to predators, we don't have compensation, we don't have any benefit, so we try to come and tell other people how the Maasai are doing. How they are benefitting through this. I think what I am telling you, in fact it was something like a dream. I didn't even know before that we could benefit through wildlife.

Tourists were just coming around Uaso, and I was just a moran [warrior] with the long hair. And I went there to sing. Then the mzungu [white man] told me "lets go. Just work here." You know we are just trying to get money, but I didn't even know where this money was coming from. I didn't know it was coming from wildlife. Just from working. Just telling them, that's an animal, that is whatever. I realized that now, this is the benefit to elephants because I have when people were trying to kill. During the time I went on those mobile safaris, I did not have any idea. In fact I was just trying to tell the Samburu the idea about what the Maasai are doing. How they are benefitting. And I just tell them in the future we will probably benefit from wildlife. Some listened. But that was a few number. And the rest, they said, "No! This is just the animal of KWS [Kenya Wildlife Service]. This is a government animal so let us just finish them. If they don't stay in the park, let us eat meat."

Stephen's story articulates the difficulty in proposing wildlife welfare, particularly with predator populations, to members of a pastoral community that rarely receive any direct benefit from this wildlife. Only through immersion in another culture, in another place, did Stephen begin to recognize the economic benefits that were received by the Maasai, a tribal community closely resembling the Samburu.

When I got to Mara, I saw people similar to Samburu. We even spoke one language. They have mobile campsites. In fact they are just protecting the wildlife and saying we are benefitting from that. I go to ask them how are you benefitting? It is just because I didn't have it in mind. I had no idea, not even a little. How do you benefit? What of the KWS? I just asked them, what of the KWS? Do they allow you to benefit from wildlife? They are saying, "this is just the community which is benefitting one way or another. We have been given a mandate to benefit from this if we can conserve properly. Benefits will come to the community." So I started to interrogate to try and get more from him. Because I can see a person who can speak the language that I speak. And it is something I am interested in because the same wildlife that are in Mara are in Samburu. So in fact I was thinking, something cannot be happening. I don't even have a little idea how we can benefit from wildlife. No, I was even thinking, my

mind was thinking that this wildlife was for KWS. The animals belong to the Kenya Wildlife Service. Not even the KWS, we remember the name of anti-poaching, the anti-poaching unit.

So when we are, when I saw this wildlife, when I came back I started to narrate the story to my generation that the Maasai are getting money, they are getting employed, they are being employed because of this wildlife. And they started to tell me that the community is starting to say “what can we do to go there?” Because even they didn’t know that we could benefit here. In fact, what happened, we went, we went, we went, until we knew there was no people, we go and change our ideas. Now who do we know of ours who can make our area into that of conservation? And then the latest, we informed the group ranch members, and that is where it comes to a meeting that we need to have a conservancy. That one was in 2003, and we started the conservation in 2004. In fact, we are the key drivers, because we have the experience with the other areas. We tried to mobilize the people, this is how the Maasai are doing, this is how they are doing. So we went around to those other conservancies.

Stephen fully recognizes the importance of his Maasai Mara visit on his perspective of conservation. Through exposure to other areas and working with a culture similar to his own, Stephen was able to identify possible ways his own Samburu community could start to benefit in similar ways. Also evident in Stephen’s story is the mentioning of the KWS anti-poaching unit. Historically, this unit of the KWS has been understood as a Samburu enemy, often fining, imprisoning and even killing Samburu individuals suspected of poaching wildlife. In this light, the KWS anti-poaching units, while protecting animal welfare, were also effectively alienating themselves from the Samburu communities. Stephen offers the following advice when contemplating how the Samburu wildlife conservancies could move forward and become a player in wildlife conservation:

Actually, what I wanted to propose is that when we try to get money, in fact we try to take the community on an exposure tour. Then they can go and see how people are living with their wildlife. Those people will come to assist us. They will go to national parks. They will go to community ranches. Then the conservancy will assist. Especially those who are not with us now. That is the only way we can bring their minds back. Then students, in fact we have to see that the whole ranch, the primary level, we have four primary schools in this group ranch, so we need to have a certain amount of teachers so we can take them on an exposure tour. So that once they come, then they will try to learn.

Then they will ask more questions about wildlife. And also what are the wildlife needs. They will learn something like lifespan and puberty. I want us to introduce wildlife as a lesson because that is the key which is bringing us income.

What we are trying to do now, in fact we have experience, and we have really benefited. We are benefiting through employment and also the benefit we are gaining, the community, I am talking about the community now. They are getting bursary fund. They are getting mobility. I think if not for the conservancy you are not here. And even the NRT [Northern Rangelands Trust]. Leave alone those like AWF [African Wildlife Foundation], Grevy's Zebra Trust, many of those projects which are around. And this is brought by the conservation as a steering organization by the community. So they are getting mobility and all of that.

As we began talking and evaluating the Samburu photovoice project, Stephen gave his own accolades towards the usefulness of the image sharing and discussion format. As a community scout working with in a social culture such as the Samburu, Stephen is keenly aware of how deliberate discussion of ideas from multiple sources can more clearly reveal pertinent issues and possibly instigate change.

Actually, to my thinking, it [photovoice] was a good experience. Because we are seeing some things facing us in terms of threats. Particularly the land. I think that when we try to focus on the issue of land, managing land. If we could leave that land as a very good land. In fact it will bring an impact because it will be more productive than now. So that the pictures can actually be an example, and we can be able to change something, and what is needed, and how do we do this. The picture helps a lot. Actually we are learning some lessons. There is a picture I took of many sheep (see image 3.6). Now, I am sure those sheep, the time I took that picture is almost 400, but now they are about 15. So that is a loss of resources. So we are losing resources and we need to learn how to get an alternative income. How do we do it when our livestock is dead? What is the next step for us not to wait for the next drought to come and wipe us out. Because if we had sold those animals, then the animals would not have been taken by drought. So we have also an experience where we can say "what happened to these livestock?" They were left with nothing. And if we could now have an idea, we could do something.



Image 3.6. Herd of sheep and goats (courtesy Stephen Lenantoiye)

When pressed to elaborate on how his own thinking of conservancy issues was changed through the photovoice process, Stephen mentions how a co-worker's image and accompanying narrative of a KWS vehicle changed his perspective on what was an important area for consideration for all conservancy staff. Additionally, another image, that of a trash pit taken by the West Gate Conservancy manager, Dan Letoiye, reminds Stephen that the role of the conservancy is to set an example to its local communities. Ultimately, it is the discussion of these many of ideas, from different human perspectives, that helps Stephen to learn about what are the top conservation concerns in his community.

In fact I can just say the picture of Monica, one. That was the vehicle. I really remember that one. Previously the conservancy had a car, and now we don't. And what makes us to fail and lose that car? So it is something that makes us to think where did we go wrong to lose this car? And not only the car. Everything. How do we ascend? Because we want this project to go up, and not to go down. So there are so many things that we need to focus on. Not only that car. We have a problem, because once we are reporting something bad in another corner, we can't go like that without a vehicle. Specifically with security issues. So that was a lesson we have to learn through that experience. I didn't think about that before. And then the other one was the one that Daniel took of a trash pit. In fact, what is required, is that if you want to have something clean, you should have to lead an example. So that when you are addressing that thing, where you are coming from, you have to start cleaning from where you are. Then you disseminate to everyone. Everything. We are not just talking about litter. We are talking about the environment. So we need to maintain the environment that is surrounding us. Then we grow out.

Opinions? Yes. They will be different. Actually, that is just my thinking. But I am sure that people of different places will have different opinions. Like just the example of Kalama conservancy. In Kalama, they are doing things differently. The way we are assisting the communities is not the same. But I don't even know if in Kalama they are doing better than West Gate. I don't know how they are approaching the community. They don't know how West Gate is approaching the community. We don't know if they are holding public barazzas [meetings] within the community. We don't know if they are doing that. So actually what I expect there is different ideas. When I see those pictures, probably I get something I don't know. I will learn something from them. We learn through others. When you listen to others who have different ideas, I will come out with another point I didn't know before.

I think in order to change some things, like what we are targeting, our vision, we are seeing things are not proper in this area. We are not doing them properly. Having this experience is just giving me more effort, more experience, to get more experience to change these people that I am working with. To get them to see what I see. So that is intelligence, part of it. And I will learn how to approach this community so they will promote these things. Although we cannot achieve 100%, we are trying to achieve 50% and above. And with my colleagues, in fact when we put our heads together to look at these pictures, in fact we come with unique, we come with different ideas. Finally, we will come with one. We bring them all to one idea, we can see the one which is very important which will benefit us. We can bring a picture which is very important to us. And then once I come with my picture I can see the other one is even a more important issue than mine. And that is the route we have to follow. And then maybe I can add something that even he doesn't know through that photo. And probably it was something I didn't even have in mind. But once I saw, it makes me to remember something and to see a way. Always we need to see it to go after that target.

To have these photographs so people can produce and say what do I need to explain about this, it is difficult for others to come and to teach. So that will motivate people. So once they come with that, then a person can come to think about something like this. You can see this person is trying to explain about the environment or whatever, so now I can say it works.

For Stephen, getting the local communities to “see what he sees” is the most valuable way to get them to fully understand the important conservation concerns of the day.

Displaying and discussion of photographs and stories fits well with the Samburu oral tradition, and its tendencies towards gerontocratic decision-making. Stephen welcomes the approach as it reveals different opinions from different regions.

Performing at the top of his class through to an 8th grade level, Stephen has had a great many teachers in his life, though when pressed to discuss some of his favorite teachers, he never references any of his formal schoolteachers. Instead, Stephen praises the lessons he learned from some of the elders of his community.

I have had several good teachers, but I can only mention one. He is a really old man who is not alive now. He was a very old man, more than 100 years. In fact I gained how the Samburu were living since that time. First, they walked without clothes. They were just walking like livestock. They don't have clothes until they come and wear the skin of a cow or a sheep. They just make a simple one, they just join some skins so that they use one as a cloth. So once you

go after the animals, even the women, even the morans [warriors], they just go without. When they come for a dance, they just walk to the center of the boma [village enclosure] and no one has any intention to look anywhere. Everybody is just bare. They have nothing. During those days, they were very strong.

What I have learned from that old man, those people are just like vehicles. A person can go one hour from here to Archers, not even Archers, Isiolo. He can start running from here to Isiolo without stopping. And they are very strong! In fact, they eat a lot of meat. One person can even finish a cow. Those are just people but they were very strong. And they don't become sick. And once a drought like this one, during that time there was no maize flour, there was no any other food. They were just relying on milk, meat, blood, and wild fruits. Once the livestock becomes thin like now, not only livestock die, even human beings. When the livestock, when there is no milk for them to drink, they drink blood. When they become thin and there is no blood, they start to eat the cattle. When the cattle die, they just eat the skins. And finally one person, one by one they start dying. So in the end you will find in one family there is one person left. The others are finished. So people are just like animals now. In fact that is the story I got from that elder. So people are actually very strong. But they are just like animals. They are not like a real human being. Until, when the young generation, like the generation of the morans, when they got their clothes, they just got something small to go around here in the front. So once they go and sing, the other part [behind] is empty.

Yeah, the mzee [old man] was just around. With many young people around him there. He was very popular. And he could predict things. Actually he told me, during those times, he was telling me that when he hears a bird, like a woodpecker, they know what that woodpecker is saying. Us, we don't speak that language the birds are speaking. And also several things, in fact those people have been given by God the experience, they have been given the ability of seeing things. Actually they can see the color of a human being. When three people are together, you are being told you have that color, the other has this color, and you have that color. And that color, somebody must have the bad color. You will never have any property and then you will die. And those are not loibons [shamans]. The other thing, what I hear from that elder is that once the hyenas are walking and crying, they actually are calling that someone will die, you will die. And once they hear that, then that person will die. And actually it happens. But they are not loibons. They don't have any magical powers. They are just elders. But God gave them that ability to predict things. So he also told me about the origins of the Samburu. Previously, the Samburus were very few, living with goats. The others were living in Maralal with cattle. So he was given an example of the population increasing of the Samburu. Those were very few people previously. And the land was wildlife only.

These cultural-historical stories told by the old man have had a profound effect on

Stephen's perspective of the Samburu community. The stories seem to have instilled in

him a sense of Samburu pride, acknowledging that the Samburu are a tribe of strong, committed and persevering individuals who have a very real, spiritual connection to animals. In fact, there appears to be very little difference between the “old” Samburu and the animals they tend. When asked to expand on the reasons why this old storyteller was one of his favorite teachers, Stephen mentions that life experience and respect were the major factors.

In fact he had more experience. You know my father died when I was very young. So I didn't get more from him. And since I was growing up, I was living with that old mwalimu [teacher]. And he was trying to narrate to me what was happening with the Samburu. Originally, the Samburu. Trying to tell me about what they were doing previously, how they were living. How the culture is being changed. Which are the stages of the culture that comes from here to here and being changed. And in fact we are discussing what we have. We are having beads. We are having clothes. We are having things which are not in the previous generation. In fact, we are targeting that. A lot, a lot has changed. The culture has changed. We have to get the story from those old people.

Getting the story from the “old people” is not the only way for the Samburu to continue to move forward in conservation. It is also through a deliberate immersion in the Samburu way of governance that will work. First, Stephen suggests using the West Gate conservancy as the driver for conservation, but allowing the direction to be identified by the community elders. Second, the lessons taught to the community about wildlife conservation should be driven by championing the economic benefits derived from a more protectionist approach. Finally, a conservation ethic should be driven home by cultivating a sense of empathy towards wildlife. This empathetic perspective can easily be fostered by the sharing of human-environment stories handed down through the Samburu generations. Stephen elaborates on these points as he discusses how he would personally teach the community about conservation.

Yes, first, I will teach you about security. I think when we talk about security we are talking about everything. Even the environment needs security. Even the land needs security. So I think God created everything, and gave man to manage. So if we give poor management, then the fruits we are getting through the land are poor. The best way to teach is to teach about wildlife. To teach them that they have a benefit to us. So we need to maintain the species that we have now, and to reintroduce the species that were previously here. Like the rhino. Because a long time ago, the rhinos are available everywhere. But not anymore. But we can have it again if we want.

Previously, we didn't have any appreciation of conservation. Not previously. Now this is the time we are trying to see the fruits of what we have seen in the Mara. And now, we have got a motivation to change all people. We are now the key drivers of the conservancy. And now I think the majority of the community are starting to see the benefit. So now we are realizing that some time, the morans, that young generation now, they have to go and kill all of the elephants so that they don't disturb when they go watering, when they go grazing. In fact, I was one of the, there was a day whereby the two elephants were killed by the other morans. That was when I was a moran. Then we called a meeting and we asked him why did you kill this elephant? And what will happen to us if the KWS were to come here? We don't know. We are worried that we will be taken against the laws of the KWS. So then we will suffer. So we told them don't kill any elephant unless you have a reason. So once we kill because of a reason, then we report those people where they are. Then they will see there is a conflict. But when they are moving far, just scare them. But don't kill.

Let us have in our mind that this is our land, this is our wildlife. But let us not have in our mind that it is for KWS, this wildlife is ours. We need to learn how these wildlife are living with livestock. We need to make sure that every person sees these wildlife as belonging to us. Today, so me I am getting salary. You are the student and you will be the manager tomorrow. Probably you will be the security manager, you will be the ranger. So the benefit I am getting now, it is you next time. Then somebody next to you.

So we just, even the wildlife which are here with us, they are killing people, they are killing domestic animals, but the only thing that they could benefit is that if a human being is killed by a wild animal. Even me I lost three cattle which were killed by elephants. But there was nothing for me to do. So the only thing we can do is to revenge, follow the track of that animal, and make sure that we have killed it. But we didn't succeed. We followed the track the whole day, but the elephant disappeared. I tried to follow the tracks but it disappeared. Then I just came back and you know I couldn't even touch that cattle which has been killed. You don't touch. Just to watch, but you don't touch. That is according to our norms. You can't touch it. And only those killed by an elephant.

You know the Samburus believe that if you are being killed by an elephant, you have been cursed. So, even if the elephant throws you, and you are nearly to be killed. Maybe the elephant that tried to kill you survived. Maybe that elephant threw you somewhere far and you didn't die. You can't be allowed to go to your village until you wash. The goat will be slaughtered there. They will mix the

blood with the fat. Then you will be smeared all over your body. Then you will be allowed to go inside of the manyatta. If you don't, you will sleep outside, then tomorrow in the early morning they will wash you. Actually that is what we believe. No one will want to speak to you, because maybe you have something bad. So when I go to you, maybe I will tell you that you have a bad omen. There are a lot of stories. In fact, elephants are just, you know we believe also that elephants, in our ceremonies, like weddings, we have to go and find the elephant dung. You can't marry without the elephant dung. The young one, not the big one, the old one. You need to find the young one. So you have to carry it and that is the way you can use the other sticks to make the fire. So without that, you cannot marry.

And not all of the stories of elephants are bad. Actually, we don't eat. You know, if a real Samburu is found killing the elephant, you know when the elephant is dead, removing the tusks, you will be discriminated. You will not be part of the community. Even if it is your brother. You can't share anything with him again. Anything, anything, anything! You will be discriminated. He will be doing his things separate. No one even wants his properties, his livestock, even if he does ceremonies, no one will even live with him. He will live alone. No one will allow him, maybe the elder or his children, to marry with other people. So they are an outcast. That one will totally cause trouble. But no one even wants his property, his livestock, anything! Anything!

There are some people who are invading from other areas. Encroachment. I think, how do we term, encroached. Because the real Samburu used to have that belief, but because of some people, in fact they come and spoil the culture. So they are just coming from one place to another, and that is making our culture deteriorate. But the real Samburu, he won't do that....up to death.

Stephen concludes his story with an encouraging nod to how Samburu cultural stories have been used to regulate conservation behavior. While he began this narrative suggesting that many Samburu do not necessarily have the notion that they own the wildlife of this place, Stephen illustrates how the old stories (e.g. bad omens associated with killing elephants) can help control human-wildlife conflict. This elephant story, replete with “bad omens” and curses, suggests that this storytelling approach (from the “real” Samburu) can actually deter Samburus from killing elephants, effectively and peacefully regulating the interaction between them.

Stephen: Major themes

Exposure and discussion

From the very beginning of Stephen's story, the reader is taken on his personal journey of how exposure to a different culture in a different landscape, the Maasai people living near Maasai Mara National Reserve, led him towards a profession in conservation. Stephen, effectively the 2nd in command at West Gate Community Wildlife Conservancy, freely admits that he knew nothing about conservation before this experience. During this time, he noticed the Maasai lands were much more populated with wildlife than his own, and he realized the necessity for the Samburu to engage in conservation efforts much like their Maasai cousins. In Stephen's relation of the experience, there is still a sense of wonder about how the Maasai came to promote conservation. "In fact, it was something like a dream. I didn't even know before that we could benefit through wildlife." Understanding the dream as a very real possibility came through discussion with the Maasai conservationists.

Stephen broke through his "dream" by asking those in Maasai Mara how they came to support conservation. Due to the ability to speak in a common language (the Maasai and Samburu both speak a derivative of the Maa language), Stephen was able to hear from the Maasai how their people acquired financial compensation from wildlife tourism to their region. The story was such a surprise to Stephen, and he admitted that during that time he believed the wildlife in Samburu was exclusively owned by the Kenya Wildlife Service (KWS). When Stephen returned to Samburu to tell the Maasai conservation story, the elders responded by wanting to see for themselves. A subsequent trip to Maasai Mara with the Samburu elders eventually led to the decision to create their own community wildlife conservancy in N'gutuk N'giron. This story cannot

overestimate the value of direct exposure and discussion in the Samburu system of learning and governance. Rarely is a decision made by one individual in Samburu. The culture is governed by group decision-making, and relies on the relation of the stories and realities of distant regions relayed by council elders. By understanding Stephen's story, it is doubtful conservation practice, at least in the form it has taken with the creation of the conservancy, would have been so readily supported had not the Samburu elders seen for themselves what was possible in Maasai Mara.

Rarely did this type of learning experience present itself to Stephen in his formal education. When asked what he learned in school, Stephen quickly responded "in fact nothing. When we were in school, we were being taught other subjects, but no one knows. The only thing that we know when we are in school is just that there are national parks, national reserves...nothing even...just that these are run by the government." In this type of environment, there is no way for a student to understand the possibility of community-based management on his or her own land. Stephen's story quickly moves on from formal education from this point, suggesting that he does not hold much respect for the way subjects are taught in school. However, he does offer a somewhat contradictory story when stating that one of the primary goals of West Gate Community Conservancy is to promote the sending of Samburu children off to school. Stephen is careful to add that in the schools of N'gutuk N'giron, teachers should focus on teaching about wildlife, and that this knowledge can be acquired through conservancy-sponsored "exposure tours." Ultimately, Stephen regards this exposure as instilling in the Samburu a sense of prideful ownership of the local wildlife.

Let us have in our mind that this is our land, this is our wildlife. But let us not have in our mind that it is for KWS, this wildlife is ours. We need to learn how

these wildlife are living with livestock. We need to make sure that every person sees these wildlife as belonging to us. Today, so me I am getting salary. You are the student and you will be the manager tomorrow. Probably you will be the security manager, you will be the ranger. So the benefit I am getting now, it is you next time. Then somebody next to you.

As discussed earlier, it is not only direct experience and exposure that facilitates learning, but also thoughtful discussion on the value of these experiences. While it is true that Stephen has learned about various aspects of conservation by visiting other conservation areas, he also admits having learned a great deal about the future conservation practice of his own employer, West Gate Community Conservancy, through discussion in the photovoice sessions. Of particular interest is what he had learned from a female scout in his ranks when she showed him a photograph of a land rover. When the photograph was originally shared by the female scout, Stephen remarked that it was unimportant and had nothing to do with the discussion on conservation needs. After being encouraged to keep quiet and allow the scout's story to be told, Stephen eventually acknowledged the merit of the discussion. The land rover discussion illustrated the need for garnering a more substantial community support for conservancy agenda, as abuse of conservancy funds by the community led to the selling of the only community vehicle in the region. "So that was a lesson we have to learn though that experience," Stephen acknowledges. "I didn't think of that before."

By reading Stephen's story, we learn that perhaps the most important reason for supporting exposure and discussion as a means for learning about conservation in Samburu is its ability to lead to positive community action. "Having this experience is just giving me more effort, more experience, to get more experience to change these people that I am working with. **To get them to see what I see.** So that is intelligence,

part of it. And I will learn how to approach this community so they will promote these things.” Stephen’s comments remind us of how he has learned about the value of conservation through direct experience, and that this experience helped to influence his elders to make a decision to support conservation in their area. They remind us of how he has changed his outlook for what are the current conservation needs in Samburu, and how exposure and discussion will eventually lead the Samburu to support the future conservation work of the conservancy.

Elders as teachers

A significant portion of Stephen’s story is nothing short of a celebration of the stories of Samburu elders. While he only relates the stories handed to him by his uncle, he references the value these older generations have in the perpetuation of Samburu culture. As he retells the story of how the Samburu, not far removed from the animals they cared for, roamed the landscape for great distances and without clothes (“and they are very strong!”), Stephen paints the picture that the Samburu people will always persevere. Perhaps more important than the telling of the old ways, these stories from his elder helped Stephen understand how the culture is being changed. For Stephen, this change is not necessarily a positive one and he identifies the need to “...get the story from these old people.”

Through the stories of these “old people,” Stephen hopes that the Samburu can reach a traditional conservation ethic he believes to be degraded. Consider the number of stories given regarding the role of the elephant in Samburu society. Stephen goes into great detail about a story of how a variety of curses and bad omens can be bestowed upon an individual if they were to harm or kill an elephant. These stories have the potential to

act as a strong social norm for conservation practice, and can be most effectively taught by Samburu elders. Since curses and omens meted out by elders play an important role in governing Samburu behaviors (Spencer, 1965), the application of them in elder stories can play an important role as a mediator in the conservation of the African elephant. Stephen's story suggests that there may be other traditional stories that can be used in formal education settings to teach about other conservation elements. For Stephen, the time is now to employ elders in focused storytelling as a means for teaching others to act in a conservation mindset.

Joseph: Global impression

It is not common for Samburu secondary school graduates to progress further in tertiary education. This is due not to any inadequacies in the Samburu graduate, rather it is a lack of finances that prevents them from pursuing university, college or technical school instruction. Joseph Letole, however, is a Samburu anomaly in that he has not only acquired advanced degrees and certificates, but he is also employed in the conservation field in his home area. Joseph serves as the field coordinator for the Grevy's Zebra Trust, a U.S.-funded organization charged with conserving the Grevy's Zebra, an endangered species found only in the northern region of Kenya and southern Ethiopia. Joseph's experiences and employment with this organization have no doubt helped shape a favorable attitude towards formal education. However, Joseph remains critical of the formal education process, and argues that, in terms of pushing conservation ideals, there is plenty that can be learned through engagement and mimicking of the Samburu culture.

Joseph is a young man dedicated to the preservation of Samburu culture. This dedication can be seen throughout his story, as he discusses the need for traditional stories of animals to be

taught in schools; as he mentions the crucial role elders play in providing an environment conducive for conservation education; and as he speaks endearingly of the tough love approaches of one of his favorite teachers, his own grandmother. For Joseph, himself a successful product of the of the formal education system, there is still no better teacher than what can be learned just beyond your door, fully engaged with the Samburu landscape. As Joseph relates his Samburu story, he echoes a similar call as the other project participants. Specifically he calls for a new education approach that is deliberately focused on the Samburu landscape, one that encourages tactile experiences in an attempt to understand this landscape, and finally one that nurtures group discussion of what can be learned from these experiences.

Joseph freely shares with us the joy he felt as a young boy herding goats, easily observing his local landscape for small changes that may determine the following of new routes for grazing. While telling his story, Joseph is open about the need for Samburu students to learn what they can “outside of school.” He is proud of what he learned in his village, and he is adamant about including elements of the Samburu lifestyle in the formal education system. He encourages the use of animal stories in the classroom, admitting that the bad omens and curses that are connected to the harming of certain animal species, particularly Grevy’s Zebra and the African Elephant, can help to develop in students the sense of respect for these animals that is necessary for their survival. As Joseph sees the Samburu as “degrading,” these cultural stories become more than the establishment of social norms to govern behavior; they may ultimately become the saviors of cultural deterioration. While reading Joseph’s story, you cannot believe that the death of Samburu culture is not something he will stand by and watch happen. Joseph begins his story by admitting that education, though while enjoying better support

than in past years, is still not something that is fully appreciated by the rural Samburu communities.

Joseph's story: You don't even know what is beyond your door

The problem there, maybe in terms of education, most to the community now, like in N'gutuk N'giron group ranch, they have not taken the kids to school. There are very few. So those ones who know the importance of taking the kids to school, now it is creating that opportunity to take more. We go for more and more. But others are still just saying no let us keep them out. And some others will say "ah, this one he went to school and they are just wakoras [unemployed], they are just jobless. Then what is the point of going to school if this is the kind of people we can get? Then why should you tell me to go to school? You are saying that this one has gone to school to learn what, and he is just doing nothing. He is even more confused than someone who has not even gone to nursery school. He is very disorganized." Now those are the sort of questions you will get.

Maybe what I can say is that it is good for them to take those kids to school, but if you look at West Gate now, at least those children under 6-7, at least most of them are in primary schools now. Most of them. But then those over 10, there are very few. Then if you get to us that are in their 20s, maybe you can find only one (laughing). And above us, you find just nothing. So I think now those in our family, I told you I was the only one to go to school there. So I was able to tell them it is good that you sent me. And now they see at least it is good, because if you do this you can get a job. Then I will tell them that it is not a must that you go to school and get employed. But it is good that you can go to school and you can at least do something for yourself. You can think in the right direction. And at least you involve yourself into all of those things.

Joseph also admits that his educational experience, funded by the West Gate Community Wildlife Conservancy and complimentary to his traditional, pastoral way of living, was instrumental in developing his own personal support for conservation in Samburu.

Then after that, it was in 2002, but my parents were in West Gate, I was born here. They were pastoralists. So I came back to West Gate after class 8 education. I was then admitted to Maralal High School, then from that time I just went to school. I was really interested in learning. But what I was really interested in, when not in school, I was really interested in helping my parents go and look after the cows. I can even remember taking them to Sera, even as far as Sarara – just taking care of the cattle. I also went to the group ranch, it is just something that was in place, and in high school we were getting some funds, for bursaries. Then after high school I also went to college. The group ranch also did pay me some money. So I was really supporting the conservancy. That's why, in fact it was just something that really helped me, it is now our cash. You know

for us, our ATM is just livestock. So in terms of droughts like this, sometimes we will not be able to go to school, and the conservancies and the group ranches can just help. So my issue of conservation really started here. And since it was started by those old men and women who are not going to school, then I saw it myself that at least for those of us who have gone to school, it is good that we really keep up that idea. That conservation should not really deteriorate, or go down. So it is good that we try to maintain that. Because when they started, it was something that was very new. Also the fact that all of them were illiterate, they were just in the bush. Maybe that also offered them a great opportunity to interact with wildlife. And it is really something that I am interested in. So I just want to do more to conserve all of it.

Yeah, I actually supported conservation because of the benefits. And also the beauty. We used to be very small boys, and there used to be a lot of wildlife – especially near the village. That is near where we used to go hunting. There used to be a lot of animals. So now, because I am still young, I hope to be able to do great things about conservation. I really have a lot of strength within me. I really feel that these things should be high. And once I see somebody who has something to do with conservation, at least I just feel like I can do something.

Joseph is adamant about having local schools teach about local landscapes. He is critical of his own past learning experiences, where he felt as though he was being taught useless things about areas nowhere near the Samburu homelands. While acknowledging the difficulty in including local environment lessons in the national curriculum, Joseph suggests that these lessons be taught first during extra-curricular activities.

Like if I was a headmaster of N’gutuk N’giron Primary, the first thing I would do is just to make sure that my kids actually know the surrounding wildlife; even the vegetation, the soils, the kind of environment we are living in. Because is not good for you to focus on what is only in Nairobi. Like, “oh in Nairobi we have these kinds of soils,” and all those stories. You don’t even know what

is beyond your door. This plant, what is this (see image 3.7)? How is this one happening? Like this now, if you move around Loijuk or those areas, you really find a lot of things there. When it comes to soil erosion, you find that the erosion has come there. But yet, you find yourself, you are just focusing, as a teacher you are only focused on....”ah you see you have to construct a terrace where there is a farm. You have vegetables, you have to do this” (laughing). But you are not focusing on what is going on right there. So this one now depends on the teachers. They only concentrate on a lot of theories. And you also need some of that theory to



Image 3.7. Unidentified plant growing out of a rock (courtesy Joseph Letole)

understand it. But as long as the teacher is somebody who has been made aware that you are to impart some skills to your pupils, then they can still do it in class.

At least, maybe first you have to have some P.E. 's. Some lessons after 4 p.m. So sometimes you can balance that, you can tell them that, "oh let us go and look around to see what is growing over there." In fact, there is a lot of that in primary schools, some time that you can really allocate for that. Because it is after the formal lessons.

Yes, actually, they would be interested because they know nothing of that now. Because for us now, when we were in primary school, just teaching to me in English or any other language, it is a problem. You don't know, because you are not being taught. You only know the local names but it is only when I went to high school when I started to get that interest that "oh, I really want to know this. What species is this? Ah, I can find it." At least, if you want to learn something then you can stay. And most, well, some pupils will stay. But first you have to create, to let the pupils see that this is something that is necessary. And maybe something else is that those pupils, some of them come from very far. Like now we have a school in N'gutuk N'giron, and some have to trek all of the way from Lengusaka. So after then, you can even as well give them some assignments. "Ok, so when you are going home, just try to name all of the species of trees on the way home and back to school. Try to identify the animal species and all of that." That is another way. You know, it was just general things which we learned in school. Whereby we were not focused on one species or area. Like that in Kenya, or those of the rainforest only. In this place we have these kind of species, blah, blah. But they don't focus a lot on the vegetation which is found around. Because most of the trees now around here, in fact I just knew them when I was out of school. Like the scientific names and all of those. Just through some research which was being done. But in school we just learn something different, "oh this is acacia reficiens, or acacia tortilis, and oh we have so many others which we still don't know." That is why you still see the



Image 3.8.
Restoration in the
West Gate buffer
zone (courtesy
Joseph Letole).

acacia reficiens (see image 3.8), we are just getting a lot of questions like why does this one now not encourage any undergrowth?

So we have not learned any of that in school. So it is like we just learned some things, me, I just learned a lot of general things. In fact, for me at least, I can say it just gave me a general teaching. When it comes to focusing on here and here, it is really something that I have to think for myself. Maybe on that, I can just say it is not really important. Some things are not what they are teaching in schools.

In school, actually you read a lot of theories. A lot, a lot, a lot, a lot, a lot. You just read and read and read but when you come out, you just find that it is something totally different. So it is like you have gone for a rest, and when you come out, you have to start again. Yeah, actually, like when I was in high school, we did a lot of things. There is a thing called...called what....you are given a lot of things, like 12 subjects. In Form 1 and Form 2. And after Form 2, you select

what you can do, and some of them you are imposed to do. Like something that you don't even know. Like those subjects that you really find very difficult to do. You can see that if I can actually do thisbut you are just forced to do it. Like one time we were doing some sort of chemistry, although I didn't do chemistry well. Like me I did biology, physics and chemistry. But also, just down there in Form 1 and 2, we had a lot of stuff. We had history. We had agriculture, at least agriculture is good. Because it is something that you can relate. And you find now in agriculture, we have those, I mean the livestock part and then the crops. That one is totally irrelevant. Although it is good to have some background, actually in a real sense, it can't help you because there are no crops here. We are only dealing with livestock here. You also find in chemistry, you are doing a lot of stuff, a lot of beakers and solving what here and there. But it just ended there. You can't apply it anywhere. You do not become a doctor. You go on to be somebody different than what you have been doing. So I think that I have just wasted my time on a lot of nothing. It is not like I have done something really good and I can see the result.

When asked to elaborate on what content should be taught in local Samburu schools, Joseph suggests that lessons should mimic those which are learned from the village. For example, learning about erosion and regeneration by observing and discussing the effects of livestock grazing on savannah ecosystems is a concept that can be easily understood by the Samburu pastoral communities. Ultimately, Joseph believes that the Samburu culture itself should dictate its teaching approaches.

Maybe I can just say one or two things. First off is that in all of Samburu District, all of the Samburus, they have a lot of culture. Like even right now, the wazees, the old guys, they usually have some places for grazing. Like in the rainy season, they just stick to that place, so that the grasses can grow. Then they go and graze in other places. So during the dry season they can come and graze, and then to go to another place. And now that is good because it makes them come around the homesteads. Then when the livestock shifts from maybe, once you start grazing in the same area, maybe then the wildlife moves again to some other places. So that is actually good because if you also compare to what we have been learning in schools, even in the reserve, like what is going on in national parks and reserves, you find it is at least similar. Because maybe the government, the county council, they say it is not really good to graze in the park, this is very bad, those things. So sometimes, when we were in high school, we were told that at least maybe, in Geography class for example, we were told that there is a difference between a national park and a national reserve. Like in a national park, you are not supposed to bring livestock into the park. In case you bring them, you will be fined or jailed. And too, it was something that was going

on in our minds because you see, we just knew that it is good to have somewhere you can protect, but then after some time, you can allow something.

I learned a lot just at the manyatta [village]. Actually I have seen. Nobody told me that. It is something that I grew up and knew. Like now, maybe for example, it is something that I can see. There is a lot of things to be learned there in school, but you have to pay attention to what you know from other places. Maybe there are those things you have to learn, but you can also learn for yourself. So that one now, maybe I can still add on that aspect, that of grazing and all of this. I have a lot to tell. Maybe I could answer a lot of questions in class. Just because I've been growing up in a place where people are saying, "oh let us do this, let us go to this place and graze."

It is not only the Samburu grazing movements that can provide the best learning experiences. Joseph also suggests the very mode of travel of most Samburu employ, namely their own feet, provides a very important forum for learning. In this case, the Samburu norm of conversing at great length about all issues under the heavens with every person you meet can offer much in terms of learning about the regional landscape.

It is like a game of experience. Like say if you decided to go from this Headquarters to Lengusaka, you can imagine the number of people you will meet along the way. So you get some information from one, then you meet another one along the way. By the time you are in Lengusaka, you have the whole thing. You know what is going on in Archers, in Wamba, in Isiolo, even in Nairobi. So you just find someone who can tell you, "eh, in Nairobi, things are just good. The people and the rains." He will just give you the general information. So it is not just the greetings. It is not just "Habari, mzuri." You cannot just end there. You have to piga [bring] stories. This mzee [elder] he will give you a lot of stories of the things going on. So you get to Lengusaka very late [laughing].

Joseph has had a number of great teachers in his past. When probed, he mentions two in particular. The first is from his formal schooling career and his story touches on the benefits of exposure to different landscapes and the ability to discuss with others the meaning of this exposure.

In high school we had a teacher, he was called Lekalitele. In fact he is still there in Maralal. He was really a very good teacher. There was a time he took us to Baringo and Bogoria, near Naivasha there, do you know Vaikaria? There are some volcanic landscapes there. So he was our geography teacher. So he was also telling us. That is when I also got some tips on education. He told us, "now when we get to Maralal at about 6, then we have to, like we needed to note any changes in vegetation from Maralal all the way to Nyahururu and past all of those other towns." Up to Baringo, up to North Horr, all of those stages.

So you find that when you got to Bogoria, you find that different vegetation and trees. Then at Nakuru totally different. So he gave us something that is really practical. You can see it. Instead of just sitting in a class, you are just told that in Nakuru there is just this and this. So we were really able to see a lot of things about what we were talking about in class. So when we came back, we were really interested in that. Ah, I got an A in geography. Just because of that, it just got into me. I knew about the vegetation and all of those things. You find that a lot of those teachers, you are told a lot of those practical things, but you are not shown. Its like you are just taught, if you do this and this and this, you will get this. If you go somewhere else, you see this and this. So that one, you just might be thinking that this place will look like that. But if you go there and see it for yourself, then you know.

Joseph expands on the value of exposure and discussion learned from these experiences and offers a positive evaluation of the photovoice project.

Yeah, it is like a lot of inquiring. It is a lot of “what do you think about this?” And actually for me, I am learning that it is something that is really coming out clearly. Like how you built on the first questions to the others. So they are like advancing them further. So if you look back at where you started, you can see it has some links to the others. I still remember the first question. It was “what do you want to teach me about the environment. Go and take a photo of it.” And before that even, you asked us to tell a story of ourselves. Me, I remember that. Me, I remember everything [laughing].

I have learned that there are some things that are coming out clearly. There are gaps that need to be filled. So it is really piecing things together, and it is really something that is...probing. You can actually think through the photo. You take the photo and then you, it really makes you to get involved with what you are seeing. You are just seeing it this way and you can just relate what you are seeing, and what is it actually.

Joseph comments that not only is discussion about issues you can “see” is important for identifying courses for action in conservation, it is also an important element in the mobilization of communities to act towards a specific goal.

What I have learned, you know Monica, she also came up with some very good photos. Many nice things. Even Stephen too, and Daniel. What I learned is that there was this photo about the Grevy’s. So it is like there is a lot of need. Like if you look at these guys like Stephen and Daniel and Monica, they have been dealing with these things for some time. Three years or four by being a part of this conservancy. And now there are some things that are coming out very clearly. There is something that is lacking. Some information is really lacking. The small issues are really the ones that need to be brought up. Like now when it comes to, like my focus is now on Grevy’s, because I am employed by the Grevy’s

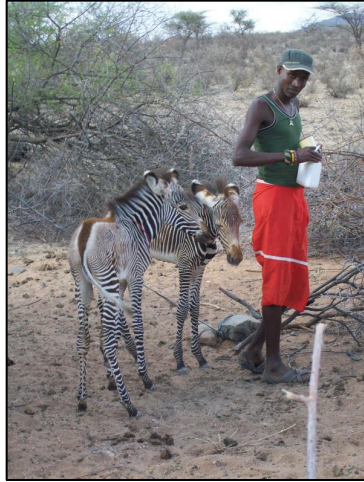


Image 3.9. Scout with orphaned zebras (courtesy Joseph Letole)

Zebra Trust, but in fact they were brought by Daniel. The Grevy's were brought here and thought to give camel milk [see image 3.9], then we gave UHT [long-life milk]. So all of that, you find it is really hard because now you are here to do these things and you are not really doing it well. You have never had time to ask how can I do this if there is this issue?

So it is like there is nobody to tell you how to do it. So these issues are really coming up. And other issues, I also learned that hyenas are really something that can be a beautiful animal [laughing]. Daniel he told us that the hyena he really consumes a lot of stuff. He eats everything. So once he eats all of those things, near the den of those animals you can actually find a lot of species of trees. So many things.

There can be a change. Because sometimes when you look at something, you know that is something you can see. It is not something that you only hear. Those are two different things. You can read a lot of books, but once you have a look on something, you can be convinced very quickly. It can make you to think a bit. So what I feel is that if you can get some people together to look at these pictures, at least they can change. Because once you see some pictures like this, then some of these are unique pictures. Because even a photo like this, or the other one of a bare place, or the other like the one of goats, of hyenas, they can look at these pictures and maybe some of them will force them to have some questions. "Oh, by doing that, you can have these in our place? Is this really something that is going on in our area?" So they will really have a lot of questions and they will develop some interest in at least one or two of them.

Discussing avenues for environmental rehabilitation is not the only important area of concern for Joseph. Additionally, he suggests the continuous sharing of cultural stories related to wildlife and other aspects of the natural world as vitally important for the conservation of the Samburu landscape. It is in the story, handed down through the generations, that Joseph believes will ultimately promote a conservation ethic.

So now maybe something about the culture. Maybe what I have learned from the stories. In fact, now I am also learning that culture really plays a big role in the conservation of wildlife. Like now the Samburus, you find that they really have a lot of beliefs and all of those practices with certain species of animals. Like now the Grevy's zebra, they say that if you kill it, you will be

doomed forever. You will not have a lot of wealth. You will be an mdorobo [“lesser” Samburus that live in the mountains]. So if you look at it, it is just like the elephants. If you go and sell the tusks, you will again have another problem with you, your family, all of those things. So we did not learn those ones in schools. We just learned through our own culture. It is not something that is not...I can say it is degrading. It is now going down, down, down, down. But maybe wildlife will also go as the culture goes. Maybe it will also disappear. So it is important now to tell the kids in primary schools, try to find what promotes the vitality of the Grevy’s zebra in this community. What makes a lot of elephants be around? Those cultural stories. What does the community say about the killing of an elephant? Those kinds of things. Those are very good things that we did not learn in school. People somewhere, now, maybe you guys, you just come, maybe somebody from America and you find a lot of elephants, a lot of Grevy’s, but in the real sense you can say, “yeah in Samburu there are a lot of wildlife.” But there is a specific reason why there are a lot of elephants or Grevy’s zebra. So it is very nice. So the kids should also be taught all of those things.

Yeah, stories. So that at least they develop some, like in a place like West Gate, it should be a place where people can come and learn about conservation, about environment. But you find that most of the guys, they don’t know about that. They only know there is this and this, but they can’t tell you anything about it. So maybe when awareness comes up, you can be able to feel proud like, yeah, this thing is ours. You can keep things up and up. I mean there is really a lot of wildlife when you compare West Gate and Mebai and Kalama and Namunyak, well Namunyak is very big so it might have a lot of wildlife, but West Gate, for me I can say it has a lot of wildlife. You can find elephants, Grevy’s, gerenuks, these other small ones.

In addition to the Maralal teacher who exposed Joseph to the volcanic landscapes of the Great Rift Valley and challenged him to identify what lessons learned could be applied to his home landscape, there is a story of another teacher that Joseph chose to share, perhaps more influential in terms of pushing the young man to value learning. This teacher was not someone Joseph encountered in school, and the lessons learned had very little to do with actual material. Rather, the story of Joseph’s second teacher is that of the quintessential African Grandmother who teaches the value of determination and the motivated spirit.

Yeah, my favorite mwalimu [teacher] was, in fact I had so many good teachers. So many of them. But maybe what I can say, my best teacher, someone who taught me a lot was my Grandmum. My Grandmother. She is someone who

was very instrumental. I told you I grew up in Maralal. And I even stayed with them when I was in school. That is why, I could even be in high school right now. In fact, you can even find some guys who we used to be in nursery school together. And most of them have just dropped. So it is something that was very instrumental. She kept me there. She is still alive. Then there are those things she really used to tell me. A lot of things. Like, there was a time, it was in 1999, there was a very bad drought, like now, and the people now dispersed all over. And for them, they had very few livestock. And they also had somebody who was able to take care of them. So I was just at home. Then they decided to migrate to Laikipia. I don't know whether you have been to Laikipia?

So we also had one guy, she also had, well, my grandfather also had 2 wives. We were also 2 girls and one boy, and then me we were 4. So when we moved to Laikipia, they just took all of us. And we went, and it was like "oh, I can just postpone my school until the next year." For them, they were saying that. But for me, I did not figure on that. It is just like, ah, I have to be in school. So my parents were in Wamba, and me I am there just doing nothing, now what can I do? So I was really confused. Also, she told me that we just have to stay here, because if you go down there, you can really have a lot of problems. You can't get somewhere to sleep and to stay while you are schooling. Then I just told her, "but I really want to be in school. I have to be in school." And you find now, I really had a lot of stories, then ok, she has finally understood that. Then she actually told me that she will not give up. That I should always strive. But if I have actually decided that I am going to be in school, for bad or good, then I really have to suffer. At least to suffer and to pay the price of that. And I thought....ok. So now, we just stayed for one week, and then she just communicated with other guys that oh....you know the first-born was a policeman. So he was just saying, "why do you have to take this purpose to be with the other kids. Why don't you just stay at home?" I told him I just want to go. So then I was just taken to Maralal. Then we went up to that small place there. So it was like, oh, and where am I going to stay? I don't know anybody there. It was really a lot of problems. But since I decided I just needed to be in school, I just decided to go there to find a place to stay and everything. So she really advised me, gave me a lot of morale. Then, she just went to her friend's home and she talked, talked, talked. Then she agreed to let me stay there. Then I stayed there for like 3 days, just to familiarize myself with the people. So maybe they liked me, because I was very good in school. So she really helped me. So that is why I found her as somebody who has really taught me a lot. Then from that, things just went on straight. From then I knew that I just have to confront this and this and this.

In this story, Joseph echoes a similar sentiment of many Samburu young adults. The elders of the community, with all of their life experiences behind them, coupled with the traditional stories passed down to them by their own elders, are some of the most

respected teachers in the community. It would suggest that future educators would serve their Samburu student communities well by mimicking the approaches of these elders.

Joseph continues to expand on this mimicry of culture as effective teaching by suggesting that things could only move forward once the elders were engaged in driving the process.

Ok, what I would just really tell you is that first of all, if you really want to work in any of these communities on those issues of conservation, because at least most of them they have some sense of conservation, some clues, some small, small clues only. In case you ask a scout, now what do you know about this, he only has something small to tell you. So first of all, like now what you are doing right now is a step. Because right now it has already, it is good for the community first to get their trust so that they can accept you. Just the way you are. They can say, "eh, this guy, he is a good guy. Somebody we can trust. So that one is very good."

Joseph explains that my own approach to facilitating the Photovoice project, allowing for the flexibility to assist the local communities in any work that needed to be done (often unrelated to the research effort), was effective in putting me in the public eye. Joseph suggests this approach can only make things easier when conducting future research efforts and projects.

Like now, maybe having this vehicle. You know that thing has really gone all over this place. So when they see your vehicle in Naisunyai, because we have some guys from Naisunyai who are working on this project here. Even guys from West Gate. So it is just familiar now. "Hey, this guy was helping us in Nchorai when we were clearing the acacia." So that one is already a step. Now I can say that you are now a part of this community. So the way to approach it, I can say you have to approach in a way that is more open, more cultural, more Samburu.

Like these guys, the illiterate ones, they will feel accepted if you really come in a way that is common to them. Like you should not just come with something that is very new that can only be understood by somebody like me and you. Because now the way I behave is not like the way he behaves. When I come with my style, it is like they will take it as.... "ah this jama, yuko juu" [this guy is above us]. Yeah, but not even that, it is like they will now have some fear towards you. So if they find something that is easy for them to relate to, then they will have an opportunity to come up and support you.

If it were like, say you are a conservationist, and then you want to teach people about, let's say the species of plants. Then you can just get the wazees [elders] (see image 3.10). Then you can just tell them that you want to do this and this. Will you do this with me? After that, you will now have the drivers. Like let them be the thing now. They can lead it now. And you yourself, you can just guide them, direct them, but the decision is now coming from them. Then it can be perfect. If it is more of them. For any project, you have to make it more of, like they need to find a lot of solidarity so that they accept it, and then they just own it. Starting with the scouts and the community. Really they are just the same since the scouts come from the community. And they are all at the same level of education. The only difference is that the other one is putting on the uniform. But they are just the same people. Even when they go on patrol, they are just meeting with their friends there. So there they can talk. They can disseminate this kind of information to the community.

Yeah, you start with the old guys, and all of those things. But you can also start with the scouts. First of all, make sure they know what you are doing. So when you go to them, they can also relate this and this. Like maybe you will get some wazees [elders] from Naisunyai, and it is not a must that you always go with the scouts,



Image 3.10. Meeting of Samburu elders (courtesy Joseph Letole)

because you will just find that all of these other guys, the wazungus [white people], they just get one scout, and then they can say “oh look at this one guy, and he is being paid”....Because there are still those kinds of issues. So just go with a scout, and get an elder and you can go around and do your thing. Slowly by slowly, your thing can turn into our program.

Let us say in West Gate, we have all of those small schools. In the whole of West Gate, we have West Gate Primary, which is the biggest. Then we have N'gutuk N'giron which goes to class 6 [sixth grade]. Where I come from, in Remot, there is a small hill there, and there is a small school there which goes to class 2 [second grade]. We have a very good teacher there. There is also a nursery school in Naisunyai. There is also one near Lengusaka. So you can maybe, those are also entry points for education. You see these schools only go up to class 2 so the community is very interested in what is going on there. And those guys are really trusting. So you see working with the community the main thing is trust. Once you have their trust, everything will just be perfect. So once you get them, then you can also organize with them. They organize the elders. You know, these are like villages, so they know everybody. They can even get the kids from there. If they come at the request of the wazees, they will come very interested in what you have to say. Especially if you come with a message of education or conservation. Because now, for those ones in Naisunyai and Remot,

those ones are not spoiled yet by the projects [laughing], so they will really be interested in what you have to say. They are not used to a lot of projects and many guys coming to do this and this. For those ones, they are not corrupted. They are not just focused on money or what they can get personally from you.

Maybe the chiefs. The board guys. All of them are stakeholders. Even the councilors. Teachers. Scouts. Everybody. Because this is really concerning us. It is about us. So all of us are stakeholders. It doesn't matter if you are a chief or a board member. It is our land so we need to come together and see what is going on here, what is lacking.

Joseph closes his story with a call for more community-centered approaches to conservation and education. He celebrates my approach to community involvement as the proper, “Samburu” way to initiate projects. For Joseph, there is no doubt as to the power the elder leaders have in the Samburu community to help initiate a conservation effort in the region, and he recommends connecting with these elders as the first step.

Joseph: Key themes

Place-based instruction

Joseph begins his story openly discussing the problems with the formal education system. While being a product of the system, Joseph is still critical of the choice of subjects taught in school. He questions the need for Samburu students to learn about topics and regions not relevant to their life, such as farming techniques and plants of the rainforest, while receiving no instruction regarding the soils, plants and wildlife of the local landscape. Joseph struggles with students' ability to name the plants of distant places, but yet they **“do not know what is beyond your door.”** He speaks of the frustrations encountered when practicing experiments in chemistry class, “but it just ended there. You can't apply it anywhere. You do not become a doctor. You go on to be somebody different than what you have been doing.” In Joseph's experience, there was no connection between school material and its application to life.

Instead, Joseph explains in his story that while he did excel in school, He admits learning much about local plants and soils from life in the *manyatta* [village]. He speaks comfortably about his experience with dogs, running with livestock and noticing changes in the landscape. “There is a lot of things to be learned there in school,” Joseph comments, “but you have to pay attention to what you know from other places.” These “other places” include what is beyond your door. In an adult learning context, Joseph can be understood to suggest place-based instruction that encourages Samburus to draw on that knowledge they already possess about the local landscape due to their intimate experience with it. The Samburu are traditionally a semi-nomadic group of livestock herders, and being able to monitor and detect subtle changes in the landscape would serve them well in their search for pasture. Joseph’s call for more locally focused instruction is also a call for Samburu learners to bring their current knowledge of the place to the learning process.

Acknowledging the difficulty in changing a national curriculum to include more of a focus on local vegetation, Joseph suggests out-of-class assignments that students could engage in while traveling to and from school. In adult settings, this same approach could be mimicked since Samburus often travel great distances on foot, crossing multiple landscapes and possible variations in the ecosystem. By implementing these types of place-based, observation-oriented activities could serve the dual purpose of gaining interest of the learners as well as adequately monitoring changes in the local landscape.

Exposure and discussion

Joseph comments that the type of focused movement described above, encouraging learners to monitor and document the changes in landscape during their

everyday travels, mimics the Samburu way of disseminating information. Consider his story of a hypothetical walk from the West Gate headquarters to Lengusaka, a village a full days walk away. Joseph explains how you would be required to stop at each small village along the way, sharing with elders what the story of the day is. These meetings are not just conversations about how life is in general, they are opportunities for knowledge to be shared about various environmental and social dimensions of the Samburu landscape. In Joseph's story, he champions this Samburu style of learning, open discussion about the various landscapes one has been exposed to through their travels, as a very effective way of "getting the story" of the place. This theme of exposure and discussion comes up again in Joseph's story when commenting on some of his favorite teachers.

While schooling in Maralal, Joseph was impressed and motivated by his geography teacher. When describing the positive teaching qualities this teacher possessed, Joseph explains how the teaching style mimics that of the traditional Samburu style of information sharing. Through exposure to different landscapes and guided discussion of what can be learned from this exposure, Joseph found his geography class to be one of his most enjoyable. He speaks fondly of his field trips to Naivasha, many kilometers away from Maralal and representing a different ecosystem, and makes it a point to discuss how the effective teacher challenged his students to document all of the changes in the landscape that were noticed on their bus travel from Maralal. Joseph complains about not being able to see what teachers are talking about in other classes, preferring instead to have the "practical" experience, seeing it with his own eyes. Joseph suggests that this type of deliberate exposure to new landscapes and new ideas, followed

by open discussion about what can be learned from these experiences, is one of the most effective ways for Samburus to learn. When asked to apply this approach to evaluating the photovoice project, Joseph acknowledges the most useful part of the project was its ability to encourage him to identify different areas of concern for conservation, and ultimately who can be responsible for addressing these concerns.

Joseph was one photovoice participant who went beyond what was expected of him. He downloaded all of his photographs on his work laptop, always carried his camera wherever he went, and often encouraged other photographer participants to shoot images that could possibly fit the guided questions I gave the group. The subsequent discussion sessions that followed each of the photographing events were quite informative for Joseph. “I have learned that there are some things that are coming out clearly,” Joseph explains. “There are gaps that need to be filled.” Because Joseph is supportive of those teaching and learning experiences which encourage open discussion, it was no big jump for him to identify the usefulness of the photovoice discussions in identifying what conservation issues were of concern to his community. Specifically, Joseph share the story of the Grevy’s Zebra orphans and the *Acacia reficiens* revegetation efforts.

Joseph shares his concerns for the direction and ultimate mission of West Gate Conservancy. When the conservancy manager brought two Grevy’s Zebras to the headquarters so that the scouts could care for them, it became obvious that they were in over their heads. No one on the conservancy staff had any training in how to handle these animals, and eventually both of them died. Joseph shares his story and photograph of the zebras as a way to encourage dialogue on what role the conservancy must take in

future animal welfare efforts. For Joseph, sharing this story is an attempt to initiate change in his community, soliciting support from them in order to properly identify the way forward. This approach came to fruition in another example, that of the *Acacia reficiens* removal and revegetation effort in N'gutuk N'giron. Joseph shares his story and photograph of the denuded landscape that follows the establishment of *Acacia reficiens*. He freely admits not knowing the reasons why no grass can grow where this tree becomes established. His sharing of the story was used as an encouragement to the leaders of the local community to work towards this understanding while also clearing a designated area of the tree and planting grasses. The event was successful in that over 50 community members from the group ranch helped to clear the area of *Acacia reficiens*. Joseph sees the photovoice discussions as important drivers for change in similar contexts, suggesting that

You can read a lot of books, but once you have a look on something, you can be convinced very quickly. It can make you to think a bit. So what I feel is that if you can get some people together to look at these pictures, at least they can change. Because once you see some pictures like this, then some of these are unique pictures. Because even a photo like this, or the other one of a bare place, or the other like the one of goats, of hyenas, they can look at these pictures and maybe some of them will force them to have some questions. "Oh, by doing that, you can have these in our place? Is this really something that is going on in our area?"

Joseph understands the power of sharing with others images and stories of the landscape as a way to initiate change. He understands this as not only being an effective teaching method, but one that also aligns very well with the "Samburu way" of disseminating information and encouraging certain behavior. For Joseph, this culturally appropriate approach should be used in practically every component of the Samburu education process.

Culture is a driver

All the while listening to Joseph's story, I never once had the impression that he doubted the role Samburu culture can play in effective land management. He explains first the role of the empowering elders as some of the most effective teachers when sharing his experiences with his grandmother. In this story, Joseph's grandmother offered him a challenge when he was struggling in his early years in school, suggesting that "...I really have to suffer" if success is to be realized. This approach from his grandmother pushed Joseph to excel, and he suggests this pushing was necessary for his evolution in the formal education system. Joseph understands that without this challenge from his grandmother, he could not have succeeded. He also comments on his grandmother's willingness to share many stories of Samburu culture, and their effectiveness in governing behavior. Of particular interest to Joseph are the traditional stories involving wildlife. He comments that Samburu stories have a lot to do with the conservation of this wildlife, particularly with elephants and zebras. Joseph explains that the old stories relay to the listener that if one were to kill an elephant and sell the tusks, even your family will be cursed because of your actions. In the case of the Grevy's Zebra, an endangered species, Samburu cultural stories describe how you will be viewed as a "lesser" Samburu, or *mdorobo*, if you harm this animal. Joseph sees these stories as disappearing from the traditional teaching process of the Samburu, and suggests the necessity of inclusion of these stories in formal instruction. For Joseph, these stories are some of the most effective tools for encouraging positive conservation-minded behavior in the area.

Ultimately, Joseph's story is centered around how education can initiate positive change in the local community regarding conservation. This can be achieved through deliberate exposure to varied landscapes, guided discussion on what is learned through this exposure, and inclusion of traditional stories to assist in the governing of behavior. For Joseph, the point of all education should be to empower the community to take action. He encourages an approach which is "more cultural, more Samburu." A major criteria for this is the inclusion of Samburu elders in the implementation process. Joseph explains why I was successful in generating community support for the photovoice project, and that it was due in large part to my willingness and openness to help with a variety community development projects unrelated to my own project. Driving elders to work sites, transporting grain and beans to villages, and serving as backcountry medic were all activities I engaged in during my time in Samburu, and Joseph explains that my involvement in these activities helped to build an effective foundation of trust among the elders. Joseph explains that any future conservation effort that is implemented, in education or other field, should make a concerted effort to include these elders in the planning and implementation phases. This has implications for learning environments in that elders be approached first, allowing them to take ownership of the project and then serve as the drivers, thus ensuring that the community will be encouraged to fully support the effort since it has been approved from within.

So you see working with the community the main thing is trust. Once you have their trust, everything will just be perfect. So once you get them, then you can also organize with them. They organize the elders. You know, these are like villages, so they know everybody. They can even get the kids from there. If they come at the request of the wazees [elders], they will come very interested in what you have to say. Especially if you come with a message of education or conservation.

For Joseph, there is incredible importance placed on using the Samburu cultural norms and practices as a way to develop an education program. He states very simply, “if they can relate, they can support.” If conservation education initiatives are to succeed in Samburu, Joseph identifies the importance of including elders in the process to help pave the way for community learning.

Kasungu: Global impression

Kasungu Lorparasoroi serves as a community scout for the Kalama Community Wildlife Conservancy. He is relatively new to the staff, coming to Kalama in 2006, and when he arrived to the first Kalama photovoice session it was the first time I had ever met him. He comes across as a quiet man at first, resigned to let more dominating personalities take the fore in discussion. The most striking characteristic about Kasungu is his unwavering support for all things Samburu. Kasungu is young, and is not far removed from the *morani* [warrior] stage of life. He is considered *lmoli*, or young elder, and it is a social status that I share with Kasungu. The *lmoli* stage can be a trying time, when the young elders struggle to find their place among the wise, elder respected men of the tribe. It is also a time of impressive growth for the new elder, where he is finally allowed to organize *barazzas* [meetings], and forward personal agenda.

Kasungu is adamant about his desire to be a teacher, though he never made it past the 3rd grade. During the photovoice project, however, almost every one of his eight photographs that he chose to discuss mentioned how he would like to serve the Samburu community as a teacher of conservation. This is a new concept for Kasungu, as he admits having known nothing about conservation before his employment at Kalama. Kasungu’s story, however, reveals that many of the tenets of conservation can be learned through

careful attention to the details of living in a pastoral community. In terms of learning, Kasungu elaborates on important personality traits that have impressed him in past situations. Namely, those teachers who approach conflict with calming personalities and a willingness to address all of the multiple sides of an issue convince Kasungu of the proper way to teach.

Kasungu's story lends the reader to understand his personal learning experience as one driven by exposure to different landscapes and cultural exchanges, one that incorporates guided discussion on conservation subjects that causes conflict in the community, and finally one that is nurtured by the honored Samburu tradition of the governing elder who "keeps everyone cool." His story begins with this third driver of learning and provides us with a description of Kasungu's favorite teacher. In this case, the teacher does not come from the formal education system. Rather, the teacher is an elder who Kasungu admits he would like to imitate. The most striking characteristics of this teacher is his ability to use language to calm people each side of a conflicting issue. In a region of the world where human-wildlife conflicts are common, this personality trait and communicative skill is valuable in mitigation efforts. Kasungu shares the story of his teacher with a sense of reverence and respect, an approach common when members of younger generations describe their Samburu elders.

The bulk of Kasungu's story focuses on the validity of exposure to different landscapes and different people in the learning process. Of particular importance is his valuing of the exposure and discussion experiences as a potential driver for change in the community. Recognizing how he has changed his own perspective on conservation through first employment in the conservation field, and secondly through guided

discussion during the photovoice project, Kasungu is using this change to suggest the need to take the collaborative project to multiple communities. Kasungu shares how this change occurred in him and is open about how his lack of formal education is not necessarily a barricade to becoming a “teacher and communicator” in his community. His story illustrates how learning in the Samburu community is collective in nature, and can occur in multiple settings throughout the landscape, not just in the classroom. At the time of these interviews, Kasungu’s Swahili was poor at best, his English virtually non-existent. The story that follows is a translation from Samburu to Swahili to English. Consequently, the translation is rough, and most of the words have been kept in their original structure.

Kasungu’s story: Fruits is just good results

You know my problem now is that I am not learned. I went up to class three [third grade] but I dropped a long time ago. Because even the school fee contributed to that. My brother was there in school so it was hard because we didn’t have a lot of livestock, so my father saw if we continue and go far he won’t be able to support us. But you know the teacher that I can say I admire is the people who are famous in the meetings. Because there are some meetings which there are people fighting inside, there is some disagreement. So I admire the people who conduct those meetings and cool the temperature of people when it goes up and they bring them down. I really admire a teacher like that. In the past there were people like that, but now there are not. I know the name of the teacher



Image 3.11. A meeting of elders (courtesy Kasungu Lorparasoroi)

but he was really old and passed away just recently. He was called Lekurtut. When he shares the meeting with high temperatures, he can cool down the meeting and be good [see image 3.11]. What I learned from that mzee [elder], by then I was young and very small, but the way I saw him talking and cooling people down, there was

something that I admired. Because mostly I also came to see something like that, I tried to use the technique but I am not so talkative. I don’t have good communication skills so what attracted me the most is to get the skills of how to cool down people and bring them together. That’s what I really wanted since I was a moran [warrior] up to now.

When asked to further elaborate on the specific qualities this particular elder possessed that impressed Kasungu, he continued to suggest that instead of any particular knowledge the elder may have held, it was his style of communication and ability to calm a tense situation that taught Kasungu the most.

The language that he uses to cool people. You know when a person has high temperatures you cool them down. Because if you both have high temperatures it will be worse. So what he used to do when they disagreed and their temperature raises, he acts like is on your side, supporting you first until you cool down. If you just talk and people support you that will spoil everything. He cools the other side and supports your side listening to you until you finish your story. Then he goes and talks to the other side until everyone comes down. I don't know, there was some clever words that he uses. There was some meetings that I attended, just sitting there and listening to them and mostly I got the



stories. Just watching.

The wazees [elders] meeting is usually not discriminative, you just go there and be silent and listen. It is usually hard when you are a moran to share their meeting. It is hard to have the morans there if there is no mistake that they have done that brings them there. But morans are not people who can come together unless there is a message that needs to be passed to them, like what they are not supposed to do [see image 3.12].

Image 3.12. Scout meeting with warriors (courtesy Kasungu Lorparasoroi)

While Kasungu was most impressed by the “cool” communication style of the elder, and inspired to mimic the style in order to address his own community in a similar way, he also expanded on a another similar theme in Samburu. For Kasungu, learning occurs most often in the Samburu communities when ideas are shared and different points of view are discussed. Kasungu was very excited throughout the photovoice project, and eventually became a discussion leader in the Kalama sessions. When asked

to evaluate those discussions, Kasungu describes how he processed the final group photovoice discussions to identify an avenue for community change.

The photovoice was good because you know we did this thing in different places. Because Kalama did theirs, teachers, West gate, rangers of Samburu National Reserve did theirs...but when we came together and met we found out that almost all of us had one hope. The hope that I saw most of us had, we mostly talk about environment, trees, we talked about polluting of the environment, making the environment good, communication with the community, we talked about a lot of things that day. There was one picture I saw, like the picture in West Gate where they surrounded a tree with a wire to protect the elephant from destroying it. I saw there is a way to protect the trees from animal destruction. So that is a different thing that I saw that day that I have never seen in this side of Kalama. Also Mike's picture of the cheetah and leopard. I didn't know if they usually fight but for sure I know the leopard can defeat cheetah. And the one of simba [lion] too. Yeah, that it usually climbs, because even when I used to look after our cattle I saw it climbing trees. But that day I heard them saying that mostly the Manyara lions climb trees. But even me, when I was looking after the cattle I found them climbing trees, so I know it usually climbs trees.

I cannot miss something to teach I myself because the way I took these pictures...there is a reason that I took those pictures. Mostly when I work here in the conservancy these people are the ones that I mostly meet with. And these people, if you don't know the way to bring them together and talk to them you cannot get communication with them. So we can teach each other because these ones are believed to be hard headed. Anyway, I took this picture to show how we can still talk to them, even if it is said they are hard headed. We can still meet and talk to them.

It will bring a change. Because much work and communication cannot miss a fruit that it will bring. Good results, you know, the fruits is just good results. If we clean the environment or there is another job that we want to do, but without this communication we cannot succeed. Because it brings people together and there is no way I can work alone without communication from many people because from there, those sides in the schools, the teacher is trying to communicate with kids to get good ideas and maybe all the work that we need to do. It is a must we have communication because now things about the environment, we cannot get a good environment until we all come together and we take one objective. We teach each other and share ideas like the other time when we had that big [photovoice] meeting.

At first it will be hard because you remember last time when we were here, I said I want you to teach me so that I become a good communicator? But if we continue with this together, this organization with many, I think I can have the courage to face them, or my fears will disappear and I can take the pictures to show them what we want them to do.

For Kasungu, organized discussion sessions centered around the sharing of the groups photographs is the way to realize change. Or, as Kasungu eloquently states, it is the way to realize “the good fruits.” Fresh fruit is a novelty in the Samburu region since the high alkaline soils, sandy and highly susceptible to livestock trampling, does not bear many fruits for human consumption. By using the metaphor of “good fruits,” Kasungu suggests that the type of discussion that could result from the continued sharing of photographs and conservation ideas would serve as a sweet relief to the current apathetic approach to addressing land and wildlife health. In addition to group discussion, Kasungu also echoes many of the Photovoice participant views that simple exposure to wild lands and conservation practices (in Kasungu’s case, through actual employment in Kalama Community Wildlife Conservancy) can provide an individual with the vision necessary to impress conservation ideals on a community.

I was employed in Kalama in 2006, coming here from Long’erded, and I didn’t know anything. I even didn’t want this job. I came here when I was primitive from the interior, with nothing in my head. But the more I stayed here my interest became to learn, education now. So my interest is to learn. For sure I know the animals. Even before at home, but I didn’t know very well because I never went very close to them like now. When I was employed I had no Kiswahili so I couldn’t communicate with the radio so I see am improving with my learning. Yes, I am learning now. When I came and joined Osama I see we were teaching each other. Even me now I want to teach the community who is like me in the past. I can teach the importance of these animals and the difference between the wild animals and domestic ones. I can teach now and I personally imagine I didn’t know anything before. So that’s all my interest, it is just learning. I just came here with no idea. I didn’t come for a job because I was not interested when I came. I just came. But after I came here is when I got the interest of learning and knowing more. I did not even know if there is a job here. Anyway this is my first job. Before I was just a village person looking after livestock, that’s what I know the most.

It is interesting to note that in this brief story, Kasungu believes that when he was “just a village person looking after livestock,” he was not actually learning about conservation

principles. However, his story also acknowledges the inherent wildlife knowledge that many Samburu believe they possess. Of course, the Samburu pastoral lifestyle warrants a close and intimate relationship with the wild animals of the place. Kasungu, while mentioning that he held this intimacy, states that once he was employed by the conservancy, he realized he had a lot more to learn. Exposure to the sort of guided instruction that often comes with acquiring a new job is something that Kasungu greatly values as appropriate learning.

Ultimately, Kasungu is concerned with realizing a change in his Samburu community, and Kasungu wants to be the one to help deliver this change. In this final story, Kasungu discusses how to employ a future photovoice approach to reach community elders.

I said I will prefer to do this discussion as a group, because if I go alone I will still have some fear. But I don't know, maybe when I get used to this job, but for now I prefer to be in a group because if I miss some points they can add on them. Or if I make mistakes they can correct me. Mostly you can come up with something as an individual and then you get the group to support you because that will be very hard when you are alone. We can't miss if we continue this way you know we were a small group maybe if that thing grows or if the people increases we can't miss the changes that we will see.

This type of collective offering through group discussion is very similar to the way the Samburu social system is structured. Younger adults are often required to address the elders as a collective, bringing their ideas to the forum as a unit, lest a particular individual be chastised for daring to address the elder council on his own. Kasungu believes this group approach can only bring good things to the community.

That is good because here, so maybe we give out the stories we get here. So maybe we can increase and become many. But that is good because when we are many, we can fear each other like the other day, but if we grow this way, the other groups coming to join us it will be good. It is good because we are progressing, and we like progressing. Not the ones that we already discussed, we

go to other and expand to know what can help. New questions. You know even the first time when we started we didn't know the questions. But through these meetings that we had, we cannot miss the others that we can ask because this is something that is like we are starting. And we want it to grow completely through our communication. I am still there because I want that to expand and know completely how to communicate without fear.

The question that I will ask will depend on the pictures that he will bring. I will get those questions there because I won't be specific and tell him to take the picture of this, no. He will take everything that he wants. But if he gets something about communication, maybe I cannot miss something to ask about that communication, and also about what people are doing. There are some things I want to change, but if we continue we can't miss something to change. What I can just say about this project, the way you came and bring us this small project, you should add, I mean we should add on this. We should know how we can expand this and attract many people to join us. Even the others in the community. It will be good because we will progress forward.

You know nowadays the world is changing. Because now you can see many Samburu kids are in schools, and you cannot see a lot of them looking after cattle. Because in the past there were like four kids in a family, and you find all of them are looking after the livestock. But now you can find in a family only one kid is available to take care of the livestock. So now to get education to them it won't be hard. Because this thing they are saying, development, it can teach people slowly.

There are many things that I can teach. So the way I can teach them is to go to the manyatta [village] and the things like litter that the teachers were showing, you know there are a lot of them in the remote areas, but that day when I saw that litter, if I tell them, that will be easy for me to tell them in the manyatta to try this because it is not good to have this here. So I can teach in the manyatta when am alone. Yeah, that one is what can succeed in teaching the community. So later if we say there is a school here, maybe others will not go or they will ignore. These are people who need something to be brought to them directly and live what they can see, and you do it in general not favoring or getting a group. Just bring to them the knowledge all in general.

That one won't be hard and because when I had the camera it was very easy to tell people when I had the camera than just this way. So it seems the pictures were helping me because I could tell somebody what they see. You know I did a lot of picture taking when I was at home. So mostly I was within the community. Even the last time we were here I was sent up to there to call people for a meeting and I went around the manyattas calling them. Then they were asking "what is this?" I told them it is a camera. So it was easy for me to tell them with a camera.

Kasungu: Major themes

Exposure and discussion

One of the dominant themes in Kasungu's story is his description of the utility of the photovoice sessions in promoting open dialogue on conservation issues. Kasungu explains that the effectiveness of this approach was due to the organization of the sessions, which ultimately allowed all of the participants across all groups to come together and realize that they all "had one hope." Namely, this hope was conservation and protection of the Samburu landscape. Kasungu describes how he learned about the issues of other regions through the group discussion sessions. From the West Gate participants, he learned about the measures community scouts were taking to protect trees from having their bark stripped by elephants. From participants in Samburu National Reserve, he learned that there exists a misunderstanding that many people believe that lions do not climb trees and that cheetahs and leopards never fight. In these instances, Kasungu's world view was expanded, and his knowledge learned from past life experiences was validated in the photographs and stories of others. This is an important development, as it suggests there can be a base of traditional knowledge, based on comparison of individual observations across multiple landscapes, that can provide future teachers of conservation principles with a foundation of learned experiences on which formal instruction can build.

Perhaps the most meaningful result of the exposure and discussion theme is Kasungu's belief that the approach can initiate positive change in his community. When describing the value of the photovoice sessions, Kasungu implies that the photographic images provide an indisputable record of the state of conservation in the area. This visual record can be used to convince the "hard-headed." Kasungu acknowledges his

conservation efforts would be fruitless if he was not able to get the community on board. In fact, Kasungu deliberately uses the *“fruits is just good results”* metaphor to explain the “sweetness” that can be realized once the community is convinced to work with Kalama Conservancy. There is not a wide availability of fresh fruits in Samburu, so the metaphor colorfully describes how pleasing it could be to the community to engage in collaborative conservation measures on their landscape. Kasungu admits that without the necessary communication, the Samburu community will not taste the fruits of successful collaboration, and these fruits may only be realized if community members come to share their learned experiences to the collective. Kasungu lends support to the value of knowledge learned from experience and pure observation as he relates to us that “he is not learned.” Though he often uses this statement to clarify that he may not be an expert on the subject of conservation, though his subsequent descriptions of what he has learned through his livestock rearing experiences suggest that Kasungu values the knowledge learned from those in the field.

The “cool” Samburu communicator

Kasungu’s story begins with a description of his favorite teacher, a Samburu elder, and the effect this teacher’s personality had on his learning experience. Of particular importance to Kasungu was this elder’s “cool” communication style. He explains that he admires “the people who conduct those meeting and cool the temperature of people when it goes up and they bring them down.” This description was offered as a response to my question regarding Kasungu’s favorite teacher. I had anticipated a story relaying a specific content or knowledge that was gained from his teacher, but Kasungu

preferred instead to describe the personality traits that allowed this elder to effectively communicate his message.

It is through direct observation that Kasungu learns the appropriateness of calm communication styles, lending support for the theme discussed earlier. What sets this story apart from a purely observational learning style is his description of how the calm approach establishes a forum where conflicting ideas may be shared. In the Samburu culture, community discussion on potentially volatile issues (e.g. cattle grazing allotments, wildlife conflict discussions, internal disputes) can often end in heated exchanges and meting out of curses (Spencer, 1965). Kasungu's description of the value of the "cool communicator" in avoiding these situations illustrates how a sense of respect from the observer and learner can be gained. In teaching scenarios, especially in the subject of conservation where there may be many conflicting ideas of what may be best for the landscape, gaining respect from your constituents (i.e. students) can be seen as a necessary first step to meaningful instruction. For Kasungu, Lekurtut's coolness in communication demanded respect, and it was this respect that encouraged Kasungu to share this experience as the one that illustrated the best qualities of a teacher.

Isigi: Global impression

When I first met Boniface Isigi, teacher at Muslim Primary School in Archers Post, I was immediately struck by his enthusiasm for teaching and learning. He is a bit short in stature, but plenty tall on emotion and excitement. Isigi was, along with Isaac Longoro, part of the first Samburu photovoice discussion group. He enjoyed the process so thoroughly that he served as the group facilitator in the final gallery exhibition in Archers Post. In fact, Isigi took the outcome and change ideals of the photovoice project to heart, identifying the need for a native tree nursery to be established on school

grounds. Isigi and I took this idea to the students, and eventually constructed a 200-sapling nursery at Muslim Primary School.

Isigi's story is predominantly focused on describing what he has learned through his own teaching experiences. Though he does discuss the positive role his own teachers have played as mentors and motivators, the dominant thread in his story is the role personal relationships play in nurturing the learning process in students. He begins his story with a very thorough and descriptive narrative on a way of teaching that encourages internal motivation between student and teacher, and celebrates the role collaborative approaches has on the entire learning process. For Isigi, a teacher and student do not stand mutually exclusive of one another in the learning process. On the contrary, Isigi's description of the reflective practices and communal nature inherent in education should be held in high regard. He mentions the need for teachers to "get close" to their students if there is any hope for success. Isigi's comments, while focused on describing the relationship between students and teachers in primary and secondary schools, has broad implications for adult learning as well. In Samburu, discussions among individuals is a long and involved process, and the stories shared in these discussions often have a number of connected themes. Without each of the participants sharing their extensive thoughts on each of these themes (e.g. family, livestock health, weather, available pasture, wildlife conflicts, etc.) it can be hard to gain full acceptance into the community. Isigi's "getting close" story can be seen as a way for one to more fully connect to the Samburu learner in multiple contexts.

Isigi's story also lends support for the use of participatory approaches (i.e. photovoice) to encourage community involvement on future conservation projects. As

mentioned, Isigi and I took the ideas of one photovoice group (Archer's Post teachers) and created a tree nursery on school grounds. Isigi explains that similar projects could be initiated very easily in the community as long as people are allowed to see and comment on photographic images that illustrate the conservation concerns of the community. He uses his own experiences in the photovoice project to describe how he can use the approach to teach students about difficult scientific concepts, but perhaps most importantly how they can be used to realize community change.

Isigi was always someone who could talk to great lengths about the merits of group learning, and it seems ironic that he is one of the few teachers in the area that uses the approach in his classes. It is ironic because while Isigi uses the collective learning model, which closely mimics the Samburu social structure, he is not a member of the Samburu tribe. Isigi, a Luhya (second largest ethnic group in Kenya, predominantly farmers living mostly in the western regions of the country), was born and raised in the Western Province in the rainforest region of Kakamega. Isigi came to Samburu in 1988, and has had to adapt his teaching styles to fit the culture at hand. Satisfactory results have not come easy, and Isigi shares this story on some of the challenges he has faced.

Isigi's story: You need to be closer to them, talk to them always

So, during my teaching profession, I have encountered so many challenges. And some of the challenges I would like to share with you. You know I have my own principles and my own guides. You know I like working in teamwork. And you know when you talk about teamwork, you talk about people coming together, different people, to share different ideas. Even a common thief, he can come and put his idea there, and then we can think about all of those ideas together.

Teamwork is my favorite, and teamwork goes with collaborative learning. In my own terminology we have T...T stands for tame your personal appetites and stand together. That is what T means. And E stands for each person should combine efforts. That is letter E. Letter A stands for acknowledge others. Because you see you are working with other people, and you have to acknowledge

them. Because you know people are growing up from different families and different backgrounds. So when you bring together, you try to fuse them into one line of thinking. You have to also be cautious about them. If you don't acknowledge the others, and accommodate their ideas, teamwork will not work.

And there is M, M stands for maintaining good working relationships. Because if you are talking about collaborative learning, you must have that, maintaining good working relationships. These others include your colleagues, your staff, it includes students, it includes secondary staff. When we have an institution we have a lot of secondary staff. We have watchmen, guards, what, what. All of them are important. So they need your guidance and... you have to put them together so they can work with discipline. So then we also have to look at W, to maintain the welfare of each member. Because kila mtu hakuna mambo yake [with every person, there are those who do not have their things]. Tomorrow a student comes to you and tells you "I am sick. I want to go and get some medicine." But he is not really sick. He is just using the word sick so that you don't ask him so many questions. He just wants to go out. So he comes pretending. So you have to look at the welfare, how best can you fix the situation of such students.

Then, O, you have to look at objective, you know, the objectives of your area. Because if you have a curriculum, it is also talking about areas of coverage. So we also need to look at those objectives, and set your goals. So now we look at R, it stands for reason. You also have to reason, and talk, reason with your members. You let them talk, then you talk, because talk is a two-way track. You talk, then I talk, then maybe we agree. We start the ball moving. Then the last, K, you have to know your colleagues so you can keep a good working relationship with them. To keep your staff and know them. That is how collaborative learning will get along well.

Isigi's TEAMWORK metaphor has helped him maintain a reflexive control over his teaching styles. For him, modifying a teaching approach that is human-centered, and not only on the students themselves, is the way to achieve success in the classroom. Isigi speaks further of his own style, one that champions constant personal reflection as an opportunity for realizing collaborative success.

There are these areas of reflective teaching. Because you cannot be a collaborative learner if the teacher is not being reflective, not practicing reflective learning. Those aspects, like you should always think about your teaching, through yourself and through evolution. You can think about self-teaching and self-evaluation. You teach and then you evaluate. We have teachers, even right now, you know I am saying this because I am a teacher here right now. And even here in our institution today, there are teachers who teach but they don't evaluate. And if you evaluate, sometimes you use the wrong

methods. Like if you are going to teach about something, you need to sit down and ask questions to see whether your students got what you are talking about. So evaluation in terms of, you can ask questions, and then you evaluate through those responses. You can also evaluate in terms of a group.

I asked Isigi to share a specific teaching method he has had some success in implementing in school. He decided to share his method of “mixed ability grouping,” an approach that closely resembles the way young Samburu learn about the many different aspects of livestock care.

The most successful one that I have found is the mixed ability grouping. This means you take pupils, you take students with different levels, their abilities in class. We have those that are high. We have those that are low, those that are slow learners. So, in order for those to succeed, if you see that this one is a slow learner and you put him aside....no, you will mix the slow learner with the quick learner. So that then the quick learner can boost the morale of this slow learner. I do it through teaching, through reflective teaching. It has advantages, like one is that students understand each other better. Because this slow learner, this quick learner, they understand each other better than they understand the head teacher. So through language, you know they use the same language. So they can talk, even because of the same level of age. And they can share ideas freely. Because you see, if a student comes to you, he can fear you. “Oh, he is my teacher and he is my lecturer.” So that freedom is not there. So in the sense, he’ll end up not getting the concept clean. If you put it there, and that issue reaches them, students who understand each other better than the way you and I understand each other. Two, the brighter ones will boost the slower ones. And three, understanding of the slower ones also, it will be pushed up. Four, you will have that balanced competition. Because now, if we do mathematics, and we can see one person is getting an A in mathematics and the other one is failing. And this one, they are of the same age, clearly. So they will try to say, “hey look, why are you doing it like this. Look, you are getting this and me, I am getting this.” And then the other one will just say, “no, look, this one is very easy. All you need to do is this and this and you will get the correct answer. Just do a, b, c, d.” And I have seen this one to be very successful in the class. I’ve tried it and I’ve seen it work.

I want to talk some more about grouping, because you know that is where I do most of my teaching. Grouping, we have different types of grouping, like ability grouping of students. Here you only pick the students for groups based on their ability. Like you take all of the above average students and put them in one group, so the ability is high. Then you have mixed ability grouping and I think it is the best. I’ve practiced all of them and this is the one that I have found working most positively. And I have been using it up to date, and I cannot change to use any other.

With mixed ability, you also consider gender. You put male and female together. Even that one, you know we have different types of students. We have those who can talk, and there are those who cannot talk. You hardly hear them and they cannot even tell you a single word. Like the one I was talking to there. He is bright, yes, but to ask you even a simple question is a problem. But you ask him, let him write to you, he gets everything. But talking, he can't even talk to colleagues. He is just a funny guy. He is shy and he wants to be alone most of the time. He just works alone. He doesn't even have a friend. And I have been talking to him politely, because you know I have failed to learn him. He likes working alone and doesn't even talk to anybody, not even in class. If you ask him anything, he answers you the way you have asked, and that is all. So he has less words to talk. But he is ok. He is the one who scored the highest mark of the school. There are two of them that score very high. And they share a lot of the same characteristics, but the other one is a bit talkative and playful. The other one does not even play. He doesn't like jokes even. So when I come there with jokes, it is like I am boring him. Even when the others are shouting and happy, sharing and jumping...but to him, he just sits and looks at me.

Isigi's grouping approach has allowed him to identify students with special needs. The shy student Isigi talks about will perhaps begin to open up more to his colleagues, and eventually share some of his successful techniques for learning with other the other students. Isigi continues to talk about the important affective components of successful teaching, where boosting morale plays a major role in realizing academic goals.

And then it is the morale. You see, the morale is very important. The morale that is built into them after talking with the students. You try to build their morale. So that if the morale is high, then you expect them to perform highly. If the morale is low, then you expect performance and productivity to be low. This one is also seen in teamwork, in sports. Even when Arsenal is playing Manchester, if the morale is low, then that game is not even good to watch. If it is high, everybody enjoys. And then the confidence is also very important. Confidence is very important for learning. Like the way I was asking that one student. I said, "it looks like you are shaking." So I was trying to brush maybe what was there in his mind, to bring him to what is now facing him today. So that we can stay focused on what is coming.

But you know I normally use this technique daily. Like in mathematics, it is a subject that most of our pupils, most of our students fear. Especially girls, they perform poorly. I'm saying that in our center, our Muslim Primary School, girls perform poorly in mathematics. And I have seen it in Girgir, the same is happening in Muslim. And the reason I was trying to find out why, it is because of that belief that mathematics is just for men. So that poor attitude towards the subject. And when I try to motivate them, out of 10, maybe I will get 5 or 3. But

the rest, it goes with time. They come, you know in the lower classes, they are ok, they are ok, the morale is high, high, high. By the time they reach Standard 7, now just coming towards the examination, the final examination...the morale goes down, down, down, down. And that is the reason why I have said it is the poor attitude towards the subject that has caused that. So sometimes I use that mixed abilities style. Like when you want to teach about addition and carry. Now you know we have addition with carry, and addition without carry. So you will find with that poor attitude, a girl might add $6 + 5$, and she will get 11. So she rights 1, and instead of carrying to the 10s, the place value of 10, ana acha hiyo [she just leaves it]. She will say $26 + 5$. So you see, she will get 31. So you see she writes 1, and instead of putting the 1 that she carried to the place value of 10s, ana acha hiyo [she just leaves it]. And why? It is because there is not that interest, the interest is not there. The interest towards the subject, hawana [they don't want it]. Now that is the biggest problem.

According to Isigi, if students could only acquire a true interest in the subject matter, then academic scores would be higher. Students in Samburu consistently score low on national exams, and Isigi's stories suggest that the delivery of content for instruction is not the biggest obstacle to exam success. Rather, it is the cultivation of an empowering sense of accomplishment, an internal feeling not often associated with the communal lifestyle of the Samburu, that will help teachers and students realize academic goals. Isigi continues to discuss how this might be accomplished. For him, the welcoming personality of the teacher and willingness to "get close" to students are the most important drivers [see image 3.13].

So what I do, I normally try to motivate them by maybe trying to bring myself closer to them. Talking to them, most of the time being with them. Assisting them. You know you have to build pupil-teacher relationship. If you will be far away from her, then that is the more worse she will be. But if you can be more closer to her, that is the time she may look up and see you and think, "ah, now my teacher is concerned." So she will change some of her



Image 3.13. Students from Muslim Primary School

attitudes. So if you are starting with that, maybe she will come to score 40 on the exam. So that relationship, you have to build a good relationship with the students. You need to be closer to them, talk to them always. And you know, assumption is bad. Sometimes we assume that they know, but they don't know. And it is good to explain to them. When you let them analyze, when you give them an assignment, then you let them analyze. You show them examples. That is what I've been doing.

Isigi's adamant support for cultivating a warm and inviting personality as a teacher can find its roots in his own past experiences with teachers in Kakamega. When asked to share a story of his favorite teacher, Isigi's Mr. Kinambo delivers a manifestation of an animated and student-focused teacher that Isigi seems to emulate in his own practice.

Yes, my favorite teacher was Mr. Kinambo. My favorite teacher was the one who taught me Kiswahili. It was in secondary. This guy was a Ugandan. And he studied in Makerere. So when he came to our school, he used to speak Kiswahili in a very funny way. You know the dialect was different. Like he had a lot of mother tongue interferences. So but he was sharp. He used to talk to us all of the time. And we used to read, like there was a book that we all read it was called "Kiu." And it was in Kiswahili. You know kiu, meaning "thirst." So we were reading that one, you know we read in class first, then they ask you questions and you answer them. So this guy used to come to class and he was somehow funny. So I like his funs [laughing]. So when he used to enter class, I used to come very early. You know I used to feel very comfortable, very relaxed because he used to joke with us. He would joke with everybody, you know, jump-jump with people. Just coming and patting you, "how are you today? What's wrong here? Why are you not putting on like this?" So we used to like him because he was too close to students than the other teachers who were very far away from the students. So most of us, even when I used to have a problem in school, I used to run to him. I would say, "look here, here is how I am going on. I can't go on because of the school fees." He told me, "just go on, but for the next two days, I will give you this work to do at home." You see he used to encourage me a lot.

Isigi is open about his past struggles to succeed in school. In fact, Isigi never received formal teacher training for his job, opting instead to work his way up the ranks as a volunteer teacher. This was a trend that started in primary school, when Isigi, the oldest in his family, navigated the tricky waters of obtaining a primary and secondary school

education in pre-Kibaki Kenya (prior to 2002, primary school education was neither free nor compulsory).

You know I met some very big challenges there when I was studying there. Like I lost my grandmother who was caring for me. So, in my family we were born eight, and I am the first-born. And so my grandmother was the only one who was taking care of me. Then she passed away. So things went on badly. So that was one of the areas that had made me perform poorly. But during my school, I had inspired to be a lawyer. I just wanted to be a lawyer. But that was very hard to come by.

It helped my learning a lot. Because most of the time I used to feel overwhelmed. I used to feel hot. Because you see I was being chased away, and others are learning. Just because of fees. So I used to go and hide behind the rooms, the classes by the latrines. Later on I used to jump out and go home. The next day I come back and I am chased away. When the principal is not there, I enter the class and continue. You know, life was like that [laughing]. So this teacher used to encourage me. He used to make me not to despair. He used to tell me, “now look here, you take this work, and you go do it at home. This is what we are going to do today. And tomorrow we will do this area.” So he used to prepare me, even if I am at home, he gives me what to read. He guides me.

So as a teacher, I think I try to imitate that teacher. I am imitating him, because even if I am not in school, my work is being done. And that is why I normally do well in my subjects throughout the years. Because as a teacher, when you are not there, do not assume that because you are not there that your students can just be left like that. No, leave some work for them to do. So like when you come, you go back to the work that they did. You go through it with them. That will keep them to have learning as a process.

That teacher, he was always talking about the Ambuka from Uganda. So his way of communicating, his way of jokes....I have found that if you joke with students, you have to also be very careful. First of all, you have to study your students. Know what kind of students you are dealing with. You know we have good students and we have bad students. You tell a joke to a bad student, and he may even end up hitting you. So you first of all study your students, know which ones that you can joke with. Then measure the extent of the joke. And after you joke, you need to let them know when you are serious and when you want things done. Let them know you. That is what I have learned. And I have seen it work. It is working well for me.

But you know there is a problem. Sometimes I get those good students who do very well, they are ok. But when it comes to exams, sometimes they perform poorly. And I have been thinking about it seriously. When we do these simple cuts, the internal evaluations, they are ok. But when it comes to the final paper, they perform below the expected mark. You see that is why I have been putting that chart up there [of individual student progress], to motivate them. We have the scores of the papers there, they are a bit low. Some perform a bit high.

So there is that tendency for students to do that. You find the one that was up there, during the final exam he comes a bit down.

I think this problem comes as a result of understanding. Because you know, if understanding is ok, if he has read and he understands it very well, the content and the question by analyzing the key words in the question....you know, how, why, explain, describe...I think that is where the problem comes up – the way the question is asked. You know we have the key words in the question that will drive you to the correct answer. If you don't understand the key word, like this one is asking you "how," so you have to explain how. If they are asking "when," then you have to explain when. But if you are asked this and you decide to explain "why," then you are out of the whole thing. That is what I can say.

Yes, the relationship now. For a teacher to succeed, the relationship between the teacher and the student is very important. If your relationship is poor, you will see that one, the results will also be affected. Because you know it is you to impart the curriculum to this person. It is your duty to impart the knowledge of the curriculum to this person and the others. So if your relationship with these guys is a bit shaky, this guy most of the time will just say, "ah, look, he is wasting my time." And once he says this, and you are teaching about an important aspect of the curriculum, in the syllabus, he can't concentrate. So if he can't concentrate, you know that is where the difficulties with the question will come out. So you see that will affect the performance.

So if you build strong relationships, like now, you know everybody is away from school – but they keep coming. Why? Because I have said we shall meet in the evening here. And even though I have not been here for the whole of three days now, working at Uaso, but I have said that we shall meet this evening. So you come. And they were coming. And everyone comes in his own style, his own time [laughing]. But they come, and when they come then we put our efforts together. We say now look here, what are you going to do tomorrow? This is what is ahead of us [the national exam was held the following day]. So you set the goals and then you let them go and do the work that you have given them.

For Isigi, establishing an adequate relationship with the student, and constantly reflecting on the direction that relationship is taking is the most important element in realizing true learning. When asked if this could be applied to adult learning, specifically in teaching and training the teachers of Muslim Primary School, Isigi comments that it is the same story.

Yeah, so say if you come to teach the teachers of Muslim, the same rule applies. Because good relationships is the basic fundamental of who you are, and what you impart to them. You can remember good speakers that you have heard in the world. People who can move masses of people. And we have had good thinkers, and these good thinkers have also made some important words on this

world. But depending on the way they put the message across, that is what matters. You can be a good teacher, yes, but the way you are imparting that knowledge to the student, it will depend on if it is taken positively or negatively. If it is a high positive, then the performance is high. If it is a bit shaky, you know that one is in terms of the relationship.

You know, through my teaching experience I have had challenges. Challenges of knowledge, the way you impart knowledge. And the students also contribute a lot. You know right now in school, most students like the way I am. You know even the small ones will come where I am. And it is because of the way I talk to them. And you know for others, sometimes students will not like to be around them because they are harsh. Some do not like to entertain jokes. Some like to have things set the way they are set, and things will go the way they are supposed to go. But you see sometimes, things change and go another way. So you see you also have to change the plan according to the situations. You have to allow room for accommodation. If you want things to go the right way, you also have to balance between movement and style and talk. You have to value the talk, value the behavior. You also, they are seeing you as the most respected person. So what you will impart unto them, it means much. And if you tell them “do this,” that is why I have been telling them “look, what are we going to do? We are going to do a, b, c, d, and that is it.” So then everybody gets set that this is what we are going to do. And they come and they work together and put things under order, finish the work and we go. Then tomorrow when we meet, we go back and reflect on what we did yesterday. So we solve any problems that people have from there, then we go on.

Isigi’s story then changes from the support of proper personality traits that can assist the Samburu learning process to one of a broader, administrative concern. The national curriculum for Kenyan schools is standardized, meaning that students in Samburu learn the same material as those students in Nairobi or Mombasa. In this curriculum, local and relevant elements of the Samburu landscape are often left out, leaving Samburu students to learn about environments very different than their own. While Isigi values learning for learning sake, he is concerned that the curriculum does not offer relevant content for his students. This eventually leads them to what Isigi mentions previously as an unwillingness, or disinterest, in learning the material at all.

Yeah, the curriculum is designed by the Ministry of Education in Kenya. And all primary schools are teaching the same curriculum. Whether you are in Mombasa, Kisumu, Nairobi, it is all the same. So a child here in Standard 1 [first

grade] in Muslim Primary School is taught the same thing as a child in Mombasa in Standard 1. So what makes the difference is the different environments the student is in. Like our environment here compared to the environment in Nairobi compared to Mombasa. It is quite different. So education is also received differently in terms of environment. Because environment also is one aspect that can facilitate education. Good environment, good education.

The curriculum is ok, but what we need, right now, you know about four to five months ago there was some talk of reducing the subjects. You know the subjects are more. The content to be taught to the students is just squeezed. So there was an idea by the Ministry of Education to reduce the content to be taught. The number of subjects was to be reduced. Because right now we are teaching mathematics, English, Kiswahili, science, social studies, and religion where you teach Christianity, Islam and Hindu, even the Buddha, in Nairobi they are doing it. So it is like the content to be taught at that level is big compared to the time. So we are saying the content is good, ok, but time, time is limited. You are given a very wide area to cover within a very short time. So when you put it practically, it does not happen. And I am one of the people who took that to the ministry, because the time is short. You have 35 minutes for a class, and you are given an objective to be covered in that time. And the steps you are supposed to follow are more than the time allows.

So the content is all right, but the time is limited. And that is why you see most of the teachers who complete the syllabus, they don't. And that is the problem facing our schools, even now, right here. Most teachers don't complete the syllabus. Why? Time. And you don't teach just one. You teach here at this level, then the next class you go to another level. You are moving here and there, here and there. There is no specialization. But if we could have, like now you, you are best in science, so now you can teach science alone. You are based in mathematics, ok fine, you take mathematics now. And to a certain level you can go. But here you are teaching mathematics from Standard 4, 5, 6, 7, 8, and you are just one. You end up missing others along the way. So that is the biggest problem we have here in Kenya. And two, we have another challenge. That is of the staff. You know in Kenya they are not currently employing teachers. So you find we are nine, all for eight classes. That means one teacher for every class. And in those classes, if it is only one teacher for every class, you have to teach all of the subjects for that class. Is it possible? It is not possible. That is why you see poor performances. You can see below averages. In our school, you can see in some subjects you will get below 200 marks. And an average child should get 250 out of the 500. But getting the 250, ah you have to sweat. Because one, time; two, resources; and three, teachers. If the staff was enough, then this thing could continue and be done well.

In terms of adequate student learning, the obstacles of minimal time and under-staffed instructors offer great challenges in Samburu. Isigi argues that in the Samburu context, teachers have not the time, resources or necessary staff to complete the national syllabus.

This poses major problems when the students sit for national exams, and it should not cause many to wonder as to why the students score so low. When asked to discuss how this might be overcome using the Samburu culture itself as a guide, Isigi comments that both the culture and environment of Samburu acts as a catalyst for, and often a barrier to proper learning.

Yeah, in Samburu District, learning here is very different. Because one, here in Samburu, we have challenges here. Like one, drought, the intensity of the drought here, when it is bad here, it is really bad and you can see the effects of it. There are animals dying everywhere. There is hunger. And you can't expect a starving mind to concentrate. It's hard. But we have been praying and thanking the World Food Organization for providing this food, you know, the food feeding programs in our schools. This has really helped us. Because if it was not there, then everything about education could have been stuck. But environment and drought, one, and two, conflicts. You know the pastoralists, when they go for pastures there, there is this conflict. Stealing is one, and there is also fighting over the resources. Like the grass and the water. If you have 100 animals and I have 50. You go for a drinking place and you are number one there. You have 100 and mine is 50. I have to wait until all of your 100 get water. Then mine comes and maybe another comes. There is that confusion there now. Angers fly over and whoa! So the environment is harsh.

We also had the problem of the nchikuti. The nchikuti was a program we had that was out of school. These boys would go out and look after their animals. After they went and looked after the animals, after they come back, they start learning in the school. After they return the animals home. So they have, we had even a program in Standard 1. They go out with the animals, and then when they return home at night, then they go to learn. After maybe 9 or 10 at night, they go home. I saw it work, because out of that program I had to write for a boy who made it to Standard 8 and he is sitting for his exam. He is a product of that program. With poor management, the good things even goes. Now we don't have that program.

They [the students] were a bit tired, but there was support from people for this program. You see this teacher who was doing the work and was getting small payment for that. You see, then it just collapsed because the management could not support that. But this environment, I can say they are used to it. Because even these students, they are used to that kind of environment. But what I fear most is when there is war. When there is conflict then the students don't come to school. Some of them get transferred. When there is a change, like now there is a little bit of rain. Now they will go and take the animals far away for pastures. So now learning gets disturbed. So you can see in a class of maybe 20-30, you can get people missing like 3, 5, 7. And that is registered.

We also have these other cultural activities, like singing at night. You know when they go and sing at night, boys and girls, they go and sing with the morans there. After they sing they go home with them. So you see then the girls become women for the morans. And in the end, you have several cases of pregnancies. And so that is why there is a high dropout rate in schools here. And when I was there over in Lorubai, 21 girls got pregnant. You know in this culture, they build a singera, you know, a hut for a small girl. Instead of spending the night with their mother, in their mother's house, the mother will build a house for the girl. So then all of the girl's friends will come to spend a night there. So then, in that process, the morans will come there and spend the night. So it's like they are introducing these young girls to marital life at a very early age. And I think that is not good. It has affected the learning process in this district.

Like even here in our school at Muslim, you find that you rarely have a parent coming here to ask about how their student is doing, how they are performing in class. You will never get them to come. Even if you ask them to come for a meeting here, they can't come. So parents supporting teachers in school, it is very rare. And if it is there, it is very minimal. It is only for those who support, it is those who went to school. But for those who never went to school, they don't care.

So we are trying to get them through education, through telling them, through talking to them. You see, when the girl gets pregnant, that is when they get closer to us. So that is the right time now because now the teachers have got the entry point to talk to them. You have to tell them that now they really have a problem. So we use that problem as an entry point now. So we say, "you see, you are the contributing factor to this problem because of a, b, c, d. So now if you could have done these other things, life would have been different." So that is why you see some ladies now, they have come to support the girls' education. There are those programs where they are supporting girls' education. Still, they promote but they get pregnant. That is why I gave them that small talk today. Because I know that after the papers, you know in here I spend most of the time with them, but after the papers they are now going home and they are under their parents. So I am not responsible for them anymore. So you can find that by January of next year, you may find nearly all of them pregnant. So the idea for them to go on to secondary school, it is very minimal. So that is why I was crying. You can find a clean, natural mind, a good brain being wasted like that. It is really a sad issue. Because most of the time I can take my time with them. You can spend all of that time getting to know them, them getting to know you. And after that you find them all pregnant. How will you feel in this position? Not good.

And you can see even the institution will not give any kind of assistance. Because if a case happens here, the old men go and sit under a tree, have their addresses there, and that is the end of it. So we have lost very good minds. People who could have made this society into a good society. All of a sudden, they disappear like that. It is a pity. Although, we are trying but out of, you can even look at the enrollment. As they come out of level 1, 2, 3, 4, the number of boys vs. girls in every class, there are more girls. But when you come to level 5,

6, 7, and 8, the number of girls is dropping, dropping, dropping, dropping. At the end, like right now, we only have 6 girls sitting for the final exam. Only 6. Out of the 6, two are already mothers. So one has not even learned the curriculum, the syllabus, she was at home since March. And she is a registered candidate, see? So now she is going to pull all of the mean scores down.

Isigi's story then shifts to comment on the value of the Samburu Photovoice project, arguing that through the guided discussion and sharing of ideas and photographs, he has learned much about the value of conserving the local environment. Isigi explains that the method is not only useful as a teaching aid, but also as an instrument for initiating change in the community.

The project of having the camera is just wonderful. It is wonderful. Because even in our curriculum, our teachers, before you teach you have to prepare a lesson plan. And within a lesson plan, you have to prepare some teaching aids. So this is a kind of teaching aid. And seeing is next to believing. So if you want to tell, you want to teach in the Czech Republic, and you want to teach about an elephant, and you don't have anything to show that this is an elephant. The facts cannot be driven home. But if you have a picture, you can say look here, this is an elephant and let us look at it. You are providing the evidence now. This program is wonderful. And I think that if it could be incorporated in our schools, it could be the best.

You know from the camera, I can get evidences, and my work will be very simple. My work will be just to build a lesson plan, and this is just a teaching aid. Like if I want to teach about an insect, I go there and get the camera, I get an insect, I get the picture and I am done with it. Then take the picture back and say "look here, this is what I was talking about. Look at it." Then they look at it and it is a fact driven home. But you can't go now telling somebody that this is a cricket, and you don't have a picture to show that this is a cricket. They can't relate. We can't say that they don't know, but to relate....it looks like this. When they look at it, they can say "yes, this one is a cricket! It just looks like this!" So it works easier.

I learned that the environment is wonderful. And once you destroy the environment, the environment will destroy you. Because we learned, like we learned about those kind of acacias there in West Gate. If they cannot be chopped off so that we can create room for grass to grow, or any other vegetation to grow. Because water is just running over it, isn't it? When it rains, the water is just running over and it is carrying a lot of seeds. So we should have new vegetation growing there. And we shall have that place looking more beautiful than it was before. Look at the areas that we have now, like the Kalama areas. It is the same thing. You can go there and see it is wonderful, it is green. But green up, and underground....nothing. So a wide area on top is green, but under it, it is

bare. So that area is not productive anymore. Because how many animals will be eating the upper parts there? There are only those animals like the giraffe and the elephants. What of those other animals, you know the smaller groups, smaller families of animals? Also the domestic ones. They will starve and die. That is why there are not even dik-diks there. They are all dead. Like there in Kalama as you move towards those sides, the other sides of the conservancy, the dik-diks are very few. But look if you are traveling to Maralal, past Wamba as you are climbing those hills. The dik-diks are many! There are many. Why? Because of the vegetation. I didn't know it before. I only learned it after you talked to me. And you showed me the pictures where before it was like this, and now it is like this.

The idea of the final gallery, that one will be perfect because it will drive people. It will cover a wide area of conservation. In terms of water, in terms of trees, in terms of even our town. You see, our town is growing. So it will teach people. Because now the town is growing and it needs to be taken care of. If we dispose of our litter the way the people are disposing of it, how can it be like that? What do you think the future will look like? These steps can be taken now. They must! Or it will get worse. Even the military is doing their exercises here. So now we have these extra things from them. You know bombs and whatever. They come to this small area and start polluting it. What do you think will happen after 5-10 years? What will this environment look like? It will be like a desert. So that is the initiative we are taking now. We are looking at this environment for the next 5-10 years to come. We are now putting the initiative forward, and if it can be sustained, we will see much benefit in 5-10 years. We will see a change in the environment, instead of the way it is.

You have seen the carcasses here, you have seen how they have died. Everywhere it was smelling and it was like.....I can't tell. But did you see anybody talking about a good disposal method? There was nothing of that kind. Why? Because there was no knowledge, there was nobody to tell them "hey look here. If this has died, then take this to be disposed of well. You can do it either through burning or you can even bury it." But we just left them hanging around like that. But if you want to tell them, they don't have time. Because one, already their minds are affected. You want to go and tell a moran [warrior] to go and bury a carcass? He can't. That is why I was telling you, when we were talking the other time, I said we need to pull these guys closer. So that the ideas that we have to impart to them, we can also use them to impart to the other groups.

So the idea keeps on moving, the education keeps on moving. So through collaboration, through sharing, you know if we can't share, then it can't succeed. It can't succeed. So that is why the gallery is important. Because through this gallery, we can share the ideas. If we talk about trees, we can show the pictures of the trees. And if they see the pictures there, they can see good trees and bad trees. So they can decide which ones they like. Do they like the good or the bad? Nobody will want the bad trees. Everybody always wants the good things. So they can see this and this and then make a decision to go for good things. Given that we are now introducing species to this area – it won't be hard. Just to start a

nursery and care for those trees. We just try and plant them and then take care of those trees.

So we need to teach them to care. And how do we do it? We can do it through this gallery. Tell them that now, “look here, we want to plant these trees. We have started the nursery here. So if you want trees, just come. Come and you will be given three or four free. But go and plant and take care of them.” If they take care it will be a big tree, and it will survive well. And if you tell them to plant the Sagaram all over, like now the way it has been dry all over, the Sagarams will provide food for all of the animals.

So the gallery is the way we shall categorize this type of learning. Because it is in the gallery where we shall categorize wildlife, we shall categorize the pollution, we shall categorize the trees, we shall categorize the construction. You know there are many things negative about this road construction. You see now these big holes that were dug, they have now collected water and have become a mosquito breeding point. So in two months to come, everyone here will be suffering from malaria. Because there are many holes now along this road. So we need this gallery to tell these people to now go and get mosquito nets. Prepare in advance. Because now the number of mosquitoes is going to increase. So how do we tell them? Through the pictures. Pictures are a powerful way to communicate.

Isigi has in fact put his action where his mouth is. Muslim Primary School was the first school in Archers Post to create a tree nursery. The nursery, built completely by student hands and minds, serves as a practical classroom for Isigi’s 8th grade students, allowing them the opportunity to learn about tree life cycles and scientific concepts like photosynthesis and respiration. Perhaps most important is the role the nursery can play in cultivating the sense of empowerment and accomplishment that Isigi feels is the most valuable element in student learning.

While supportive of the collaborative and action-oriented nature of the Samburu photovoice project, Isigi is critical of other organizations that claim to be community-based. He then offers his own version of the proper way forward. This way forward is based on exposure, discussion, and finally communal action.

Now look at the way those others are moving around, like the NRT [Northern Rangelands Trust]. You know they are just moving around with specific people. When you are moving around with specific people, you are not

moving around with the community. You are moving around with specific people of the community. So what are you doing? You are doing nothing! But you move around with the masses of the community, and the masses of the community are the students. These are the masses. If you want to bring change, where do you go? You go to school! If you want to bring change, you go to school. If you go to school, you get your evolution there. Like if you look at my class now, ah, I am ok.

But the gallery is a way forward. Like if you want to talk about these carcasses.



And teaching them about the side effects of these carcasses. Yes, they have come and gone, but what about in the future. We will start this one in our schools. And I blame the Ministry of Public Health, the taking care unit. They are the ones responsible for addressing this issue. You can find that a dog or something is hit by a passing vehicle [see image 3.14],

Image 3.14. Roadkill. it is just left there on the tarmac. It rots there, people are passing there, people are selling food on the other side there. You know, that is filthy. And for them to know that this thing is bad, you do not start with the grown up people now. No, let us start with the masses. So the masses will tell them that this is wrong, and if we get it, we have to dispose of it properly. And then we take them to do it practically. We get a carcass there, we tell them you have seen one, and early in the morning you come and say “have you seen a carcass somewhere?” They can say “I have seen! I have seen!” You say “now take us to where it is.” Then you move the masses there. We go with sticks and shovels and we dig and bury. We dispose of it in a proper way. And that will then fix it in their minds if we can do it practically.

Yes, there is room to do it. We can move the carcasses. It will be positive. You know these kinds of things have always been done in our schools, by the scouts. Even me I am a scout here. You know, those involved in the scout movement. These are people who do voluntary work. These are the guys we have been using like cleaning the tarmac, picking up of litter, these things. We are doing it with scouts. And you see if you are doing it with a scout, nobody will ask you anything. But if you take somebody’s child and say, let us go to town and clean, you will receive so many questions. “Who gave you permission to take my child there?” But if it is a scout, nobody will ask you because it is a movement. But I want to bring it to a school level. As a need. Because if we take it as a need, then it will be taught. And after being taught, then it will be implemented. And with the digging for the carcasses, it is even like P.E. because they are using their muscles. They also learn to work together towards a common goal. Like now a carcass, they have to figure out together how to get rid of this carcass. They work on it together. So we can mobilize them to do these things. Like the other day I mobilized my students to collect sticks for firewood that we put on a dead donkey and we burned it. So after burning, we reduced the smell. It was smelling terribly, so we reduced it. And everybody in the school was comfortable. Because before everywhere in the school was smelling. So I decided to burn it and the smell was reduced and disappeared.

Isigi: Major themes

Getting close

Throughout Isigi's story, multiple references are made regarding the need for students to have teachers ***“get close to them. Talk to them always.”*** For Isigi, this willingness to come down to the student's level is the foundation for proper learning, and can be seen to stem from his personal story describing Mr. Kinambo. His relationship with this teacher left an impression on him that can be seen to guide his own approach to teaching. Isigi's relationship to Mr. Kinambo shows us the power in simple gestures in providing a safe environment, conducive to learning. His story centers on Mr. Kinambo's willingness to joke with students to keep the learning environment loose, and how this approach relaxed Isigi and encouraged him to come to class early. Additionally, this jovial and student-centered approach allowed Mr. Kinambo to encourage Isigi to learn syllabus material even while not officially registered in the school. While Isigi can certainly be commended for studying on his own time, it can be judged that without Mr. Kinambo's support beyond his official responsibilities, Isigi would have most likely fallen behind.

The experiences with this past teacher from Uganda has helped Isigi relate to the Samburu students he now instructs. He describes his interactions with students in light of these experiences, pointing out that many students not in his class will still “hang around” him because of his friendly personality. For Isigi, getting close to students and understanding their concerns helps to build confidence in them. Isigi see his teaching role as one that lifts morale, and if moral is high “then everybody wins...Confidence is important for learning.” He describes how, when seeing one of his students on the

afternoon before the national examination for primary school graduates, he jokes with them constantly to encourage them to approach the upcoming examination with confidence and a relaxed mind. In the conservation education context with Samburu adults, I have never witnessed teachers, trainers or instructors achieving this sort of closeness with scouts, rangers or teachers. This is not to suggest that it never occurs, though these stories were never relayed during the entire duration of the photovoice project. Future conservation education attempts could draw on what is learned from Isigi's story, and encourage a more open and involved dialogue between instructor and student. Using the preceding story as an example, this approach could help to build confidence in scouts, rangers, teachers and community members that they are adequately prepared to deal with their own conservation concerns.

Exposure and discussion

Isigi's story aligns well with the others in that he values the collaborative and inclusive approach to learning realized during the photovoice project. Isigi describes how the photographs can be used in instruction as "evidence." He describes the difficulty in convincing Samburu about a particular subject without showing them the evidence when describing how he learned of the distribution of animals according to available vegetation.

Because how many animals will be eating the upper parts there? There are only those animals like the giraffe and the elephants. What of those other animals, you know the smaller groups, smaller families of animals? Also the domestic ones. They will starve and die. That is why there are not even dik-diks there. They are all dead. Like there in Kalama as you move towards those sides, the other sides of the conservancy, the dik-diks are very few. But look if you are traveling to Maralal, past Wamba as you are climbing those hills. The dik-diks are many! There are many. Why? Because of the vegetation. I didn't know it before. I only learned it after you talked to me. And you showed me the pictures where before it was like this, and now it is like this.

For Isigi, seeing is believing, and the photographs I shared with him regarding the difference in wildlife species that could be seen mere kilometers away from Archer's Post caused a shift in the way he viewed the landscape.

Isigi uses the photovoice project as a way to illustrate not only how many different conservation topics could be taught (carcass burying, litter cleanup, teaching wildlife characteristics), but that direct action and change can be realized as a result. During his description of the usefulness of a photo gallery in communicating ideas to the community, Isigi sees this potential sharing of ideas as an instigator for action:

So the idea keeps on moving, the education keeps on moving. So through collaboration, through sharing, you know if we can't share, then it can't succeed. It can't succeed. So that is why the gallery is important. Because through this gallery, we can share the ideas. If we talk about trees, we can show the pictures of the trees. And if they see the pictures there, they can see good trees and bad trees. So they can decide which ones they like. Do they like the good or the bad? Nobody will want the bad trees. Everybody always wants the good things. So they can see this and this and then make a decision to go for good things.

Nowhere is the value of focused exposure and discussion in the instigation of change more apparent than in Isigi's creation of a tree nursery on school grounds. During each of the four photovoice sessions involving Archer's Post teachers, the destruction of trees in the local environment was identified as a critical conservation concern. After it was collectively suggested that local schools could play a major role in promoting tree planting efforts in the local community, Isigi approached me with a request to help him find a way to create a tree nursery at his school. Within a week of this request, Isigi effectively mobilized an entire school to construct the fencing for the nursery, delegated a crew of students to mix the proper soils together for planting, secured seeds nursery care instruction from the Kenyan government, and ultimately started growing a 200-sapling

tree nursery on school grounds, entirely managed by students. His relation of this story uncovers his pride in the project, and supports the claim that other participants have made on the virtues of exposure and discussion on initiating conservation project in the community. For Isigi, there is no doubt that “pictures are a powerful way to communicate.”

Implications: Conservation Education in Samburu

Collective global impression

The preceding narratives are given as personal testimonies on the phenomenon of learning about conservation in the Samburu community. They are stories of lived experiences by specific individuals in a specific time and place. The use of the photovoice and narrative inquiry methods allowed for a participant-led exploration into the learning phenomenon, the results of which are meant to address the question: ***What is the culturally appropriate learning environment that may best support conservation education?***

Narratives were shared among individuals in different age groups, differences in profession (teachers and conservation professionals) and number of years working in this profession, and differences in geographic location. Overall, the stories offer insight into how these individuals have learned about the environment, conservation and the role Samburu communities can play in educating their citizens on these topics. The most prominent and common thread that connects each of the stories is testament to the need for future conservation education programs to mimic elements of the Samburu lifestyle in order to be successful. All five stories suggest that there is currently a disconnect in what is being taught about conservation, and this disconnect is evident in both the formal

education system in Kenya, as well as in focused conservation trainings for area rangers and scouts. Past research has documented the positive impacts culturally specific instruction has had on knowledge retention and meaningful application in specific communities (Au, 1980; DeLamater, et al., 2000; Hawthorne, 2001; Kottak & Costa, 1993). Unfortunately, this approach has not been fully developed in a rural Kenyan context, addressing the need for more involved and comprehensive instruction on conservation principles (Mayaka & Akama, 2007; Otieno, 2007; Suda, 2000). Each of the five participants shared their interest in realizing a more “Samburu” approach to conservation education in the area.

While it is important to understand each of the five co-created narratives as representations of individual experiences set in specific spatial contexts (i.e. the different geographic regions of Girgir and N’gutuk N’giron group ranches) there were three group themes that emerged across all participants regarding necessary elements of success for Samburu-specific conservation education and instruction. These three group themes include the need for allowing opportunities for exposure to different landscapes and guided discussion, the application of place-based and project-oriented learning activities, and the deliberate use of elements of Samburu culture (particularly regarding personality, social organization, and storytelling) in instruction.

Collective themes: Exposure and discussion

The Samburu have a rich oral tradition where stories from elders not only provide entertainment for audiences, but also create the socially acceptable context for negotiating relationships in the community (Spencer, 1965). Collective discussion among elders is the way decisions are made, whether it be where to graze livestock for

the season, who should marry whom between clans, and what punishments should be meted out to those engaged in undesirable behaviors. In short, the dialogue of individuals governs the Samburu. Each of the participant narratives touches on this phenomenon. Isaac comments on how learning about a specific element of the ecology of *Acacia elatior* (river acacia) was achieved by a group of people through the heated discussion initiated by a photovoice participant with a low education background. The conflict in discussion was seen as positive for learning, and Isaac comments that “how can you teach someone about cows, and that one usually keeps cows?” Samburu pastoralists hold a great deal of traditional and local knowledge, learned through deliberate observation in their natural environment. Future trainings on environmental issues should respect this contained knowledge, and should attempt to initiate dialogue among participants whenever possible.

Discussion of issues alone does not imply true learning in the Samburu context. Stephen offers his story of how he came to “know something about conservation,” contending that it was only through exposure to new landscapes and subsequent discussions with the people of those new landscapes that taught him the benefits of conservation. This experience is important to Stephen, because were it not for his exposure to the benefits the Masaai were receiving through conservation initiatives in Masaai Mara National Reserve, he probably would not have helped play a part in the movement to create West Gate Community Wildlife Conservancy.

Additionally, Kasungu mentions that his own knowledge about the fauna of the region was validated when listening to a story of another photovoice participant’s relation that he spotted lions sleeping in trees. Kasungu knew this was possible because he had

seen this as a boy when out with the livestock, but being able to share this experience with another individual validated this knowledge. Kasungu also learned of ways other conservancies were managing their lands when describing the way West Gate scouts had placed wire fencing around *Acacia elatior* trees to deter elephants from peeling the bark from them, which effectively kills the trees. Through exposure to the photographs of a West Gate photovoice participant, and through the subsequent discussion that followed on the details of how to implement such a project, Kasungu learned of a conservation approach that could possibly be applied to his job.

Research on the benefits of collective discussion in experiential learning contexts have proven to be successful in terms of knowledge retention, negotiating conflict and useful application to addressing relevant concerns in communities (Isaacs, 1993). The approach has been used to improve undergraduate instruction in environmental fields in the US, notably in the wildlife and agriculture disciplines, where there has been documented success in knowledge retention (Koontz, Peel, Trapp, & Ward, 1995; Millenbah & Millspaugh, 2003). Guided discussion sessions on scientific concepts has also been shown to improve learners ability to negotiate complex scientific theories and identify potential applications to solving real-world problems (Sadler, Barab, & Scott, 2007; Su, 2008). These benefits were identified as stemming from an instruction method deliberately focused on cultivating an inquiry process where students actively discuss applications of theory to identified problems. In the Samburu stories, the theme of exposure and discussion is prevalent, as each of the participants shared thoughtful insights into how past scenarios which incorporated the two activities provided the most in terms of learning about a specific issue.

The role of deliberate exposure to different landscapes and guided discussion on what was learned during those events has also been identified as necessary elements for gaining community support for conservation initiatives (Marschke & Sinclair, 2009; Newmark & Hough, 2000; Snively & Corsiglia, 2001). Newmark & Hough (2000) provide a theoretical consideration for the inclusion of traditional knowledge in the development of integrated conservation and development projects (ICDPs), suggesting that open discussion among community leaders lends legitimacy to ICDPs by acknowledging the contributions of multiple stakeholders. Multiple discussions with community members can provide the projects with the locally appropriate issues of concern regarding conservation and development, effectively lending credibility to the project (Newmark & Hough, 2000). Similar approaches have improved local Cambodian fishermen's level of knowledge about sustainable fishing practices, as well as improving the community's ability to anticipate future conservation and sustainability concerns (Marschke & Sinclair, 2009). Finally, offering educational opportunities which includes deliberate exposure to different landscapes and involvement in multiple discussion sessions has the added benefit of addressing where indigenous knowledge on local ecology can be incorporated into conservation practice (Berkes, Berkes, & Fast, 2007; Berkes & Berkes, 2009). This incorporation has proven to be helpful in the development of instructional strategies that have blended Western science with traditional understandings in the development of a science education curriculum (Snively & Corsiglia, 2001)

The Samburu culture lends itself to those methods of instruction that use discussion and collective learning as the vehicle. Similar collective approaches based on

exposure and discussion have been used to employ forest guards in Nepal in community involvement and monitoring campaigns (Dearden, 1999; Dhiman & Gupta, 2004), and has proven to be an effective method for adults learning the content and consequences of democracy in South Africa (Mattes & Bratton, 2007). Future trainings of conservation professionals in Samburu could structure their instruction around exposure to new, observable landscapes where conservation concerns are being played out; and organize learning around democratic discussion sessions, an approach already celebrated in the Samburu culture, where ideas are shared and conflicting ideas lend themselves to new knowledge for individuals.

Collective themes: Place-based and project-oriented environments

The Samburu are a tribe of people who are used to moving from place to place. Their semi-nomadic movements are dictated by the location of rains and green pastures for their livestock. Knowledge of the potential locations of these amenities can be the determinants of life or death. Acquiring this knowledge implies a deep understanding of specific places. When Stephen mentions he learned nothing in school, it is not that he failed to gain any new knowledge. Rather, this new knowledge held no relevance to his life at the time, since his priorities beyond school consisted of looking after livestock. Since Stephen's new knowledge contained very little relevance to his pastoral life, he felt inclined to comment that he "learned nothing" in school. Similar sentiments have been overcome by students in the Navajo Nation, where place-based geography instruction has encouraged more students to enter the field (Semken, 2005).

Joseph offers a similar sentiment as Stephen, suggesting that one can even graduate from the Kenyan education system without having learned any of the elements

of your local landscape. When Joseph speaks in annoyance of the chemistry lessons with beakers, he speaks of a genuine mistrust of Kenyan schools that is shared by many Samburu elders. Joseph recognizes this when he speaks of the elders' belief that those who go through the education system end up as *wakoras* (jobless). Joseph, himself a secondary school graduate, is a believer in the system and suggests that a more place-based approach to teaching about the local flora and fauna can be implemented in after-school programs. This approach fits well in the Samburu system since the daily curriculum is standardized and allows for very little flexibility in instruction. Additionally, since many students have to travel long distances to school and back, there is ample opportunity to introduce environmental observation and inquiry assignments for them to practice.

Both Joseph and Stephen live in the more remote N'gutuk N'giron group ranch in the western part of Samburu East District. Development and infrastructure is low and many Samburu of the area still live the lifestyles of their distant ancestors. The people of this place are intimately tied to their land, and instruction on conservation and environment issues should honor this connection. While many of the focused trainings the conservation organizations conduct with rangers and scouts of the area address local concerns, more emphasis could be placed on training educators on how to incorporate place-based environment lessons in local schools. Trainings for conservation professionals should also be conducted in the places of their employment, rather than in distant regions.

Place-based education has been proven to be easy to implement in places where students share a common attachment to the land and a common heritage (Gruenwald,

2005; Semken, 2005). The conservation professionals of Samburu share both of these elements. Place-based programs have also engaged students in solving real problems facing their communities (Smith, 2002), and similar approaches can offer potential solutions to Samburu-specific problems related to conservation. The Samburu Photovoice project has revealed a number of pressing concerns (notably deforestation, human litter and a lack of knowledge on many wildlife species) that could be approached by scouts, teachers and students in place-based instruction.

In his own narrative, Isigi mentions how exploring conservation concerns through the photovoice project led to the development of a tree nursery project in his classroom. Isigi celebrates this project as a service to both student learning and to the community itself. “We have started the nursery here. So if you want trees, just come,” Isigi comments. Through this type of hands-on learning, focused on creating something that is useful to the place in which they are living, Isigi’s nursery project supports that both a great deal of learning occurred and the students gained a sense pride and accomplishment. This aligns with past research on hands-on learning with American foresters and wildland firefighters that has revealed increased knowledge and more supportive beliefs of conservation agenda (Parkinson, Force, & Smith, 2003; Thompson, Colletti, Jungst, & Licklider, 2003). Place-based instruction has been used in other African countries as well. In Ghana, curriculum reform in schools is responsible for the inclusion of traditional ecological knowledge and place-based, problem-focused approaches to education, leading to a learning environment focused on community revitalization (Mueller & Bentley, 2009). In Malawi, researchers engaged educators in pedagogy inquiry exercises to identify learning avenues for addressing local community

sustainability concerns (Glasson, Frykholm, Mhango, & Phiri, 2006) The preceding narratives suggest similar results could be possible with conservation professionals and communities in Samburu with more focused, place-based instruction.

Place-based and project-oriented approaches have proven to be effective methods of instruction, particularly in science-based applications. The approach has provided for an improved retention of learning in the knowledge of physical geography in Native American students due to its intentional and exclusive focus on the local environment and its use of native place names as reference points (Semken, 2005). The call for more place-based education to improve conservation learning in Samburu is also supported by similar instructional scenarios initiated in 2-year study in Malawi, where teacher knowledge on basic earth systems and ecological sustainability was improved through focused inquiry and group discussion formats (Glasson, et al., 2006). Since improved education has also been documented as adequately developing community support for conservation interventions (Stem, Lossoie, Lee, Deshler, & Schelhas, 2003; Tessema, Lilieholm, Ashenafi, & Leader-Williams, 2010; Waylen, Fischer, McGowan, Thirgood, & Milner-Gulland, 2010), place-based approaches can be viewed as a stronger catalyst for improving this relationship due to its focused nature on community involvement and stewardship (Gruenwald, 2003, 2005). Place-based and project-oriented approaches have been shown to increase and improve Australians' public participation in sustainability and natural resource projects (Thomsen, 2008), and has empowered environmental education students in the US to engage in restoration projects aimed at improving a network of "brownspaces" in their local community (Smith, 2002).

On the African continent, place-based science instruction involving scientific investigations, puzzles and games, role playing and case studies has contributed to Ghanaian student's ability and willingness to conduct community renewal projects based on ecological sustainability concepts (Mueller & Bentley, 2009). The Samburu narratives shared above lend support for the applicability of place-based and project-oriented educational approaches, suggesting that learner interest and retention of the material would improve. Additionally, the shared narratives and support of past research on place-based education suggest that a similar approach in Samburu could empower learners to provide necessary service to the local community in terms of initiation of conservation projects and environmental restoration.

Collective themes: Culture, personality and relationships

According to the narratives shared above, an appropriate Samburu learning environment that pays attention to positive personality traits is one that pays attention to five elements: preparation and commitment, a willingness to share stories, motivation and challenge, "cool" communication, and a willingness to get close to students. When asked who their favorite teacher was, each participant commented on a specific personality trait that their teacher held. For Isaac, his Mr. Letimoro possessed a strong sense of commitment and preparation, "even coming in on Saturdays." Isaac tends to emulate this teacher in his own profession. For Isigi, another teacher, his Mr. Kinambo was a man who kept a loose rapport with his students, allowing himself to come down to the student level when discussion material. This action is not a common one in an education system modeled after a regimented and role-specific British approach. Mr. Kinambo's warm approach also assisted Isigi when he was struggling to pay his school fees. Mr.

Kinambo's assistance was not monetary, but rather he provided the young Isigi with reading materials and assignments that could be completed out of class so that Isigi could stay up to speed with the rest of the class. It is noteworthy to mention that the two teacher participants, Isigi and Isaac, both mentioned formal schoolteachers as the ones who are most remembered. The other three participants, who all work in the conservancies, all mentioned community members as their favorite teachers.

For Stephen, the old elder who sat among his grandchildren and shared stories of the old Samburu traditions was discussed as the best teacher. For Stephen, who had admitted to learning nothing in school, learning occurred in the presence of this elder, where he learned the stories of his Samburu past. These stories are important for Stephen, particularly the stories surrounding the respect paid by the Samburu to the wildlife of the area. Stephen believes these respectful stories transfer to today's age, and can provide a basis for wildlife protection within the Samburu community. It is hard to poach an elephant when you have a spiritual connection to the animal. Similar to Stephen's stories, one of Joseph's favorite teachers was his grandmother who taught him the need for personal struggle on the way to success. Joseph learned the quality of the motivated spirit from his grandmother, and his story of her pushing him to excel is one that will continue to help shape his professional life. Finally, Kasungu's "cool communicator" was shared as his favorite teacher because of the way that the elder could calm the tensions of others in community meetings. Kasungu learned this through observation and repeated many times his desire to reach a state of comfort in being able to communicate agenda to his community is such a way.

As mentioned, culturally appropriate instruction has realized the benefits of both improved knowledge retention and engagement in positive behaviors (Au, 1980; DeLamater, et al., 2000; Ellis, 1996; Hawthorne, 2001). Additionally, it has been shown that education in Kenya, specifically as it relates to conservation education, has not been structured or organized along with elements of the culture in which it is housed (Kottak & Costa, 1993; Mayaka & Akama, 2007; Otieno, 2007; Suda, 2000). The five narratives shared with you have illustrated a desire of all participants to see a more relevant, a more “Samburu” approach, to conservation education initiated in the area. For those individuals working as conservation professionals, this Samburu-specific approach has been identified as a way to encourage community buy-in and participation in conservation measures. This is supported by past research in similar contexts, which has shown that an improvement in education has led to an improvement in awareness and attitudes towards conservation (Stem, et al., 2003; Tessema, et al., 2010), as well as providing a provision for further institutional support of conservation interventions (Waylen, et al., 2010). Particularly, Waylen et al. (2010) identified that improved community education was an indicator for success, only when it served as a function of the development of a true local institutional context for support. In this study, there is a backing for culturally appropriate modes of instruction, including personality traits incorporating approachability, calm communication skills and the serving as a challenging mentor; the use of traditional stories in education; and finally the use of elders in instruction and project proposal.

Conclusions

Adult education focused on teaching conservation principles in Samburu should be delivered within an appropriate cultural context. Past research on cross-cultural

instruction has identified the need for cultural elements to be included in curriculum design and delivery (Aikenhead & Jegede, 1999; Au, 1980; Hawthorne, 2001). While there has been some attention paid to culturally-specific approaches that have improved learner knowledge retention and improved behavioral skills, very few have focused on African environmental contexts. Additionally, adult learning theories have pointed to the need for adult instruction to be transformational for the learner (Knowles, 1989; Merriam, 2001; Mezirow, 1997), as well as empowering the learner to apply instructional content to solving relevant community problems (A. Y. Kolb & Kolb, 2005; Merriam, 2001). Unfortunately, most quantitative learning style inventories and assessments of individual learning styles of adults has revealed poor psychometric performance (Brew, 2002; Cassidy, 2004; Mainemelis, et al., 2002; Towler & Dipboye, 2003). This inability of established learning style inventories to provide valid measurement, coupled with their lack of application in African conservation contexts, suggested that I employ a more culturally sensitive and qualitative measure for exploring the learning phenomenon in Samburu.

This study used the dual, participatory methods of narrative inquiry and photovoice to help uncover participant narratives on the subject of conservation learning in Samburu. Both methods have proven to be effective in revealing a rich, meaningful description of lived experiences that can lead to improved awareness on relevant issues (J. S. Bell, 2002; Mungai & Samper, 2006; Owens & McKinnon, 2009), but also serving as a forum for traditionally disempowered individuals to act as catalysts for change in their respective communities (Lykes, Blanche, & Hamber, 2003b; Wang, 1999; Wilson, et al., 2007). In the Samburu photovoice project, individual participants were encouraged

to identify those areas of conservation concern, reflect on how one learns about these concerns in a culturally-specific way, and address those actions that can be taken as a community to address these concerns. Collectively, the Samburu narratives provide us with an understanding of the appropriate learning environment that can best support future conservation education campaigns. Namely, an approach that is structured to allow for the following elements will provide the best environment for adult Samburus to learn about relevant conservation principles:

1. *Exposure and Discussion:* Allow for Samburu learners to visit those areas where landscapes and people differ, providing for those experiences where learners may see alternatives to solving shared problems. Guided discussion sessions on what is learned through these exposure trips will not only allow for collective learning, it also respects and mimics the traditional Samburu way of communication.
2. *Place-Based and Project-Oriented Instruction:* Instruction should be rooted in the Samburu landscape and its associated concerns, allowing for learners to develop and implement projects geared towards providing solutions to common problems.
3. *Personality and Relationships:* Education and outreach regarding conservation in Samburu should be delivered by the instructor in a “Samburu” way. Particularly important is the role close and personal relationships play in helping build confidence and empowerment in the learner. A relationship built on trust is the foundation of respectful dialogue within the Samburu community and should be imitated in future education efforts.

The Samburu photovoice project provides a model to build on for assessing culturally appropriate learning environments of other indigenous communities. The use of narrative inquiry and photovoice proved to be a respectful and empowering method for soliciting, documenting and understanding the storied lives of conservation professionals and educators in Samburu. Future research can augment this study by focusing on how Samburu learning environments may be negotiated by women, a marginalized group within traditional Samburu society; as well as across governing authorities (respected elders vs. elected government officials). Ultimately, this study provides a framework for effective learning that can be used in the appropriate development of future conservation trainings in Samburu.

CHAPTER 4

The Samburu Photovoice Project: A report prepared by and for the communities and
conservation professionals of Girgir and N'gutuk N'giron

Group Ranches, Kenya

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Kalama Community Wildlife Conservancy

West Gate Community Wildlife Conservancy

Samburu National Reserve

Girgir Primary School

Muslim Primary School

Save the Elephants

All of the Samburu Photovoice participants

A very special thanks to "Teddy," Kathy Galvin's Land Rover (see image 4.1) which covered more terrain of Samburu East District than I thought mechanically possible.

Long may you run!



Image 4.1. The little Land Rover that sometimes could.

Project Background

Over the course of six months in 2009-2010, during one of the most severe droughts in recent memory, 26 teachers, park rangers, conservancy scouts and community members used digital cameras to document their concerns and hopes for conservation in Girgir and N'gutuk N'giron group ranches (Samburu East district). The project aimed to empower the participants to critically analyze current conservation trends, address those areas most important for action, and collectively identify how the local communities and agencies should implement change.

The Samburu Photovoice Project was initiated in response to documented local perceptions of conservation concerns in the Samburu East region. Past interview and survey data (2005-2007) revealed a special need for more education and outreach to community members and conservation professionals (e.g. park rangers, community scouts) on a variety of conservation concerns. The Samburu Photovoice Project aimed to address these education and outreach needs by asking participants to:

1. Identify current conservation concerns (deforestation, soil erosion, wildlife research).
2. Identify where the gaps in knowledge related to these concerns.
3. Suggest options for initiating change.

The Samburu East community is situated in one of the most biologically rich and diverse regions in Kenya. The region is home to majestic wildlife (elephants, lions, giraffes, etc.) that consistently draws thousands of international tourists annually. The revenue generated by wildlife tourism is vital for the economic health of the region. Surprisingly, there is little park ranger and community scout capacity building measures to ensure that

conservation professionals in the region are monitoring the health of these important ecosystems. Additionally, there are over 10 primary and secondary schools in Girgir and N'gutuk N'giron group ranches engaging thousands of Samburu youth. Unfortunately, conservation education at the professional and academic levels is minimal, particularly those approaches that allow for field-based, problem-focused agenda to be implemented. With this in mind, the Samburu Photovoice Project served the following goal: *Generate discussion and action regarding conservation education in Samburu East District.*

Methods – What We Did

Photovoice is a *participatory action research* method designed to empower individuals in a community to identify and document their own visions for the future, and ultimately bring this vision to the appropriate policymakers so that action may be taken. By giving digital cameras to local participants and asking them to visually document their collective vision, the approach allows for specific and relevant community concerns to be addressed. This participatory approach effectively shifts the power of project design and implementation from outside researchers to inside community perspectives.

For the Samburu Photovoice Project, 26 participants were selected that represented six different focus groups. The groups were:

7. Archers Post teachers
8. Wildlife scouts in West Gate Community Wildlife Conservancy (Sasaab)
9. Wildlife scouts in West Gate Community Wildlife Conservancy (Naisunyai and other northwestern regions)
10. Archers Post youth
11. Samburu National Reserve park rangers and NGO staff

12. Wildlife scouts in Kalama Community Wildlife Conservancy

Each participant group engaged in 3-4 focus group sessions and was given training in photographing basics (powering up/down, zoom, working with light, rule of thirds, basic photo composition), camera ethics, and the art of telling a story through visual images.

The sessions followed this basic structure:

Session 1: The first session began with an introduction of the photovoice method (see image 4.2) and its potential uses in helping shape conservation education



Image 4.2. Archer's Post teachers at first photovoice

programs in Samburu.

Participants were asked to tell a story related to the reasons why they were engaged in working in education or conservation fields. This storytelling exercise was meant to create a creative and comfortable environment for group discussion, and allowed the project facilitator to understand the different reasons project participants had for working in their respective fields. The project facilitator then gave a visual presentation on the results of the 2005-2007 research, which focused on the challenges and opportunities for sustainable tourism development in the region. The presentation was meant to serve as an example of how to use photographs and storytelling techniques to convey a complex message. Participants were then given digital cameras and instruction on how to use them in a safe and productive manner. Training was given on how to operate the camera, as well as basic creative elements of photographing (using light effectively, rule of thirds,

etc.). Special attention was given to photographing ethics and issues of power imbalances. At the conclusion of the session, participants were asked to use the camera to document a response to the following question (see image 4.3 and 4.4): *What would you like to teach others about your environment?*



Image 4.3. Photovoice participants in the field.

Session 2: Participants were asked to choose 2-4 photographs that best illustrate their answer to the question posed in Session 1. These chosen photographs were either printed on site or projected on a screen to allow all session participants to

discuss the photographs and accompanying stories. The owner of the photograph was asked to explain what the photograph was, where it was taken, and why the photograph was chosen. After the story was related, all participants were allowed to comment further. All participants were given the opportunity to discuss their photographs, and the printed photos were then given to the participants as an expression of thanks. After all photographs were discussed, the participants were asked to use their cameras to address a second question: *Where are the gaps in knowledge regarding conservation in Samburu (or, what is it that you want to know)?*

Session 3: Participants were again asked to choose 2-4 photographs that best illustrate



Image 4.4. Photovoice participant in the field.

their answer to the question posed at the end of Session 2. The same format was

followed as in Session 2, and group discussions were facilitated. Photographs were again printed and distributed, and at the end of the session participants were asked to address a final question: *In response to the issues discussed in the previous sessions, what can we do as a part of the Samburu community to address our documented conservation concerns?*

Session 4: Participants chose their final 2-4 photographs that best related to the question given in Session 3, and were discussed at length with their groups. This final session allowed participants the opportunity to identify courses for action at the local, institutional and agency levels. Participants were also asked to comment on the photovoice approach in conservation research. Participants were allowed to discuss the usefulness of the approach and suggest alternatives for future participatory methods for identifying conservation concerns. At the end of the session, participants were invited to a one-day workshop involving all six photovoice participant groups that would determine which photographs and stories would be included in a final photography exhibit aimed at communicating their collective vision to their community leaders.



Image 4.5. Final group session

Final Group Session: After all four sessions were completed with all six participant groups, all participants were gathered at Umoja Village in Archers Post to identify their collective photovoice vision (see image 4.5). Each participant group was asked to choose

the 5-10 photographs that best illustrate their group's concerns related to conservation and education. It was understood that different participant groups could have different concerns (e.g. teachers different than wildlife scouts), so this approach allowed for each of these perspectives to be displayed. After each participant group identified and shared their favorite photographs and stories, all participants were asked to group these into conservation and education themes. After the themes were identified, the photographs and stories were then selected for display at a future date. Participants decided to hold two separate photovoice galleries, one at the West Gate Community Wildlife Conservancy (to reach residents and leaders in N'gutuk N'giron group ranch) and one in Archers Post town center (to reach residents and leaders in Girgir group ranch). Appropriate community leaders were identified as possible attendees, and the project research assistant was charged with inviting these leaders to the galleries.



Image 4.6. Final galleries.



Image 4.7. Final galleries.

Photovoice Galleries (see images 4.6 – 4.9): The first gallery exhibit was displayed on January 8, 2010 in West Gate Community Wildlife Conservancy. Area chiefs and district councilors were invited from N'gutuk N'giron group ranch, as well as the manager of West Gate and Chief Warden of Samburu National Reserve. Project participants were given the opportunity to share their stories of the photographs to these leaders, and provided a culturally appropriate forum for discussing these

concerns. The community leaders were then invited to share their impressions of the project and a dialogue ensued among participants and leaders on the way forward.



Image 4.8. Final galleries.

A second gallery exhibit was held the following day in Archers Post, and was attended by West Gate and Kalama Conservancy managers, area councilors,

Education and Health Extension Officers, religious leaders, youth group and women’s group members and business owners. All attendees were allowed to address the photographs, stories and shared narratives, and encouraged to identify how the Samburu community could work together to address the documented concerns.



Image 4.9. Final galleries.

Additionally, two gallery exhibits were held in the USA. The first exhibit was displayed at the library at Colorado State University, serving as a venue for the celebration of the project’s funding agent, the Center for Collaborative Conservation. The second exhibit was held at The Bean Cycle/Matter Bookstore, a locally run, community-oriented business in Fort Collins, Colorado.

Findings – What We Want To Say

The Photovoice participants met as a group in October 2009 to identify which photos and stories should be shared with their communities. As a collaborative group, the Samburu photovoice participants grouped their stories and images under seven categories (see below). The seven categories address the current environmental concerns in the

Samburu/Uaso region, as well as the way these concerns could be alleviated. The Samburu photographs and stories that follow are organized according to the seven groups previously identified. The photograph is displayed, and a selected transcription of the original group discussion that accompanied the photograph is given as a description.

ENVIRONMENTAL CONCERNS AND SUGGESTIONS FOR ACTION

1. **Trees** – participants acknowledged that the Samburu/Uaso region was much more forested than it is now. Photographers called for more outreach and education regarding reforestation. Photographs of trees also generated discussion on human-wildlife conflict and the historical significance and importance of trees to Samburu culture.
2. **Desertification** – many participants identified the link between the deforestation that is occurring on their land and the increasing desertification of the landscape. Increasing livestock herds, the Chinese-funded road building efforts, and the daily clearing of trees for fuel were all given as reasons for this desertification.
3. **Human pollution** – the photographers argued that the litter and waste caused by the Samburu community is affecting the health of the local ecosystem. They stressed that the problem was theirs, and that they are ready to set an example for cleanup.
4. **Wildlife** – the lands of the Samburu are home to some of the most majestic animals on the planet. While many photographers commented on the significance of the role this wildlife plays for the people and landscape, there was also a call for more knowledge and training regarding predator roles and benefits, near-extinct species and orphan care.
5. **Carcasses** – this project was defined by a specific spatial and temporal context: the arid Samburu East District in the midst of the worst drought in recent memory. Many animals died during this time, both wildlife and domestic livestock, and the photographers chose to document this as a reminder of how bad things can get for all animals without a sustainable grazing vision.
6. **Culture, Spirituality and Community Action** – the photographers consistently spoke of the potential of the Samburu community in addressing these pressing conservation concerns. Local schools were identified as starting points for the mobilization of young Samburus in environmental restoration efforts. Park rangers and community scouts have been given opportunity to respond and help the local community realize these restoration goals. This category also comments on the role cultural pride and spirituality has on working towards a sustainable future.
7. **The Way Forward** – The Samburu participants recognized that through mobilization of the community at all levels, protecting livestock by utilizing alternative penning plans, and ultimately reinvesting in a love for the land was the path for the good life.

TREES

We can as well tell everyone, if we do to trees this way, what will happen to us? Where will get a shade? Can we be able to have the thatched houses again? Are we going to use stones then? Or mud only, without the logs?

~Ernest Ekeno

*Park Ranger, Samburu National Reserve
Photovoice participant*

Every photovoice group identified the destruction of trees as a major conservation concern. Photographers acknowledged that the Samburu/Uaso region was much more forested in the past than it is now. This “trees” category included calls for more outreach and education regarding reforestation. The photographs of trees also generated discussion on human-wildlife conflict and the historical significance and importance of trees to Samburu culture. Photographers called for a more aggressive approach from the local government in negotiating human-wildlife conflict, especially when such conflicts affect human use of other natural resources (i.e. trees). Images of the destruction of trees was also used to illustrate the need for the application of traditional regulatory measures to control the excessive cutting of trees. It was suggested that this occur through cultural norms passed down by the stories of Samburu elders



Boniface Lekartiwa: *The people are now using this Acacia tortilis for medicine.*

Mike Lesil: *To me, you know there are some places where people go to collect the medicine. But this one, to me, people are using this to take to maybe a goat or a cow. Because imagine taking a very big amount like that, that is not the medicine now. That is very long.*

Ernest Ekeno: *Like this would be medicine for maybe a group of ten people. But this one is near the reserve.*

Boniface Lekartiwa: *Yeah it is near Sopa lodge. So maybe it is even somebody working there.*

Photo 4.10 by Boniface Lekartiwa; Ranger, Samburu National Reserve



***Sam Lolosoli:** This is the case of the elephants. They have knocked this tree down. This is the destruction caused by the elephants. It does it for that purpose, because it feeds on those leaves. My suggestion, I think the KWS should compensate the people living next to the park. Because the people cannot do anything. It's like breaking the law to do anything to the elephants. But they can even kill them. Maybe I would tell them to control the elephant movements so that they don't leave the park. I think that they should stay there. Because the rangers are just there. They can just walk around. Even the Save the Elephants, they usually track the elephants. So when they notice they are moving out of the park, they should respond to it.*

If you don't have something for the people, then the conservation of the environment will suffer. Because us, we are human beings now, without us, we are not going to protect the environment. So if nothing is going to happen when these things are destroyed, then we are going to destroy too. When we are destroying, then the animals will be destroyed. It will take some learning. You know, because they are not prepared to get compensation for anything, they just want revenge.

Photo 4.11 by Sam Lolosoli; Youth/College student; Co-founder, Uaso Youth Group, Archers Post



Boniface Lekartiwa: *This is a boma. Near the boundary. You can see fire. This is along the boundary of the reserve. I am not sure if it is in or out of the reserve. I took this photo because you can see many trees are being cut to make a fence. And then, after they leave, they burn.*

Mike Lesil: *From what I know, they used to burn like where the house was there.....you know if the mother has given birth or something. And then those things remain. But we need to keep them from burning live trees. This is just a common thing. Now how many animals used to live there? And there are also some bugs and some birds who used to use that area. So we can tell them look, now it is a dead tree. Within some months, it will just fall down. Just look at the cutting of trees now. Look at all of the trees which had to be cut for this place. Imagine. And there are no stones there, so they don't have a choice.*

Ernest Ekeno: *Another thing is that if those people are planning to come back at another time, they have to burn it down to kill the bacteria. But what we are supposed to tell them about this picture, we have to tell them that the fire is no good for this place. When you are using fire, you have to be careful, when there are any other living things like this tree now, you are supposed to burn the dung. They should have found a place and put the dung there instead of burning everywhere. Because they could have just burned everything, out of control.*

Photo 4.12 by Boniface Lekartiwa; Ranger, Samburu National Reserve



Ernest Ekeno: *I took that picture just because of the trees there. They are debarked, and it seems as though they are drying up. It seems as though they are dying. You know the people they keep a lot of livestock. And the animals they dig. Or they cut trees. So when the river comes, it comes with force. The water comes by force and changes the normal channel. So that is why I took that picture, because you see all trees, once you see there, in some years coming, all will be out. Why I chose this picture, because I am able to teach the community to build gabbions where the soil erosion is taking place. And also to encourage them to plant the indigenous trees. But we don't plant there, we plant somewhere outside.*

Mike Lesil: *I can say that this place is a home for some animals. And we have to find a way where we can cultivate trees. Or else the animals will not have a home. You know this is the area for baboons. And baboons are herbivores. So we have to find a way to at least save these homes for the animals.*

Photo 4.13 by Ernest Ekeno; Ranger, Samburu National Reserve



Ernest Ekeno: Normally we see that elephants are destructive, but the elephant pruned these trees. It is now pruned. It is not cut like what the human being did. So the elephants are not so much destructive. Some of the trees, they prune them, and the way they push the tree, it is because they need something upwards there. And when the tree falls down, it becomes again another niche for other animals. There are other animals, small animals get their habitat there. Also the grass will grow there. So many other animals. But a human being, they just cut from the stem there and they burn it forever. You will never meet that tree there again. This one will still grow. So the elephant is not only destructive. Only three days. And it is still going on. When it reaches next Monday, the tree will be going again.

What we are trying to give people here, because most of the people believe that the elephant destroys the forest, but the message I want to give to the people is that the elephants are beneficial. They prune most of the trees. They fall and as an accident. Although they used to push, they don't just follow a very short tree. But when the tree is very strong, and the elephant cannot reach the branches there, they used to push it. And that tree, if the roots cannot handle the soil very well, in fact that tree will fall. And if it is a hard tree, the elephant will just push like that and maybe the pods will just fall out. And if the tree does not fall, the elephant will just go and leave it. Or it will just go and debark it.

Because normally, when the people walk around here, where the elephant is. The elephants destroy some trees, but not all trees. They just select some trees. But when we try to tell the people to go into the forest and cut trees, in fact you cannot even get one tree left after that. Because they have a tool they use to cut the tree. But the elephant will just push it. And when the elephant pushes down, the elephant does not kill everything there. That tree will benefit again other people. In fact, even other small animals.

Photo 4.14 by Ernest Ekeno; Ranger, Samburu National Reserve



***Ernest Ekeno:** What we have here, we have logs, we have stems of trees. This means that nothing was left in the bush. Everything was brought here. This is Loruko. Where people are that have destroyed all of the trees. What I thought about this picture, why did this mama decide to clear all of the bush? Because this one does not belong to one tree. It is several trees. And you can see the way they take the logs and the small twigs. So they have left nothing there. She believes that the environment will never be destroyed. When she sees the environment there, she believes that it cannot be destroyed.*

You know, I do not have that mandate to go and teach people there in the community unless I am permitted. We just can't go outside and start criticizing people that they are doing this, and this, and this. Unless you plan so that you can go and teach a group of people, but not just anyone that you see they have done something wrong. Because it is not just to me, but to all over to the community. So it is something that needs a class where we sit down to discuss such issues.

In fact, this one, this one needs its own project. Because it will not fall in our area. Because people may think that "why are these people now coming to talk to us about trees? Yet they are always conserving animals. What are they doing now?" They think that when you are a ranger, that you are only looking after animals. And inside the reserve, not outside.

We can as well tell them all of us if we do to trees this way, what will happen to us. Where will get a shade? Can we be able to have the thatched houses again? Are we going to use stones then? Or mud only, without the logs?

Photo 4.15 by Ernest Ekeno; Ranger, Samburu National Reserve



Sam Lolosoli: So here people are cutting down trees for firewood, then they use it for the fires for cooking. Charcoal is the cheapest source of fuel here. And these ones, they are getting it from the park. People, they depend on the park, they get income from the tourists who go there. If you go in the park, there are wild animals there. That is what the tourists come to see.

Henry Lenaiyasa: This is just an economic thing. People get some little money to make charcoal. Just to sustain their livelihood. Again, how do you discourage that? We have a very nice policy where we cut a tree and we plant two. But where are we getting these seedlings from? Is the government providing? Do you have an agricultural officer who is minding about this? We don't have.

Sam Lolosoli: You know some 10 years ago, we used to have some people called surveyors. So those people they used to protect the trees. But nowadays I don't know where they have gone. Another thing, the trees provide shade. Sometimes in Archers post you can see all of the wazees under one tree. They go and rest under the tree. Trees are good.

Photo 4.16 by Sam Lolosoli; Youth/College student; Co-founder, Uaso Youth Group Archers Post

Sam Lolosoli: *The name of this tree is called river acacia and the scientific name is Acacia elatior. It usually grows along the riverbanks. This tree provides a good shade. In fact the combination of its shade and the river breeze is so cool. River acacia also help to reinforce riverbanks, which in turn prevent flooding from overflowing of the river or banks breaking. Moreover river acacia beautifies a place, which leads to the attraction of investors to construct lodges and set up campsites, which increases employment opportunity to the local communities. River acacia is a medicinal tree and now this is where my argument comes. The bark is boiled with meat or soaked in water. It helps to cure stomach problems and is also an appetizer. Debarking of these trees will create a serious problem in the long run because when we debark these trees, it will dry up and all its functions or importance I mentioned reduces to nothing, and when the river rejuvenates, it will wash it away. The elephants too feed on the bark of this tree. This one is debarked by elephant and not human being. As much as some of us will argue that this is just a nature we need to do something to prevent this, like what Save the Elephants is doing surrounding mesh-wire and barbed wire on the stem of river acacia. If this is expensive or makes it look unnatural then think of other alternatives.*



Photo 4.17 by Sam Lolosoli; Youth/College student; Co-founder, Uaso Youth Group, Archers Post



Samson Lenamunyi: So you see this tree is *Acacia tortilis* and this *Acacia tortilis* is a very important tree because it provides, it has a seed which it usually produces and also for fencing. Mostly it is good when you set up your manyatta but not to cut like this the way this person has cut. This person has not thought if there is something else that she or he needs from this tree again.

Even the elders from the manyatta knows this, we tell them if they cut the tree, they should cut the branches from the sides and not the shoot which goes up, just like pruning and you take the side branches for whatever reason you need. So this one it seems we have to go back and educate the community who lives around here because they must know this person and they saw him/her doing this thing and they just ignored him/her. So now what we need to learn about trees is how to preserve these trees because nobody will need this, this kind of world.

Photo 4.18 by Samson Lenamunyi; Deputy of Security, Kalama Community Wildlife Conservancy



Richard Lekumaisa: *So you see this ltepes just the way we told you is a very important tree to us. Now you see sometimes people start to cut, and if they continue that way, I mean the benefit we saw before they cut it, if they repeat cutting it will add us problems and drought will come.*

Paul Lempunya: *Even this place of ours the way you see people cutting trees is just because of this drought. People have no other alternative we only cut them because goats cannot reach the leaves, we only need the leaves. I heard another story from down there, the elders strike completely from Nagorworu. Do you know Nagorworu? What about Silango Nanyokie? I heard those elders strike, if they found you cutting trees you pay affine. If you don't pay a fine they arrest you. You see now? Because it is only elders, nobody else can pass a law.*

Richard Lekumaisa: *So that place has a lot of trees. You just shake the tree and when you get tired you go and leave the goats there feeding. And the leaves of this tree are healthy. So you see now in that place their goats are better than ours according to what we heard.*

Photo 4.19 by Richard Lekumaisa; Deputy of Security, West Gate Community Wildlife Conservancy



***Teresi Lenakae:** The trees that we have been taught in school is like tea, coffee another one that I can remember is jacaranda tree. But not the local trees. You know again samanderi it grows on naing'ure. If its gum holds the soil just in a week it will start to produce leaves, now it is grown already. And this thing, the roots start to go down which it is produce by samanderi. You know now sometimes people can just stay and they don't know the importance of these trees, you see, you sometimes stay with wealth and you don't know. So when you are taught you later realize it has importance.*

Photo 4.20 by Teresi Lenakae; Scout, West Gate Community Wildlife Conservancy

Desertification

It is a problem, everybody is seeing it, but nobody is talking about it. So if we don't mind about the conservation of our environment, then we can start it by filling those trenches. Or we can plant some trees inside. But who bothers? Me? You? The government? Other stakeholders? We don't know. Can we start it from us maybe?

*~ Henry Lenaiyasa
Head Waiter, Intrepids Lodge
Co-founder, Uaso Youth Group
Photovoie participant*

Many participants identified the link between the deforestation that is occurring on their land and the increasing desertification of the landscape. Increasing livestock herds, the Chinese-funded road building efforts, and the daily clearing of trees for fuel were all given as reasons for this desertification. Photographers are calling for a community movement to address this. Tree planting, livestock reduction and the mobilization of youth groups were all given as efforts that need to be implemented to decrease the level of desertification that is occurring.



David Obonyo: *This place was a forest, full of trees. But you can see the effect of human beings now for the development purpose. The road construction now. You can see they have destroyed a big land. They destroyed all of the trees. So maybe we can say, ok it is true they have to use this for the building of the road. So that is the advantage of it. Actually it can improve this place. But if they destroy this place, like this place now, we already got what we wanted, but we can't leave this place like this. For us now, we have to go and plant again. Because we can't just leave it like this.*

Sam Lolosoli: *Yeah the advantage and the disadvantage of the road now, the advantage is more than the disadvantage. But these people are being paid for the construction of this road. So what are they doing in return? They are destroying the land, cutting down the trees. So what are they doing for the community? I think even they should construct some boreholes. Give some trees for planting.*

Photo 4.21 David Obonyo; Bar Manager, Archers Post; Co-founder, Uaso Youth Group



***Source:** These camels cause the soil to be loose and when it rains, the water carries the topsoil and then the bad soil is left behind which is not suitable for agriculture.*

***David Obonyo:** Due to the impact on the animals that you see destroying the environment because the large numbers of animals moving to different places create a lot of paths. And that path is still making the soil to be loose. And the water surface then carries the loose soil.*

Photo 4.22 by Source; Archers Post resident



***Dan Letoiye:** You know these are the goats moving on a bare land. There is no grass. You know this one is just bare rocks. So if you look at these goats they are really struggling to find something to eat, but it is not there. And they are moving around, so the dust will come over and the whole of this will result to death.*

Photo 4.23 by Dan Letoiye; Manager, West Gate Community Wildlife Conservancy



Boniface Lekartiwa: *This is behind Sopa. I think maybe the domestic animals have contributed to the drought. Because there are many there. They are overgrazing. This erosion, it will continue to be more and more, and it will turn into a big lugga.*

Mike Lesil: *Maybe we can try and do what Kalama and West Gate have done. Plant grasses.*

Ernest Ekeno: *I have an idea here. It could be better if we go to the forest department so they can teach us how to plant these indigenous trees. The type of trees that can grow in such a place. Because of these *Acacia reficiens*, no grass can grow there. So the issue is going on where there are these trees. At least to know the indigenous trees to plant. We want to change what we are seeing. We want to know why this tree is doing this.*

Photo 4.24 by Boniface Lekartiwa; Ranger, Samburu National Reserve



Henry Lenaiyasa: *This is already a trench. And believe me, this is just a small trench of it. So this is where we have to solve the problem before it becomes bigger. It is a problem, everybody is seeing it, but nobody is talking about it. So if we don't mind about the conservation of our environment, then we can start it by filling those trenches. Or we can plant some trees inside. But who bothers? Me? You? The government? Other stakeholders? We don't know. Can we start it from us maybe?*

Sam Lolosoli: *You know this one is supposed to be the responsibility of the government. It is the concern of the Ministry of Public Works. They are supposed to do something.*

Henry Lenaiyasa: *Yes, they could fund us. Then us boys who know about conservation can do it. Because this is our problem and it lies with each and every one of us.*

Photo 4.25 by Henry Lenaiyasa; Head waiter, Intrepids Lodge; Co-founder, Uaso Youth Group, Archers Post



Beatrice Leshori: *The obvious solution is planting of trees. This prevents soil erosion. We teach pupils about soil erosion by taking them out and showing them practically how gabbions and terraces are constructed. Also with soil erosion, we have to teach the community to keep the right number of livestock. For example one person in our area, one person has over 100 cattle. The right number of cattle to be kept is around 20 or 30. We better teach the community to sell some of their cattle and keep money in the bank because in the recent past all cattle were taken to Isiolo districts by the government and the people are left poor. So if we don't conserve our environment then we will be living in a desert.*

Photo 4.26 by Beatrice Leshore; Teacher, Girgir Primary School

Human Pollution

There is a policy made to govern all people in Kenya to avoid dropping litter on the way. But everyone will say it is not mine. The people need to be taught that this rubbish is not for somebody else. They may say it should be collected by the government. So who is this government?

Who will stay in that dirty place? Is it the government or you?

So the problem is ours.

~Isaac Longoro

Teacher, Girgir Primary School;

Photovoice participant

The photographers argued that the litter and waste caused by the Samburu community is affecting the health of the local ecosystem. They stressed that the problem was theirs, and that they are ready to set an example for cleanup. This statement was made as a response to the community's assertion that the government should provide services that would help take care of the litter problem. The photographers stressed that since they were the ones living in this community, then they should be the ones charged with cleaning. Suggestions were made to provide opportunities for students to assist in this effort. This would not only provide a necessary service, but also instill in students a service ethic focused on the Samburu community. It was also suggested that conservancy members should set an example to their respective communities by providing a landscape free of litter.



***Ambrose Lekoitip:** This is where goats are living. And then look at this room, whereby people are staying. Now you can see how close people are, and you can see that window. People are living right there. So you have to ask the question, who deposited these things here? Humans did so. When these goats eat these papers, just think that these goats will now deposit. So now think that these goats are now going to have these papers inside. You see these papers, these polyethylene papers, they will never rot. So they are definitely having an environmental impact. The wind will blow and these papers will go all over this area. It collects water. It will be very bad for the soil. So you see these papers, this rubbish, is now going to kill innocent people, and innocent animals. Because now they are eating rubbish. So really it is human beings who are killing their livestock. But we as human beings we can change this. So, let us get a way of disposal now so we can take care of this rubbish.*

Photo 4.27 by Ambrose Lekoitip; Headmaster, Girgir Primary School



Isaac Longoro: These are polyethylene papers. They were not collected there by anybody. Back behind the health center. Now for one, this is soil pollution. And it is also a harboring place for mosquitoes, when it rains. And when you go around Archers Post, you will get a lot. And no one thinks of collecting them. When it rains, a plant is supposed to grow there. And you find that because that polyethylene paper will cover it, it will not grow. Another thing is that it affects animals. Because a bag cannot be digested.

In the past, I just organized some people and we collected them. But, after collecting them, you get one from the ground, you will meet another one there. And because even when we do it, some people will just laugh at you. As if you are doing something stupid. And you don't have to think about that. It's true. Some people will not see the seriousness in you.

Photo 4.28 by Isaac Longoro; Teacher, Girgir Primary School



Henry Ekuwam: *Rubbish and polythene bags within our environment have adverse effects. One, it increases breeding of mosquitoes hence increase of malaria infection to our communities. Two, it reduces growth of plants which germinate in the ground because polythene bags cover the germinating seeds. With the help of children at homes we can reduce all the effects that I mention earlier by disposing rubbish in an appropriate way. A clean environment enhances good, healthy communities and less malaria infection if all rubbish is collected and burnt. Together we can.*

Photo 4.29 by Henry Ekuwam; Headmaster, Lorubai Primary School



Dan Letoiye: Fine, this is good, but this should be properly disposed. It's good because it is in a pit. But after putting this in a pit I think it is necessary for us to burn this and ensure that it will not be again blown away by the wind. You know right now there are a lot of plastic materials that you can buy all over the country. After finishing what you are taking, your water or whatever, you just throw it. But in our daily way of life, let us, you know let people know that it is you, it is important for you to properly dispose of these materials.

I remember the other day I was driving and somebody threw away the paper, the plastic. After finishing, they just threw it. Then I saw it in a side mirror. You know I was just driving and then maybe after some time, I thought that somebody must have thrown some plastic. So I stopped and turned the car around and pulled up to where the plastic was. I stopped the car and got out and picked it up and dropped it in the car and continued moving. You know the person who did it, in fact he really felt guilty. He felt that "oh, I did the wrong thing." So hopefully that person will not do the same thing again.

Photo 4.30 by Dan Letoiye; Manager, West Gate Community Wildlife Conservancy



***Dan Letoiye:** You know this is just the neighborhood of our West Gate headquarters here. For one, if you look at this, this is a battery and it is already leaking. If look at this it is already leaking some acids. And this one is a polyethylene paper. So if we continue, this is just one year. What about in the next 20 years to come. How will our environment come to be?*

What is important here is that as conservationists, we should actually serve as a role model, as an example, and this is actually the place where people should come and learn how environmental conservation is done. And when they come here, our neighborhood community, our communities around, when they come around they should not see this kind of thing.

Photo 4.24 by Dan Letoiye; Manager, West Gate Community Wildlife Conservancy



Isaac Longoro: This are banana leaves use to cover miraa which are brought by miraa dealers. To those who brought miraa, it is not advisable for them to bring those leaves and throw them here as rubbish. There is a policy made to govern all people in Kenya avoid dropping litters on the way. So it is not the duty of that mama to collect that rubbish but just through the support of the county council that she is collecting it. Everyone will say it is not mine. The people need to be taught that this rubbish is not for somebody else. They may say it should be collected by the government. So who is this government? Who will stay in that dirty place? Is it the government or you? So the problem is ours.

Photo 4.25 by Isaac Longoro; Teacher, Girgir Primary School

Wildlife

So we just need the knowledge to make them understand that this animal is almost finished. Once finished, then the benefit we are getting from wildlife is finished. We will lose everything. We will not even be able to support the people when they are sick. We don't even get the opportunity of jobs. We lose everything. So we need to understand that this is our wildlife. And the benefit brought on by this wildlife is for us. Not for a mzungu. Not for KWS. Not for everybody else. This is for the community. This is our income.

*~ Stephen Lenantoiye
Chief of Security, West Gate Community Wildlife Conservancy
Photovoice participant*

The lands of the Samburu are home to some of the most majestic animals on the planet. While many photographers commented on the significance of the role this wildlife plays for the people and landscape, there was also a call for more knowledge and training regarding predator roles and benefits, near-extinct species and orphan care. These suggestions were centered around the idea that the reserves and conservancies may not fully be doing the job they are meant to do. Several photographers mentioned the lack of knowledge they possessed on key species (e.g. lion, cheetah and Greater Kudu) and that the lack of this knowledge prohibits them from engaging in responsible management actions. Furthermore, the photographers were calling for more knowledge about these species so that they could then disseminate this information to their respective communities. Beyond providing the benefit of increased communication and connection to the community, this effort could help garnering support for future wildlife protection efforts.



Joseph Letole: *So what I am trying to say is that maybe these animals, its like this is not their habitat. So what I wanted to know about is that, for example, in a conservancy, we should have an institution whereby we can be able to take care of any wildlife welfare. For example, you have here 2 foals of Grevy's Zebra. It is good that you have a small place where you can put them. And maybe you can take care of their needs. Actually from this, this was my first time to see wild animals to be kept around by community members, by the conservancy. But they actually don't know how to feed them, how to take care of them. They are just left wandering because they don't have the capacity. They don't have any training on how, like what is the best food for them.*

So it would be really good if were told about the issues concerning wildlife. Because now, the Grevy's Zebra is one of the most endangered species. If we start

now playing and losing the foals, then what are we doing? We are not conserving anything. You say we are a conservancy, but what does it entail? Is it only a lodge? A headquarters? Or is it a conservation area? Or is it wild animals and the community? For this, we also need to have knowledge on these issues. I think the conservancies should have an institution where at least you can take care of this and this. These scouts can do it. It is not good to be only monitoring them, monitoring them, monitoring, monitoring, monitoring, only,only,only. And you just leave the other issues like their welfare. You can get an elephant with a broken leg, what can you do? You get a dik-dik with a certain problem, what can you do? Because these things are just all over. So at least we have to have some people who are being trained on just some small issues on how to take care of them. So we can actually get some experience here and there and create more opportunity for other people to get some jobs.

Photo4.26 by Joseph Letole; Project Coordinator; Grevy's Zebra Trust



Stephen Lenantoiye: *These animals are now getting extinct. They are getting finished. In fact here we have very few. I think even Isiolo and Samburu here, we have only, I don't think they might be 20. So we just need the knowledge to make them understand that this animal is almost finished. Once finished, then the benefit we are getting from wildlife is finished. We will lose everything. We will not even be able to support the people when they are sick. We don't even get the opportunity of jobs. We lose everything. So we need to understand that this is our wildlife. And the benefit brought on by this wildlife is for us. Not for a mzungu. Not for KWS. Not for everybody else. This is for the community. This is our income.*

Photo 4.27 by Stephen Lenantoiye; Chief of Security, West Gate Community Wildlife Conservancy



Paul Lempunya: *So now these Grevy's are very important animals in this place of ours. The tourist likes it. One day they were many but now they have been reduced by drought, but still we have them. Those animals now are the ones that have made us to get a job. Because if there were no these animals we would not have a job. Now this thing, I don't have enough knowledge so I need to be taught how to relate with these animals because these animals, some of them are very dangerous. You know now we are looking after the Grevy's zebra and others so we just need to know how we can be friendly and socialize with these animals.*

Photo 4.28 by Paul Lempunya; Scout, West Gate Community Wildlife Conservancy



Henry Lenaiyasa: *You see, those are common zebras. These common zebras are just grazing all along somebody's fence. You can see there is a fence. And there is a beautiful, wild, taken care of trees there. So you can see how beautiful the place can be. Having good wildlife, having a good harboring of trees, and there is a fence there. There is no conflict. You can see the plot, the trees, and the animals are there. What a lovely life! Have a cup of coffee! Have a picture with the common zebras! But the conducive environment includes each and every one of us. Me, you and animals, you know?*

Photo 4.29 by Henry Lenaiyasa; Head Waiter, Intrepids Lodge; Co-founder, Uaso Youth Group, Archers Post Resident



Mike Lesil: So when that cheetah was walking around crying, like “meep meep”, then all of a sudden this leopard came running after it. And it was just within inches of that cheetah. But something funny about this leopard, it was like it was running after that cheetah, then the cheetah would stop, then start running again. So it was just like a fun for that cheetah. But the leopard was serious about getting that cheetah. So the leopard was trying to mark everywhere. So that was just the place where the cheetah was lying around. Every place the cheetah has laid down, the leopard would just come and mark it. So I don't know why, it just wanted to chase it. You can see it eventually went up on the tree. He was also eating a dik dik up in that tree. Maybe he took it from the cheetah. This was after the fight and this guy was still looking for that cheetah.

So this was taken as part of a remembrance. Because we saved this cheetah from the leopard. The leopard was trying to kill the cheetah. And we decided to come out of the car to save it. So to me, at least we did something good for this cheetah. We have the cheetahs in Samburu, they are very few. Even leopards are a bit low, but we are really trying to save this one. Imagine, you see this one is pregnant also, so we are saving this one. If the leopard had killed this cheetah, what would we have right now?

Photos 4.30 and 4.31 by Mike Lesil; Ranger, Samburu National Reserve; Archers Post Resident



Mike Lesil: I took this because it is a Greater Kudu. These ones are really decreasing. Their number is really going down. Actually, this Greater Kudu is living within our staff compound. It has already given birth. So this Greater Kudu needs at least some kind of research. Instead of just doing for elephants, lions, at least even the Greater Kudu. Because in some time to come, you will not be able to find any greater kudus here. It is just like the eland. Some years ago, we had an eland here. Then it disappeared. Nowadays, no elands in Samburu. The same can happen to Greater Kudu. So I took this for us to move towards learning more about this animal.

Photo 4.32 by Mike Lesil; Ranger, Samburu National Reserve; Archers Post resident



Mike Lesil: The main thing for me to take this picture is because this lion is in a tree. I have been hearing about the lions of Lake Manyara. The famous lions of Manyara. So I took this picture....why not the lions of Samburu? They also climb trees. Everyone is talking about the lions of Manyara. The lions of Lake Manyara climb trees. I have heard it several times. But you see it here. And this tree is even a small one. I saw one before that a lion climbed; imagine they go straight up to the top. I don't know what kind of cats are these. I really want to study about these cats. To me, I thought that we really need to study about this, these lions. Because it is fun to see a lion climbing a tree. You see, just like a leopard.

Photo 4.33 by Mike Lesil; Ranger, Samburu National Reserve; Archers Post resident



Daniel Letoiye: I took this photo just because of the name of this rock. It is called hyena rock. And this is the cave where the hyenas will hide during the day. This is the cave where the hyenas will hide themselves. In fact, the day I went there to take this photo, I saw some of them there. You just go there and you will see them. So, there is something very interesting about the hyenas, the Samburus and the environment. Ok, the rock is a beautiful one, and the hyena is an animal, but the reason why I have taken this is because of what the hyenas are about. If you go to this place, you will get all sorts of bones. And all sorts of things. Anything! Plastic, what, what, everything! And you know what happens to the hyena, the hyenas can feed on anything. Anything. And if you go around this rock, you can't find anything apart from completely white, white bone. And in that bone, they must have struggled to see if they can get in there, but maybe they were defeated. And the good thing about the environment with the hyenas, they are like the dustbins we were talking about. They feed on anything. You know their digestive system I think it is very powerful. So they feed on anything they find and they just, then it comes out just as a manure for more, what do you call it, nutrients for the plants. And it all continues. So the hyenas are very important for environmental conservation.

Photo 4.34 by Daniel Letoiye; Manager, West Gate Conservancy

Carcasses

I want to remember 2009, this year of drought. Because I can go and tell in the past cows died during the drought season. For sure they know that. But if I tell them even the wild animals die, they won't believe that unless I prove to them. Maybe there is a way we can prevent if we share ideas.

~ Kasungu Lorparasoroi

Scout, Kalama Community Wildlife Conservancy

Photovoice Participant

This photovoice project was defined by a specific spatial and temporal context: the arid Samburu East District in the midst of the worst drought in recent memory. Many animals died during this time, both wildlife and domestic livestock, and the photographers chose to document this as a reminder of how bad things can get for all animals without a sustainable grazing vision. Many photographers called for more aggressive control on livestock numbers. An important component on this type of control is the use of these images in describing the extent of the destruction caused by the drought, particularly its effect on both livestock numbers and wildlife populations. High livestock numbers, coupled with inadequate grazing plans, has been identified by the photographers as drivers for soil erosion and vegetation loss. The photographers chose to have a separate carcass theme to this project to serve as a reminder to the local communities the damage that can be done without proper planning.



Henry Ekuwam: *So what you can see is a carcass of a cow. I just found it near to town. And I asked myself many questions about it. What caused it to die, and the rest? So, once, this cow was very healthy. It must have been because it was a very big cow. But then what has caused it to die? This is because of the degradation of the environment. People cut trees, they cut the shrubs. Maybe they cut it for the construction of the houses. So then the environment will just die. Because now we are not getting enough rain, and the trees are becoming less and less.*

The other thing, because people are keeping so many livestock, keeping all of these domestic animals like the cattle, normally they cause soil erosion. We have in class 8, we have, or in class 7, we have that lesson in cattle planning. Now, I am a pastoralist. But before, I never knew about soil erosion. But when I came to school, I learned about soil erosion, and how those animals were causing that erosion. Because there were some footpaths back there I remember when I was just a small boy. But now they are gullies. So now all of those people and the livestock use the same path. Straight to the river.

Photo 4.35 by Henry Ekuwam; Headmaster, Lorubai Primary School



Dominic Lenarum: *I am teaching that things are changing. Like now here it looks bad because it was a drought here and you can see the animals don't have something to eat. They are dying so it teaches us if they let it continue this way it will be bad life.*

Sakuna Lenene: *They leave that carcass because these people don't know more about environment. But even some of them they don't leave there in the bush. They just remove the hide and go and leave it there because they cannot eat it.*

Kasungu Lorparasoroi: *Also, according to the custom of our ancestors, it is not good to bury human being and then bury the livestock. That's what I learned as Samburu from the old people, livestock are not supposed to be buried.*

Dominic Lenarum: *According to me, I want to teach when things like this comes, I think everywhere you pass you find something like this you get a bad smell and this can bring many diseases like cholera. You know these houseflies can bring cholera and diseases. So I would like to teach the community not to be like this, if the animals die they should burn or just bury it, but not to leave it there.*

Samson Lenamunyi: *Another thing that I can add, before the situation reach at this point, people should try to sell their cows and remain even with two which they can be able to feed before it get worse like this. Now they can accept, but before they didn't want to hear that.*

Sakuna Lenene: *You see now like this they say it is taken by the drought. So if they leave it there it will not cause any harm. They don't know if there are flies which come to the carcass and take the disease to them. They only think that cow is taken by drought and not disease so no harm it will cause to them.*

Photo4.36 by Dominic Lenarum; Scout, Kalama Community Wildlife Conservancy



***Isaac Longoro:** I took this photo so that people can have love towards this animal. According to the Samburu, they say that the elephant was a human servant. And always at home with the community. So that they have some close relationship with it. These animals, I used to fear them terribly. If I could see an elephant I would just run away. But nowadays I don't fear because I've seen that if you don't disturb them, they are very friendly.*

If I want to go and see the elephants, I don't have to pay. I just go out and go around and I find an elephant to see. For example, an animal like the gerenuk, I know where I can go and see a gerenuk. Even now I can just go to that place. So for these young people, they have not seen a rhino – and they need to see.

And you have to cut the face. The Kenya Wildlife Service comes and does that to take the tusks. Because some people will come and take it and whenever they take it, if one dies, either of sickness or maybe disease, if a person gets those tusks, maybe that person who has got those tusks will go to sell. That person must then have the idea to go and kill another elephant to get those tusks again. Because now that person has got the taste of money. So you can see that elephant cannot manage itself. Now look at this animal, it is lying there.

Photo 4.37 by Isaac Longoro; Teacher, Girgir Primary School



Samson Lenamunyi: This is a good example to show that not only the domestic animals are dying but also even the wild animals were affected by the drought. And then another thing is like now the wild animals don't have a person to look after them unlike the domestic one. You see this land that these animals have died on, it is very bad conservation, it is not good, it is bad environment.

What I am teaching here is in the environment we are not supposed to live a life like this. Because death can occur and also a desert can result. Because here you see there was a manyatta and it is the one that causes this. According to me, if a drought like this occurs there must be a good monitoring to the wild animals which they don't have a person to look after them because most are suffering. Or even sometimes you can find it has stayed there for more than three days because it was sick. So if people got the report earlier they might help.

Photo 4.38 by Samson Lenamunyi; Deputy of Security, Kalama Community Wildlife Conservancy



***Kasungu Lorparasoroi:** I want to study this and also I want to remember 2009 this year of drought. Because I can go and tell in the past cows died during the drought season. For sure they know that. But if I tell them even the wild animals die, they won't believe that unless I prove to them. We can be able to change but sometimes very small because your cows or mine, I didn't want them to die this way. But if there is a way we can come together and then we teach each other, if there is a way to prevent it will be very good. Maybe there is a way we can prevent if we share the ideas.*

Photo 4.39 by Kasungu Lorparasoroi; Scout, Kalama Community Wildlife Conservancy



Boniface Lekartiwa: *This zebra is dead. And I really think this is the result of climate change. I think this has happened because of the difference. They don't have anything to eat.*

Ernest Ekeno: *I think when we say climate change, I think we are talking about the normal seasons changing. Let's say from winter to summer. During the cold times, it becomes warm.*

Mike Lesil: *This one, it is caused by the drought. Because, there were some grasses there, but no water. I think Lekartiwa took this picture up at Sopa. It is now far from Sopa to the river, where it can get water. Because without water, it cannot survive. But if there is water, it can survive. So what about a small animal like this? Some people could have done something at Sopa. Maybe putting a borehole there. Then that could have saved this animal.*

Ernest Ekeno: *So to the community, if it is me, what I can tell the community, I can tell them that this animal is very beautiful. This animal is not aggressive. This animal it only browses. So this animal, it needs a space without being disturbed by domestic animals. And right now, maybe it has died because of starvation because the domestic animals have been disturbing them. Running there, then over there. And right now it could not have something to graze. So maybe that is the reason it has died, it does not have enough space. Because if it was wild animals only in the reserve, without the community interfering, maybe this animal would not have died.*

Photo 4.40 by Boniface Lekartiwa; Ranger, Samburu National Reserve



***Paul Lempunya:** I did not take this picture when it is sick, we called and then I went there and when I reached there I found it was still alive and then it died shortly after. So if I had that small knowledge I could have helped that elephant. So I took a picture of the ones walking in the bush. This one is sick, we stayed with it waiting for the Kenya Wildlife Service to come with a veterinarian. This wound here is too big. If we had the knowledge we could save the life of this elephant because it has been wounded by a spear. You know we could apply some medicine on the wound and become well. If we continue this way they will all finish, you see.*

Photo 4.41 by Paul Lempunya; Scout, West Gate Community Wildlife Conservancy

Culture, Spirituality and Community Action

If you can start by first educating our children about the conservation of the environment, then these children will learn and take it as they grow. It will be more effective than if you just talk about it in the media, or in meetings like barazzas. But if you start it at an early age, in school, then they will take care of the environment. In fact the environment, they will take it as a lifelong process.

*~ Boniface Isigi
Teacher, Muslim Primary School
Photovoice participant*

The photographers consistently spoke of the potential of the Samburu community in addressing these pressing conservation concerns. Local schools were identified as starting points for the mobilization of young Samburus in environmental restoration efforts. Park rangers and community scouts have been given opportunity to respond and help the local community realize these restoration goals. This category also comments on the role cultural pride and spirituality has on working towards a sustainable future. The Samburu still follow the lead of their elders in terms of how society is governed, and this was used to illustrate how effective conservation goals could be met through the use of elder stories and traditional spiritual connections. Ultimately, this category stresses a movement towards self-sufficiency, suggesting that the government is not the entity entirely responsible for helping the Samburu community reach its goals. This will only come through direct community action in areas of food production and distribution, deliberate community outreach by conservancy scouts regarding conservation agenda, support for municipal cleanup work, the use of elders as the drivers for conservation action, and finally an approach that uses Samburu tradition, spirituality and cultural pride as its foundation of respect for the natural environment.



Monica Lekalaile: Ok, so these are the people who are being employed by the conservancy. Now these people, you find that even though the community has gotten the benefit by these people being employed, they still misunderstand that these people work for all of them. This conservation area was restricted by the community around. They are the ones who decided that they should keep this place for the wild animals. And you find also that they are the ones who are bringing their animals to graze in that areas. Now they are trying to fight with these people who are working in the place. And they are the ones who have employed them. They are the ones they have put there to protect them. Now when these people came to chase the livestock from the conservation area, there was a community member who was trying to shoot this man. With a gun! So you can see these people are still missing a knowledge.

Photo 4.42 by Monica Lekalaile; Chief Radio Operator, West Gate Community Wildlife Conservancy



Henry Ekuwam: *You can see these kids taking porridge. And I saw that where it came from, it came from the school fee program. And this school fee program is a being funded by the World Food Program. So this is relief food which has been donated by other countries. So if we could conserve our own environment, then we would not have a situation whereby the children are getting the food at the schools, instead of fending for it at home. Food that has been grown at home by their parents.*

We used to have some shambas around. Just around Lolosoli's plot there were some shambas. Around Girgir Primary School we had some shambas there. That was in the early days, that was in the 1970s. In fact the one we had in the school, it was for a demonstration on agriculture.

Photo 4.43 by Henry Ekuwam; Headmaster, Lorubai Primary School



Kasungu Lorparasoroi: *Do you remember last time when we were here, I told you I want to be a teacher? That's why I chose a picture of a teacher. So I was teaching the community on the little that I gained. But what I am doing here, I am trying to talk to them in advance before it reaches a time where they will be forced out. What I can say, it is a good thing you know, the meeting of the scout and the moran is usually very hard to have them talking. But now this picture shows if we approach them in a good way we can come together and talk and help each other.*

Samson Lenamunyi: *To add on that, these are two different generations, so it will be good to get a generation with good listeners like now this one. Like now the way this teacher is teaching them it will really help us in terms of environment.*

Sakuna Lenene: *This shows a good picture because it shows the Kalama ranger and Kalama community. So we the Kalama rangers, we have not segregated them saying here is our territory. We don't prevent other people from coming here so that it is only us.*

Photo 4.44 by Kasungu Lorparasoroi; Scout, Kalama Community Wildlife Conservancy



David Obonyo: Nowadays you find that there are people employed by the county council. They are a community self-help group and they are being chosen from the village like treetop, Kulamawe, Katanga drum, Katanga chini. But the problem is that they are being placed to a specific place. They are being told to do cleanup in a specific place. Think about the market. In the market now they are only being told to go and collect. So you have to go down to the market in the morning time pick all the papers and all *uchavu* (litter), then take to where there is supposed to be dump. But then you go to your place. If you now go to where you live or in the village that we live, you find that nobody is caring about these things. Now this has to come now to the people, the community or the youth now, to come and make these villages to do this, and to that village to do this, and to this village to do this, collect these, perfect. And as we discover new ways of doing things, like not only giving them jobs to go to town and do that but we have to give them jobs still to go down the village and do these.

Photo 4.45 by David Obonyo; Co-founder, Uaso Youth Group, Bar manager, Archers Post



Kasungu Lorparasoroi: *I want to be taught how I can bring people together like this. I need to learn, that's why I am showing you this picture. When people are together this way there will be no hard task. If they are this way everything is cool because they will be in good terms. They like each other or they can move in the same direction with the same pace. What I want to bring to them, to add to them, is to bring them together and have unity. Not only because this is a task that I usually meet in my job in Kalama Wildlife Conservancy. I need to know how to communicate because sometimes I meet with morans and wazees. Sometimes I go to areas where it is not my place for living, mostly my work deals with these kinds of things, so I need to know how I can communicate and address them.*

Photo 4.46 by Kasungu Lorparasoroi; Scout, Kalama Community Wildlife Conservancy



Joseph Letole: *It is the wazees who make the decisions that affect our environment. So first of all if you want to take care of the environment, you have to take care of these people. So then they can make informed decisions.*

Dan Letoiye: *If you don't go through these people, and a very good example is the conservation concept in Samburu now, especially in Samburu East. Go to any part of Samburu and say that the conservancy is bad and you will really be beaten. And this is because we are using these people. These are the people who are making decisions. So if we have educated them, we have at least educated the right ones. So they are very important people in terms of decision making.*

Photo 4.47 by Joseph Letole; Project Coordinator, Grevy's Zebra Trust



Mike Lesil: I took this one because of Ololokwe there. Now this is one of the holy mountains. The Samburus believe that this is one of the holy mountains. It is really a sacred sight for Samburus. We have to face to either Ololokwe or Mount Kenya. So some of the houses, most of the doors they face the mountain. Now this is part of the culture. Well, my house where I was circumcised was facing the mountain but mine now does not.

Photo 4.48 by Mike Lesil; Ranger, Samburu National Reserve; Archers Post resident



***Mike Lesil:** I took this picture because I want to talk about how I feel about culture. I feel something about culture here. Imagine getting somebody like Chris now, driving the wageni in the bush, living here and wearing the traditional clothes. I feel really good to see a moran driving these guys around. So this is really our culture. Instead of wearing the normal clothes, they can wear the traditional ones. I took this picture because it makes me feel proud. Leave those guys from Nairobi. For me, it is not for those guys. It is only for those of us around that are from here that are Samburu. You know this place is called Samburu, so why not wear the tradition? If you go to Il Ngwesi, I have heard those guys, even the manager himself, he is just wearing traditional. That is one way for us to show you our culture. I am proud to be a Samburu.*

Photo 4.49 by Mike Lesil; Ranger, Samburu National Reserve; Archers Post resident



Boniface Isigi: *This is my class. It is my Standard 8 class in Muslim Primary School. If you can start by first educating our children about the conservation of the environment, then these children will learn and take it as they grow. It will be more effective than if you just talk about it in the media, or in meetings like barazzas. But if you start it at an early age, in school, then they will take care of the environment. In fact the environment, they will take it as a lifelong process. To me I thought it would be better if we could start teaching children at an early age the importance of conservation so that when they go home they don't go on cutting trees anyhow.*

And students like listening to their teachers, you know, more than any other person. You know I spend more time with them than their parents. So now I can start with the lesson of planting inside, you know sukuma wiki and those things. They can listen to me and do it very fast without opposition. But if, let's say they go home and they are told the same thing by their parents, you know there is some opposition.

Photo 4.50 by Boniface Isigi; Teacher, Muslim Primary School



***Sakuna Lenene:** This is a school of this side of Laesoro. School is another door to start a new life after birth where the wealth comes from. So when I see a school like this it remind me of the days when I was taken to school. I can continue if there was someone to help me to get back to school to learn more about the environment. You know those kids who are learning there, they are still growing and coming forward and it is them that we need to teach so that they teach the ones behind them.*

Photo 4.51 by Sakuna Lenene; Scout, Kalama Community Wildlife Conservancy

The Way Forward

You know once we have developed a program that you really want to empower people to research or to monitor some things here and there, you can use the conservancy and they will work with the scouts and the conservancy.

*~ Joseph Letole
Project Coordinator, Grevy's Zebra Trust
Photovoice participant*

The Samburu participants recognized that through mobilization of the community at all levels, protecting livestock by utilizing alternative penning plans, and ultimately reinvesting in a love for the land was the path for the good life. A focus on the health of land was a constant theme in this category. This focus can see itself manifested in approaches to rehabilitate degraded land through revegetation efforts along with attempts at convincing elders to reduce livestock herds and build livestock pens out of materials other than acacia trees. References were also made to what can be learned from traditional practices, suggesting that the Samburu have always been conservationists and that this could be used to establish future community support in conservation efforts.



Samson Lenamunyi: *So now, this is positive because for a good environment it is a must to conserve these wild animals in a good place. If you see them walking that way even you, you feel very happy they look good and healthy and your area is smart. For now when they see it that way, it will be better if they see a lot, not just this one walking in the bush alone. We need to conserve so that they become many. So for these wild animals we don't know details about their life. Maybe just about the elephant. We heard that the menstruation period is about one year. But the rest, especially these small animals, we don't know much about them.*

Photo 4.52 by Samson Lenamunyi; Deputy of Security, Kalama Community Wildlife Conservancy



Joseph Letole: *And then you try and take the history of this land, people will tell you that this land used to have a lot of grasses, used to have a lot of wildlife, and probably the species of grasses used to be very many. But with time, this species has encroached, it has encroached, it has encroached and the other species have just disappeared. If we are not going to take care of the land, then we are going to lose our wildlife and our livestock. And probably the people's livelihoods will also be affected. Just by trying to do some planned grazing, and we can plant some grasses to help change this.*

The other thing we can do about land degradation is try to empower the community so they can be in a position to monitor how the land is degrading. Because we can involve them in a lot of research work. Then they can monitor their impacts and that would be good. You know once we have developed a program that you really want to empower people to research or to monitor some things here and there, you can use the conservancy and they will work with the scouts and the conservancy. Go and teach them some kind of research, then they can have the task to be able to do some kind of reports, and they can turn those reports back into the conservancy.

Photo 4.53 by Joseph Letole; Project Coordinator, Grevy's Zebra Trust



Daniel Letoiye: This is just at the buffer zone here. So if you look at this land, it is just a complete bare land, with the Acacia reficiens. If you look at what's happening – this is the hill. And then after the rain, water from the top of this mountain will just come down fast. And it will take everything here and the land is just left there and there is no grass, there is no vegetation. It is just a big need for our land to have vegetation. And that is now what we are trying to do. It is our #1 project here right now. Hopefully we will have grass in this place.

Photo 4.54 by Dan Letoiye; Manager, West Gate Community Wildlife Conservancy



Stephen Lenantoiye: *In fact these goats are going to die. Maybe 10 out of this one they are already dead. What I have seen, one elder is having 500 sheep. And you know the goats are more than 700. So now all of them are now coming to die. So this is a wasted resource. You will find that at the end of this drought, this elder will be left with 2 or 3 sheep, or not even a single one. So what about the goats? How much money will be lost?*

Daniel Letoiye: *Before all of us were running up and down looking for a market to try and sell these animals. And the market is not there.*

Joseph Letole: *Even you can find a cow that is like 1000 shillings. So we need to understand the effect this drought is having on our animal.*

Photo 4.56 by Stephen Lenantoiye; Chief of Security, West Gate Community Wildlife Conservancy



Isaac Longoro: We depend on this river. You know people are getting water directly. You know most people are employed along the Uaso Ngiro River. These lodges and camps, and the county council, so the Samburu County Council is really earning a lot from this river. And most of the plants that we have, the green plants that are here, and they are from this, they are just around this river.

So this is usually what I used to do. You may get me loitering along the river, down there, coming up, going up this way up to that place, there is a certain road there. I don't know what the name of it is, but I used to go up to there. And I have not worked in any lodge or joined any of the rangers; I just have that love in myself. Because even wild animals, even birds, whenever I see a child throw a stone at a bird, I really feel it. So it is something that I don't like people doing.

Photo 4.57 by Isaac Longoro; Teacher, Girgir Primary School



Stephen Lenantoiye: *This is where there used to be a settlement place. There was a manyatta here. So people migrated and they are not living here. So when I went back and took this photo, I found this area of the grass was just slowly coming up. The land is just coming back. So people used to settle the other side so they are not aware that they are conserving.*

Dan Letoiye: *This is one way of telling people that our initial way of life, the Samburus, was right. And in fact one of the things here, when it rains, you will get very good grass here because the soil has been broken down by the livestock which were there. So at least the water can be able to infiltrate into the soils.*

Stephen Lenantoiye: *So maybe if you want to teach the community about some science, you know some people who are illiterate, you can use this one as a way of telling him or her, if you keep doing what you have already done, and keeping it from something else, at least you will have done something. And in fact the other thing we want to do is instill in them a sense of being environmentally friendly so they can see that this land is for them. Maybe they can see this project which is going on here now, they can see that somebody from elsewhere is funding, so they take that this land is just to benefit somebody else. They think it can be something that is benefiting someone else who is funding the project. But this land is benefitting them. So just try to teach them that this is their land, and they need to manage properly.*

Photo 4.58 by Stephen Lenantoiye; Chief of Security, West Gate Conservancy



***Mike Lesil:** This is just near Larsens. And these guys decided to make a water catchment. And this is not natural, it is just man made. Both of them. So this is a good thing to do in time of drought. So instead of digging in the river, they decided to do this thing. And several animals come there. Imagine, all of the lodges could have done something like this. We could have saved a lot of animals. If you go through a time like we have now, what we have been through, how do you feel when you see a buffalo dying because of a lack of water? You don't care? You think it is just the nature? But for me, I say I feel something and we have to save these animals. Because if these ones die, what do we do the next time? We go to borrow some animals like in the U.S. so we can make some zoos? We can't go that kind of way. We need to do something in extreme times.*

Photo 4.59 by Mike Lesil; Ranger, Samburu National Reserve; Archers Post resident



Sam Lolosoli: *This is a stone boma; it's where the goats and sheep are kept. Normally the Samburu boma is fenced with the branches of thorn trees, especially *Acacia reficiens*. Now the materials that you need here are stones, posts, barbed wire and cement. This is expensive for the short run but it will be cheap in the long run because there is no renewal of the fence and also it has more advantages than the other one. These include elimination of attacks by wild animals, especially hyenas, which are notorious in this area and thereby reducing human-wild animals conflict. Also, it provides more security because the door is locked so it is hard to steal them. This kind of boma also helps to reduce tree cutting for fencing. The limitation of this kind of boma is that it is not consistent with the nomadic way of life since Samburus move from place to place in search of water and fresh pasture for their livestock and they cannot move with it.*

Photo 4.60 by Sam Lolosoli; Youth/College student; Co-founder, Uaso Youth Group, Archers Post



Stephen Lenantoiye: *Actually this is a boma that is predator proof. In fact we are trying to set an example for people, to boma-proof their areas against hyenas and other predators. I remember my brother, he was having 147 goats. The whole goats got lost in the daytime and then all of the goats were eaten. only 15 remained out of that 147. How do you do that person? And he was left with only 15. So actually we went around this community to address issues of conflict. But we have to have more knowledge so we can tell to them, what we can change their plans, their bomas. Now I think this issue of conflict is the number one issue facing this conservancy, this community.*

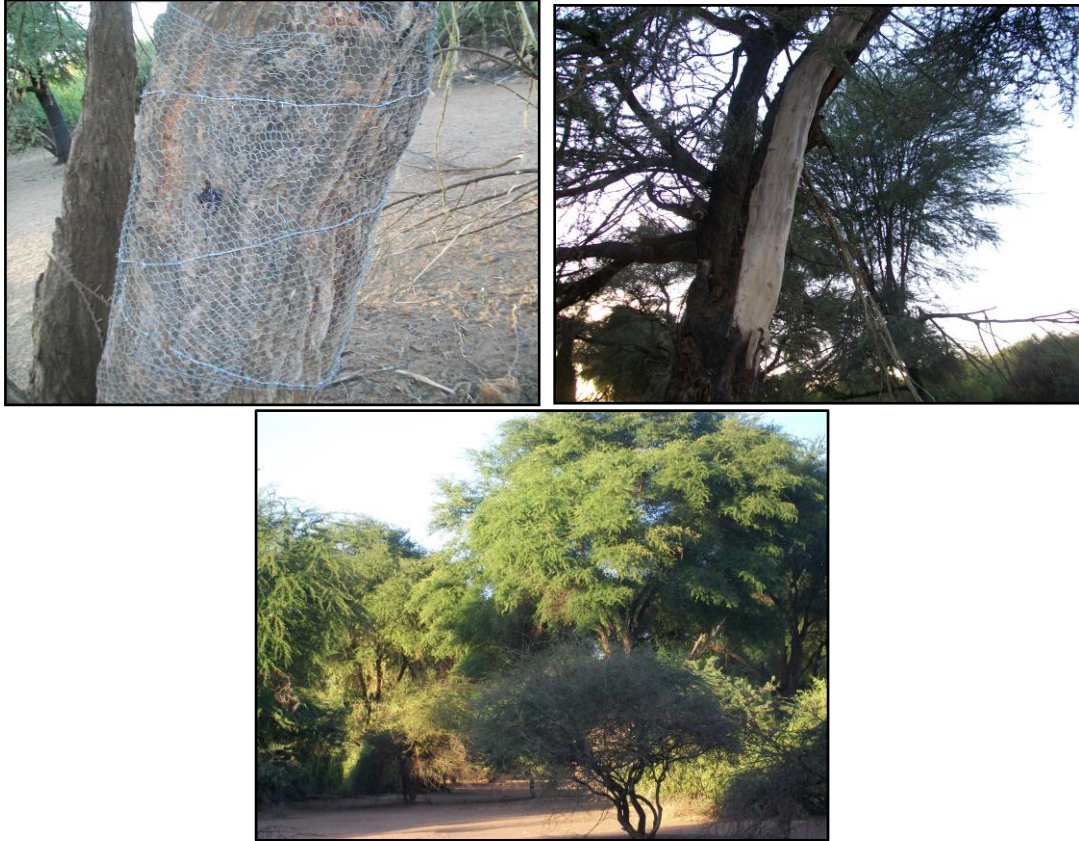
Photo 4.61 by Stephen Lenantoiye; Chief of Security, West Gate Community Wildlife Conservancy



Dominic Lenarum: *That's a natural dam, the one we call Lturoto. It was made in the past by things like elephants, when the animals find small places like this and then they dug and dug and dug until it became big. You know we cannot be God to make everywhere to be green but we are trying to change. For instance in the mountain if we put water, we can be able to make this thing they call it rock catchments.*

Kasungu Lorparasoroi: *What makes has me love this picture, when you see the colors; there are white clouds, blue sky, green trees and brown soil. That's what makes it beautiful, so colorful. But if we get the picture of this place before it rains it won't be like this. It will be totally different but now it has rain there is water, green trees and also the clouds that's what make everybody to like this picture. Because this is a one day rain.*

Photo 4.62 by Dominic Lenarum; Scout, Kalama Community Wildlife Conservancy



***Lesammy Lesiata:** Now these wires prevent the elephant from destroying the trees. If you see that tree, it is already destroyed. So now I wanted to tell the community we have put it this way, but the community comes and removes it because they don't understand the purpose. They take this and then they go and use them to make a door for their goats. So you know a place like this one, if the elephant puts it's tusk on the wire it runs away because of the friction, it makes it feel bad, and then if it try to rub itself against the tree, it cannot because we have also put the barbed wire. We tell the community not to remove it again because this tree is now a shade of everybody, also it has food of goats and people too because tourist come to camp there and they get money from that. They also get other benefits like water, when the tourist comes, they love the place and promise to donate something or build a school.*

So a picture like this is enough to tell the community this thing: We put this wire to this tree to prevent it from been destroyed by an elephant so they should not destroy too because we also prevent the elephant. Because elephants remove the bark and leave the tree to dry so the community should not repeat this.

Photos 4.63 – 4.65 by Lesammy Lesiata; Scout, West Gate Community Wildlife Conservancy

Recommendations – What We Can Do

These recommendations are the result of photo and discussion analyses by the project facilitator and are offered to the Samburu community as a conversation starter.

Photovoice participants and community leaders should continue to build on the project by identifying other ways lessons learned can be applied to on-the-ground-action. The recommendations are grouped according to three levels (conservancy, teachers and youth levels). In addition, references to the participant photographs and narratives that support each recommendation are given. Each of the recommendations are formatted as such:

- *Rationale:* Analysis of the photovoice images and narratives revealed specific, culturally appropriate approaches for further development of conservation education initiatives. Support from participant photographs and narratives are referenced.
- *Target Audience:* Identifies the appropriate community members to be involved in the implementation of suggested recommendations.
- *Implementation:* Provides a basic description of the on-the-ground steps that need to be taken in order to realize the recommendation.
- *Skills Transferred:* Identifies the anticipated skills and skill sets that would be transferred to the target populations.
- *Knowledge Gained:* Identifies the anticipated knowledge (scientific and traditional) that would be gained by the identified target populations.
- *Desired Outcomes:* Identifies the recommendation-specific outcomes that should be realized if implemented.

Ultimately, the successful implementation of any of the recommendations in this report should be facilitated by a diverse group of stakeholders, including the project participants; local leaders and community elders; education, forestry and agricultural officers; park wardens and conservancy managers; etc.

All of the recommendations listed in this report are structured to work well with the Samburu culture. All training and outreach sessions should be first discussed with appropriate elders and delivered in a manner that compliments the pastoral way of learning and knowing. This entails an experiential and problem-based approach, allowing for instruction lessons to be put to immediate use in addressing local conservation concerns.

RECOMMENDATION #1: CONSERVANCY LEVEL

Rangeland Monitoring Training

Rationale: The Samburu communities live in a biologically diverse savannah ecosystem that is sensitive to human impacts. As the number of households in the area continue to grow, their influences on the land increases. As most communities in the area are livestock holders (cattle, sheep, goats, camels, etc.), this increase has serious effects on the savannah landscape. Currently, there is no entity regularly monitoring land health in the area. Conservancy scouts of Kalama and West Gate have the time and energy to devote to monitoring land health in specific areas. Long term monitoring by conservancy scouts will provide area leaders with adequate information necessary to make future decisions regarding livestock movements and land rehabilitation efforts.

Target Audience: Conservancy scouts (see image 4.66), community members

Implementation: Conservancy scouts will be given training on the proper use of digital cameras to document land health in specified areas. Additionally, training should be provided training on simple note-taking of the types of grasses and trees identified, soil



Image 4.66. Conservancy scouts on patrol.

composition, geographic coordinates, and any erosion features.

Skills Transferred:

- Proper record taking
- Map and chart making

Knowledge Gained:

- Local plant and tree identification
- Understanding of basic savannah ecosystem dynamics
- Proper use and maintenance of digital cameras

Desired Outcomes:

- Establish multiple sites in group ranches for monitoring
- Establish sub-group of rangers specifically designed for monitoring
- Create a digital representation of land health (e.g. photographs, maps, spreadsheet)

RECOMMENDATION #2: CONSERVANCY LEVEL

Wildlife Behavior Training

Rationale: Most individuals involved in wildlife management in Samburu are concerned that many populations (especially those of predators) are in decline (see image 4.67).

Additionally, most individuals in local conservation professions admit to knowing very little about the behavior and biology of these wildlife populations. While there is a basic



Image 4.67. Lions in Samburu National Reserve.

wildlife monitoring effort currently implemented in the West Gate and Kalama conservancies, scouts are not trained in the possible application of this information to conservation actions on the ground. Fortunately, the Samburu area

has many conservation/wildlife NGOs

capable of offering education, outreach and training in wildlife characteristics (e.g. Save the Elephants, Earthwatch, African Wildlife Foundation).

Target Audience: Conservancy scouts, community members

Implementation: Organize a roundtable discussion involving conservancy managers, local political leaders, and identified NGO representatives to develop a wildlife behavior training program for local scouts. Specific topic areas should include predator distribution and movements, habitat needs of priority species, and care for injured/sick animals. All potential trainings should be conducted primarily in field settings.

Skills Transferred:

- Field identification of target species (sex, age, general health)

- Proper documentation of target species characteristics

Knowledge Gained:

- Thorough understanding of target species behavior
- Role of predators in ecosystem

Desired Outcomes:

- Improved scout understanding of wildlife behaviors
- Production of a document illustrating the current status and health of identified target species

RECOMMENDATION #3: CONSERVANCY LEVEL

Community Outreach Training

Rationale: There is plenty of opportunity for improving the information sharing between



Image 4.68. Women of the Samburu community, Umoja village.

conservancies and the local communities (see image 4.68). Local school headmasters have expressed a willingness to incorporate conservancy scouts into wildlife and tourism

lessons. Additionally, many scouts struggle with relaying conservancy agenda and knowledge to

area communities. An improvement in communication and outreach skills would help to strengthen the capacity of the conservancy scout corps to provide a link between community leaders and the conservation agenda, and potentially reduce conflict.

Suggested topics for outreach include the importance of protecting indigenous trees on the local landscape; alternative livestock pens; discussion on disease transmission from exposed carcasses; and the sharing of ideas regarding the conservation of area wildlife.

All outreach efforts should first work closely with local elders to ensure community commitment to conservation.

Target Audience: Conservancy scouts

Implementation: Conservancy managers should initiate a discussion forum with local school headmasters to identify a long-term plan for scout inclusion in formal school lessons.

Skills Transferred:

- How to effectively organize and lead a conservation meeting
- How to develop a teaching plan

Knowledge Gained:

- Conservation goals of the area conservancies
- Better understanding of community concerns

Desired Outcomes:

- Establish a core group of conservancy scouts dedicated to community and school outreach
- Develop a syllabus for teaching about conservancy goals

RECOMMENDATION #4: TEACHER LEVEL

Strengthen Wildlife and Environment Clubs in Local Schools

Rationale: There is a rich tradition of wildlife and environment clubs in Kenya, but the involvement of Samburu students in these clubs is minimal. Furthermore, there are few area teachers dedicated to organizing and leading these clubs. Samburu schools are situated in one of the most biologically rich and diverse landscapes in Kenya, and could provide excellent field settings for exploring the local environment. As the region

continues to increase in population (especially the Archers Post region), these strengthened wildlife/environment clubs would provide new students with adequate knowledge of their local landscape. Additionally, the wildlife/environment clubs should champion a service-learning approach, challenging students to provide their respective communities with needed conservation work (see image 4.69). This service-



Image 4.69. Muslim primary students constructing a tree nursery.

learning approach will put conservation in the public eye, and could serve to inspire the local community to support and engage in future conservation measures.

Target Audience: Schoolteachers

Implementation: Focused trainings can build on past efforts (e.g. 2009 Girgir teacher training) to provide teachers with a diverse portfolio of alternative teaching methods better suited for service-learning approaches. Teachers will be encouraged to invite and support local elders in providing students with traditional stories on wildlife and the environment. Teachers will be encouraged to involve students in a wide variety of environment projects. Two projects suggested by the participants were establishing a local tree nursery and school garden; and river and trash cleanup.

Skills Transferred:

- Effectively organize an officially recognized Wildlife Club
- Create a student-run tree nursery on school grounds
- Develop a portfolio of diverse teaching methods

Knowledge Gained:

- Understanding of the different uses of teaching methods
- Understanding of multiple components of the local landscape

Desired Outcomes:

- Establish a student-run tree nursery with a set number of saplings
- Engage all Archers Post schools in a weekly river cleanup effort. The four schools should alternate weeks (i.e. each school is responsible for cleanup once per week).
- Create a 1-year syllabus for an effective wildlife/environment club

RECOMMENDATION #5: TEACHER LEVEL

Discuss Potential for Curriculum Reform

Rationale: Students in Samburu East

District historically perform well below the national average in most subjects.

This is particularly evident in science and social studies, where all of the content on wildlife, parks, and the natural

environment is taught. While Samburu

students are learning in one of the most biologically rich regions in Kenya, there seems to be a disconnect in actual learning about these local landscapes. Teachers (see image 4.70) have argued that the current standard syllabus focuses on learning about environments very distant from the Samburu arid lands. There is opportunity for



Image 4.70. Girgir primary school teachers at a teaching workshop, Umoja village.

discussion of appropriate curriculum reform measures that could be taken in order to create a syllabus more fitting for the Samburu landscape.

Target Audiences: Schoolteachers and administrators, education officers

Implementation: Local headmasters should collectively invite the area Education Minister to a roundtable discussion to identify the possibility of modifying the national syllabus to reflect local issues. Conservancy managers and park wardens could be invited to share their perspectives on including local wildlife content in teacher lessons.

Skills Transferred:

- Respectfully facilitating a teacher-minister-warden roundtable discussion
- Critical analysis of current national education syllabus

Knowledge Gained:

- Better understanding of Samburu-specific content areas

Desired Outcomes:

- Regular meeting schedule established with headmasters, appropriate teachers, Education Minister and relevant conservation professionals
- Create a model syllabus for Samburu-specific instruction

RECOMMENDATION #6: YOUTH LEVEL

Strengthen and Unite Local Youth Groups

Rationale: It is all too common for Samburu youth, no longer in school, to spend their time idle in their local communities (see image 4.72). There exists very little opportunity for primary and secondary school graduates to acquire employment in their home areas. Established youth groups could provide these new graduates with opportunities to improve their local landscape, acquire new knowledge on conservation and development

concerns, and help develop a sense of empowerment. There are a number of loosely organized youth groups in Samburu East District, but none of them have regularly scheduled meetings or developed agendas for



community involvement. These loosely organized groups should be consolidated and should be charged with identifying a service-oriented agenda focused on community development.

Implementation: Current youth group leaders and officers should meet to discuss possible consolidation. Youth group leaders should identify what the goals and objectives are for service, and solicit input from local elders to identify the appropriate methods for action. Additionally, local elders should help youth group leaders network with relevant institutions that can help youth group members attain employment, education and service opportunities.

Target Audience: Youth group leaders

Skills Transferred:

- Effectively consolidate and organize a diverse array of young men and women into a unified youth group
- Identify proper funding mechanisms for projects and activities
- Cultivate a sense of community among peers

Knowledge Gained:

- Understanding of the role of service in providing for a strong community

Outcomes:

- Organize a consolidated youth group with an agenda for service
- Approval of at least one funding grant within unified youth group's first year of service.

CHAPTER 5

Lessons Learned: Research Findings and Recommendations

The Samburu Photovoice research project, taking place over a 6 month period in 2009 during one of the most severe droughts in recent Samburu memory yielded a number of important lessons learned. In Chapter 2, Photovoice as an effective CBPAR strategy was evaluated and revealed that the approach satisfactorily met the identified criteria for CBPAR. As illustrated, true community-based control in conservation planning involves the community in all levels of the research process. This inclusive approach has lent credibility to conservation projects in Africa and the U.S. and has helped to cultivate an environment of trust among agencies and indigenous populations in Arctic regions (Berkes, Berkes, & Fast, 2007; Freudenthal, et al., 2006; Kofinas, 2005; Singleton, 2002). The Samburu photovoice project was able to involve the local Samburu community in every aspect of the photovoice research endeavor except for the initial posing of the problem. However, since the need for research on conservation education opportunities was an identified recommendation of past community-focused research in the region (Beh & Bruyere, 2007; Bruyere, et al., 2009), this should be viewed as a research endeavor supported by the Samburu community. The Samburu photovoice project established credibility and trust throughout the project as the focus and identified actions were completely driven by the participants themselves.

Additionally, traditional systems of knowledge have much to offer in the development of land management decisions in Africa. Since most of the continent's rich biodiversity lies in lands replete with human communities, most of these communities having lived in these regions for centuries, it serves researchers and scientists well to incorporate traditional knowledge systems in management practice. Additionally, successful CBPAR approaches allow for knowledge to be produced in an iterative and reciprocal process, providing voices to those historically disenfranchised voices to help develop what is known about conservation in a particular region. Evaluating the Samburu Photovoice project, ample and equal voice was given to 26 participants and community members to allow them the opportunity to help direct the future of conservation education efforts in the region. While the participant number may seem small, the participant group included leaders and followers from six distinct segments of the community (Kalama scouts, West Gate scouts, West Gate managers, primary school teachers, town youth, SNR personnel and NGO professionals). Differences in knowledge and opportunity was identified across multiple groups (e.g. tree characteristics; human litter), and options for the blending of traditional and scientific knowledge were present.

Ultimately, CBPAR approaches should help realize relevant, tangible outcomes. The outcomes can be focused on democratization and socio-institutional processes (e.g. empowered youth; established land management committees), or may include tangible conservation indicators (e.g. increased area of protected land). The Samburu photovoice project collectively and effectively identified seven broad themes regarding conservation (five concerns and two ways forward). During the identification of the photographs and narratives that would be used to illustrate these seven themes, the Samburu photovoice

participants were observed to critically analyze their community's relationship with the natural world. Perhaps the most valued outcome of the project was the participants culturally appropriate way of providing their concerns and actions for the future to the relevant policy makers. The two galleries that were used to provide these concerns and actions were proctored according to Samburu tradition, and allowed for all individuals present to comment on the display. Specific action items were delivered by the participants to their leaders, and many of the participants commented on how the project has positively affected their lives. Since photovoice has as one of its stated goals "to reach policy makers" (rather than to implement policy), it is now up to the Samburu community to take the next step in making their identified action items a reality.

Chapter 3 addresses the phenomenon of Samburu learning within a conservation context, and attempted to provide a greater understanding of what culturally appropriate learning environments could be cultivated to effectively teach about conservation principles. Visual narratives of experience were provided as units of analysis which implied that future approaches to conservation trainings should stress the need for trainers and teachers to almost completely mimic the Samburu culture during the development and implementation of training and outreach efforts. The shared narratives express that proper learning occurs when content is focused on the solving the problems and concerns of the local area; when information processing is allowed to occur after exposure to observable landscapes and in a climate conducive to free discussion of ideas; and when the trainers and teachers are committed to connecting with students in an honest and empathetic manner.

In terms of on-the-ground implementation, long-term training initiatives should focus on transferring landscape-monitoring skills to area scouts, and require constant deliberation with community members regarding the results of the data received from these monitoring efforts. For area teachers, training should be delivered that prepares them to offer community-based service projects for students. These projects could first be implemented in after school programs or in wildlife clubs, but with the long-term goal of attempting to incorporate these practices in the formal education curriculum.

Lessons Learned: Researcher Reflections

I must first begin this section with a warm extension of gratitude to the Samburu communities who helped guide the direction of this research study. Involving myself in a project with such a deliberate participatory focus was, at first, a completely foreign concept to me. Admittedly, I was a bit shaky at the beginning of the project. For those of us who work in the academic/scientific community, we are constantly hyper-aware of the expressed need to conduct objective analysis of our respective environments so that unbiased recommendations may be offered. The Samburu photovoice project did not honor this tradition. What it did honor was a Samburu-specific approach to dealing with life: respect and talk to people always; know your environment well; and never make a decision by yourself.

The direction of photovoice project was essentially guided by the wants and needs of the participants themselves. For example, during the very first photovoice session with teachers from Archer's Post, I was asking participants to comment on what specific elements of the local environment they had learned, and through what

activities. The responses were overwhelmingly focused on livelihood issues, the effects of the current drought dominated the conversations. I left frustrated that my expectations of what was to be discussed were unmet, and I satiated my discontent by convincing myself that they just didn't understand what I was trying to do. But what was I trying to do, really? I had to challenge myself to release my grip on the research process, allowing the participants the opportunity to dictate its course. I had come as a proponent of community-based ideals after all, so I eventually relaxed and finally allowed the Samburu community to lead future sessions. And that made all of the difference.

On numerous occasions, members from the Samburu community (most of them not part of the photovoice project) approached me and expressed gratitude for the way I was "living with the people." My research hardly came up as a topic for conversation in these situations, and left me feeling content that I was engaged with a project worthy of being classified as community-based. While real outcomes were realized (e.g. development of school nurseries, increased awareness on environmental concerns, increased levels of empowerment among scouts), these outcomes were just seen as the results of work and community engagement. As a researcher involved in participatory methods, having a community member comment on improvements catalyzed by the research process as mere consequences of "living with the people" is one of the most meaningful statements that could be made.

While the challenges of living and working among a community of semi-nomadic pastoralists in a remote region of north-central Kenya were many (e.g. civil conflict, 17-month drought, extreme heat, multiple dust storms, vehicle maintenance

problems, exposure to human and animal deaths, personal relationship strains, research doubts, financial concerns), I would not change my research experience one bit. I feel proud to have employed a qualitative and participatory research approach to a remote landscape in East Africa, determined to prove that the *avant-garde* approach has a place in conservation research in our academic institutions. The method allowed me to gain insights into a Samburu world not open to many, and provided both the Samburu and international research communities with an intimate portrayal of how a specific group of people envision what their future of conservation should look like. I extend my gratitude and thanks to my patient and incredibly supportive graduate committee for allowing me the opportunity to embark on this research journey, and finally offer a boisterous *Ashe Oleng* to the Samburu communities who supported my efforts over the years.

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