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A study of the impact of Lesotho Highlands Water Project on residents of Khohlo-Ntso : is it too late for equitable benefit sharing?

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A Study of the Impact of Lesotho Highlands Water Project on Residents of Khohlo-Ntso: Is It Too Late For Equitable Benefit Sharing?

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Submitted in partial fulfillment of the requirements for
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in
the faculty of Arts at the University of the Witwatersrand

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ABSTRACT

Large-scale water project development is one of the most contentious areas of infrastructure development, physically displacing an estimated 40 to 80 million people throughout the past century. Overwhelming evidence of the adverse socio-economic impacts on local communities resulting from large dam construction has called into question whether such development truly benefits the majority or, rather, serves to promote elite accumulation of wealth at the expense of marginalized peoples. One of the most glaring issues concerning large dam development is the age-old question of distribution as those living in dam areas or downstream of dammed rivers suffer a disproportionate share of costs while enjoying few benefits. Recognized by the WCD (2000) as one of seven strategic priorities in decision-making concerning large dams, benefit sharing is one way to increase equity among stakeholders. A handful of countries around the world have incorporated benefit sharing mechanisms into large-scale water and hydroelectric projects, including Lesotho. With construction of Katse Dam beginning in the late 1980s, residents of Khohlo-Ntso have a quarter of a century's experience with Africa's second largest water transfer and hydroelectric project, the Lesotho Highlands Water Project (LHWP). While the adverse impacts of the LHWP on rural highlands Basotho communities has been widely documented, only one other study has researched benefit sharing within the LHWP.

The central aim of this study was to discover what were local residents' perceptions of LHWP benefit sharing as a community living only 10 kilometers downstream of Katse Dam. This research utilized a qualitative case study design to gain an in-depth account of local residents' experiences, including their level of awareness of the LHWP benefit sharing mechanism, their experiences as a downstream community and their suggestions for transforming the LHWP into a more equitable project. Triangulation of qualitative methodological research techniques was employed to collect data including in-depth semi-structured interviews, focus groups and primary document analysis. The main findings of this study were that after living with Katse Dam for 25 years, local residents of Khohlo-Ntso are still unaware of their rights under the LHWP Treaty, do not know about the LHRF and have little hope of sharing benefits of the project.

DECLARATION

I declare that this thesis is my own unaided work. It is submitted for the degree of Master of Arts in Development Studies in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any otherdegree or examination in any other University.

Phoebe Harward

_____

19th June, 2012

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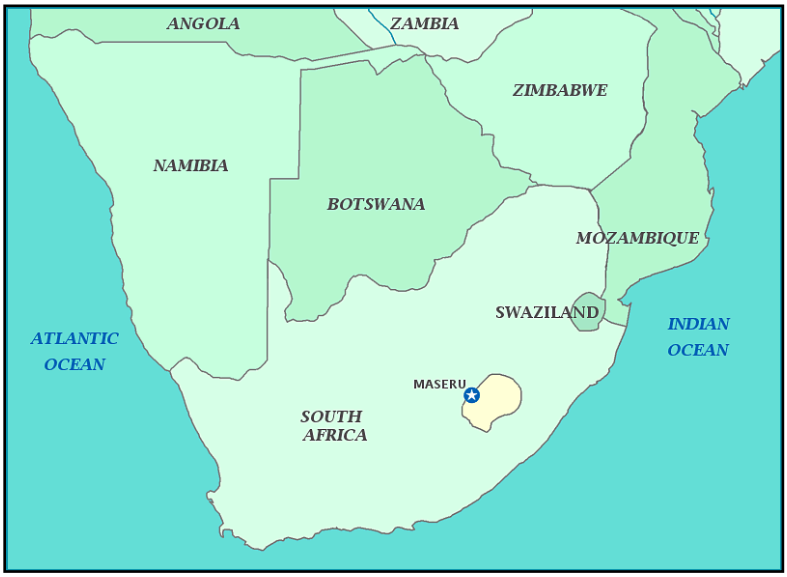
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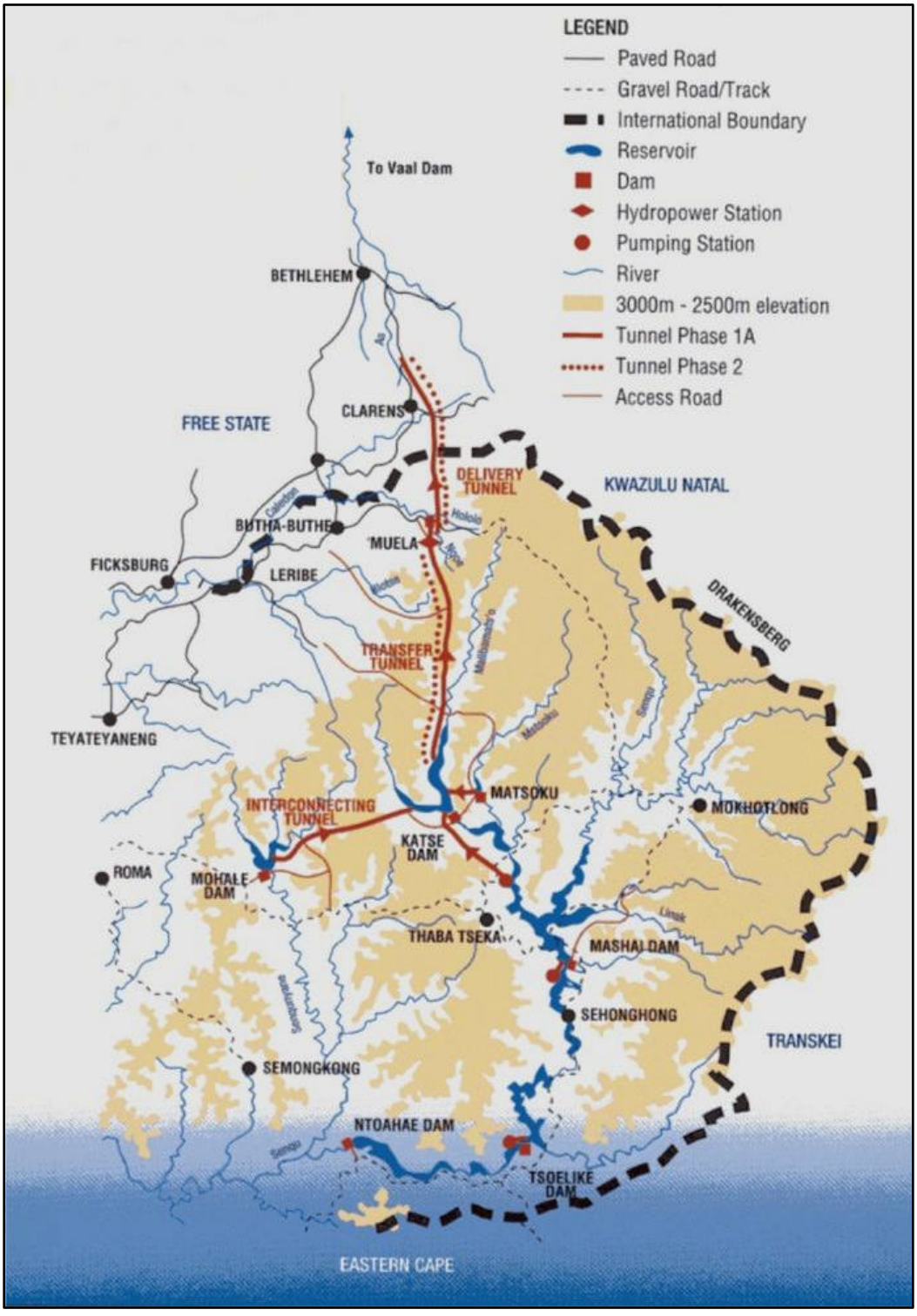
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LIST OF ACRONYMS

African Development Bank (ADB)
Cost-benefit analysis (CBA)
Development Bank of Southern Africa (DBSA)
Development-Induced Displacement (DID)
Environmental and Social Service Group (ESSG)
Environmental flow assessment (EFA)
European Investment Bank (EIB)
International Association for Impact Assessment (IAIA)
Instream flow requirement (IFR)
Joint Permanent Technical Commission (JPTC)
Lesotho Fund for Community Development (LFCD)
Lesotho Highlands Development Authority (LHDA)
Lesotho Highlands Revenue Fund (LHRF)
Lesotho Highlands Water Commission (LHWC))
Lesotho Highlands Water Project (LHWP)
Local Legal Entities (LLE)
Panel of Experts (POE)
Populations at risk (PAR)
Project affected persons (PAP)
United Kingdom Commonwealth Development Corporation (UKCDC)
Social Impact Assessment (SIA)
Trans-Caledon Tunnel Authority (TCTA)
World Bank (WB)
World Commission on Dams (WCD)
World Trade Organization (WTO)



Map 3 : Map of LHWP

CHAPTER ONE: INTRODUCTION

1.1 LARGE DAM DEVELOPMENT

Societies have been constructing dams for human water consumption for some 5,000 years (WCD, 2000). In the past century, more than US$2 trillionwas spent on construction of 45,000 dams globally (Namy, 2007). One of today's most contentious areas of infrastructure development, large dam development has generated various debates concerning its positive and negative impacts on the environment and human life. While proponents of large dam development, including national governments, international financial institutions, electric companies, construction companies and equipment producers, argue that large dam developmentis not only crucial for meeting societies' water and energy needs, but also for reaching additional development goals such as job creation, regional development and boosting export earnings to develop industrial bases, the past three decades have witnessed increasing opposition to the construction of large dams (WCD, 2000). Overwhelming evidence of the adverse socio-economic impacts on millions of lives resulting from large- scale water projects has called into question whether such development truly benefits the majority or, rather, serves to promote elite accumulation of wealth at the expense of marginalized peoples. With sixty percent of the world's rivers dammed, two-thirds of large dams are constructed in the poorest and most remote areas of the world (Namy, 2000; Lerer& Scudder, 1999). Created by the World Bank (WB) and the World Conservation Union in 1997 as a response to growing international opposition to large dam development, the World Commission on Dams (WCD) (2001) reported that between 40 and 80 million people have been physically displaced by large dams worldwide. In the past twenty years, hundreds of studies have documented severely adverse consequences of large dams on these communities, including social disarticulation, health problems, dispossession of livelihoods and cultural alienation (Scudder, 2005; Adams, 2000; Colchester, 2000; WWF, 2005).

Large dam proponents have been criticized for their exclusive focus on technological and economic aspects of such development, neglecting critical questions of human rights, environmental justice and distributional issues (Paiement, 2007). Planning and construction phases of large dams, largely carried out by consultants and contractors, are executed with efficiency and tend to meet designated timelines, whereas compensation procedures, resettlement and economic development programs are often delayed by years (Braun, 2010). Economic assessments of large dams are driven by cost-benefit analyses (CBAs) that underestimate costs and overestimate benefits of large-scale water development, neglecting the multitude of non-quantitative socio-cultural negative impacts of projectsexperienced by project affected persons (PAP) (Adams, 2000). Thus, loss of land and other means of production are insufficiently compensated (if at all) and result in further impoverishment of PAP. Due to growing recognition of adverse impacts and increasing opposition to large water projects, the WB and other major financial institutions decelerated financing of large dams by the end of the twentieth century. However, rising fuel prices and energy needs of countries, as well as ratification of the Kyoto Protocol on Climate Change,gave rise to revived interest in hydropower projects (WWF, 2005). Guidelines for “best practice” concerning mitigation strategies of adverse impacts of large dams, including compensation, resettlement and economic development programs, have accompanied this renewed dedication to hydropower development (World Bank, 2001; van Gelder et al., 2002). Yet, as argued by many opponents of large dams, such guidelines are just that, limited to merely guiding governments and private developers rather than legally obligating them to restore and/or enhance PAP’s livelihoods (Devitt & Hitchcock, 2010). As will be demonstrated, these guidelines are insufficient to protect PAP from the socio-economic, psychological and cultural destruction of large dams.

1.2 EQUITABLE BENEFIT SHARING

One of the most glaring issues concerning large dam development is the age-old question of distribution. With construction taking place in remote areas, projects transfer large amounts of water from rural populations to urban areas, mostly for industrial and private water consumption (WCD, 2000). In addition to loss of stable water resources, rural inhabitants of large dam sites and downstream communities lose numerous other resources critical to sustaining livelihoods. Thus PAP suffer a disproportionate burden of the costs associated with large-scale water transfer and hydroelectric projects. While ethical considerations of this fact lead many, including the WCD, to argue for prioritization of PAP in distribution of benefits, this is unremittingly not the case (Milewski et al., 1999). Rather, as Brody (1999) states, "*most dams take a set of resources - a river and the lands along its banks, generating food and livelihood for local people; and transform them into another set of resources - a reservoir, hydro power and irrigation, providing benefits to people living elsewhere*" (in Adams, 2000: 3). The benefits of expanding infrastructure, electricity provision and increased industrial capacity, championed by proponents of large hydropower projects, rarely reach rural communities. This unequal distribution of costs and benefits of large dam development (and megaproject development in general) is one of the most commonly cited criticisms of large dams (Adams, 2000).

Recognized by the WCD (2000) as one of seven strategic priorities in decision-making concerning large dams, benefit sharing is one way to increase equity among stakeholders. A novelty in large-scale water infrastructure development, benefit sharing has most commonly referred to institutional arrangements for management of shared water resources between riparian states (Cernea, 2008; White et al., 2008). However, of late, the term has been used in relation to distribution of profits generated by large hydropower and water transfer projects (Milewski et al., 1999; Egre et al., 2002; White et al., 2008). Based on the theory of economic rent (expanded upon in the second chapter of this report), benefit sharing can take monetary (revenue sharing, free or preferential electricity rate or development funds) or non-monetary (priority allocation of

resource rights such as fishing, hunting, irrigation, preferential hiring or training) forms (Paiement, 2007). A handful of countries around the world, including Lesotho, have incorporated benefit sharing mechanisms into large-scale water and hydroelectric projects. The few studies examining benefit sharing in large dam projects report mixed results and demonstrate a need for further research of stakeholders' (especially PAP's) experience with such mechanisms (Egre et al., 2002; Milewski et al., 1999). The research at hand attempts to begin filling this gap.

1.3 AIMS AND JUSTIFICATION OF THE STUDY

The principal focus of this study is one project-affected community's experience with equitable benefit sharing within the Lesotho Highlands Water Project (LHWP). With construction of Phase 1A (Katse Dam) beginning in the late 1980s, residents of Khohlo-Ntso (the Basotho highland community under study) have a quarter of a century's experience with Africa's second largest water transfer and hydroelectric project (LHDA, 1999). Located 10 kilometers downstream from Katse Dam (one of five LHWP dams planned to be constructed), the village has undergone major transformations and experienced both direct and indirect impacts of the LHWP. While various studies have documented consequences of the binational water transfer project on different groups of Basotho throughout the past fifteen years, only one other study has researched LHWP benefit sharing from PAP's perspectives (and less than a handful have explored benefit sharing within the LHWP) (Mokorosi & van der Zaag, 2006; Egre et al., 2002). In addition, few studies have explored the experiences of downstream PAP in Lesotho, with the majority investigating resettled LHWPpopulations and their host communities (Hoover, 2001; Matli, 2005; Thamae & Pottinger, 2006).

The central research question in this qualitative case study is: What have residents of Khohlo-Ntso experienced as stakeholders of LHWP's benefit sharing scheme? Subsidiary questions this research attempts to address include:

*What level of awareness do residents of Khohlo-Ntso possess concerning the LHWP and its benefit sharing mechanism?

*Do local residents believe they are equitably sharing benefits of the LHWP?

*What do local residents perceive to be the most influential impacts of the LHWP on their lives and livelihoods?

*Were local residents involved in development of benefit sharing mechanisms?

*After 25 years experience with the LHWP, what advice would local residents give to residents of Polihali (the site of the fourth dam where construction will commence next year)?

As millions of people throughout the world continue to suffer immense disruptions in their lives as a result of large dam development (which indicates no signs of ceasing in the near future), equitable benefit sharing has the potential to drastically reduce or mitigate adverse impacts of large dams on local communities. While few countries have enacted legal frameworks obligating large dam developers to share profits with PAP, further research will not only contribute to the growing body of information on such benefit sharing mechanisms, but may also help to influence top decision-makers in establishing legislation requiring equity in the share of both costs and benefits of large dams (Paiement, 2007). As participation of PAP in the development of benefit sharing mechanisms has been minimal, exploring this issue from their perspectives is exceptionally important in documenting their experiences, needs, desires and beliefs about equitable benefit sharing. Finally, despite mountains of evidence that the project has impoverished a majority of the Basotho population, the Project continues with three more dams in their planning phases, potentially displacing thousands more Basotho, thus it is of utmost importance that PAP share their experiences with other Basotho communities who will live in close proximity or reside downstream of other large LHWP dams.

1.4 DEFINITION OF OPERATIONAL CONCEPTS

Defined below are concepts used frequently throughout this report:

Local Residentsin this context refers to the residents of Khohlo-Ntso.

Communityis defined in this document as a group or groups of people living together within close proximity sharing similar cultural values and social patterns.

Householdin this context means either one person living alone or a group of people living in the same housing unit sharing at least one meal per day

Livelihoodcomprises the capabilities, assets (including both material and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stress and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base. (Chambers & Conway, 1991).

Dispossessionrefers here to "the deprivation of land, common resources, homes and other assets depended on for livelihood and/or cultural practices" (Namy, 2007: 1).

Social Impacts are defined as changes in how people live, work, play, and interact with one another on a day-to-day basis; changes in people's culture such as shared beliefs, customs, values and languages; and changes in the community including social cohesion, stability, character, services and the community; changes in people's environment, their health and wellbeing, and in their fears and aspirations (Vanclay, 2002).

Social Impact Assessment (SIA) is the "processes of analyzing, monitoring and managing the intended and unintended social consequences, both positive and negative, of planned interventions and any social change processes invoked by

these interventions" (Namy, 2007).

Implementing agencyin this report refers to the Lesotho Highlands Development Authority (LHDA).

The Projectmeans the Lesotho Highlands Water Project (LHWP).

Large Damhere refers to any dam with a height of 15 meters or more from the foundation and/or is between 5 and 15meters high with a reservoir volume of more than 3 million cubed meters (WCD, 2000).

The Treaty refers to an agreement signed between the government of Lesotho and the government of the Republic of South Africa in 1986 concerning the LHWP.

Resettlementin this context means the permanent moving of people living in the path of a development intervention, such as a dam or related infrastructure, in which such people are provided with compensation, housing, new lands, services, etc. (de Wet, 1999).

Reparationis any action or process that repairs or makes amends for damages inflicted by large dam projects (Scudder, 2005).

Mitigationin this context refers to "changes to project design, operations and/or project area management to reduce levels of impact and/or resource losses" (LHDA, 2002:61).

Compensationrefers to "cash, goods or services offered to replace resources which are unavoidably lost or activities which are impeded as a result of project development and implementation" (LHDA, 2002:61).

Downstreamin this study refers to the area, people, or impacts of large dams below

the source of a river or its current.

Transboundary is defined as a water system that crosses national boundaries and provides resources to more than one nation or country (Guerquin et al., 2003).

Equity in this context means “the equal distribution of wealth or resources among sectors or individuals of society” (Mokorosi & van der Zaag, 2006: 4).

Benefit Sharingin this document is defined as “a direct monetary redistribution of project-related revenues or profits to project-affected populations, associated with the existence of an economic rent” (Egre et al., 2002: 2).

Project-affected persons refer to people whose economic, social and cultural lives are negatively affected by construction of dams, related infrastructure, or alteration of river flows and any ecological consequences including displaced people, host communities and downstream and upstream populations (WCD, 2000).

Political Willhere means the commitment or dedication of a government, parastatal organization or political figure to exercise political authority for the benefit of project-affected persons.

CHAPTER TWO : LITERATURE REVIEW



Photo 1: One highland area in Lesotho.

2.1 LARGE DAMS AND DEVELOPMENT

2.1.1 Theoretical Justifications

Theoretical justifications behind large-scale water development can be traced back to development thinking of the 1950s dominated by neo-classical Western economists' espousal of Rostow's modernization theory, which defines five linear stages of economic development, namely traditional society, pre-conditions to takeoff, takeoff, growth to maturity and lastly, mass consumption (Rostow, 1978). During this time, when development approaches focused on economic growth and modern scientific knowledge, this school of thought assumed that all societies would move in an evolutionary unilinear forward direction, leaving no room for reversal, deviation, or omission of stages in development (Schuurman, 2000). Theories of development were based largely on the experiences of developed countries, thus modernization theory

was believed to be the one and only way forward for underdeveloped country's to gain prosperity.

Rather than address the decades of colonist exploitation of resources and indigenous peoples as inherent causes of underdevelopment in the global South, 1950s neoclassical economists saw the diffusion of finance and technology as the main solution to enhancing economic growth and spurring development in colonized or newly independent countries. This was also a period when Western countries were seeking both fresh supplies of raw materials for their rapidly industrializing economies and new markets to distribute manufactured products. Large dams were especially fitting for such approaches to modernization and development as they necessitated southern countries to import large quantities of technological innovations and required significant amounts of finance from Western countries, thus a major boom in large dam development occurred at this time (WCD, 2000).

While development paradigms espousing the modernization theory shifted to paradigms focused on poverty alleviation in the 1970s, and then most recently to development approaches promoting sustainable locally based economic development through poverty reduction, environmental conservation, social justice and human rights, the Eurocentric, limited approach of modernization theory, which neglects diversity of local cultures and identities as well as the skewed political nature of "underdeveloped countries", still underpins large dam development today(Qaddumi, 2003; Oliver-Smith, 2009). Large financial institutions and many southern governments, including Lesotho and South Africa, persist in embracing approaches to development in which the transformation of societies through massive megaproject development is predicted to bring about significant agricultural and industrial growth accompanied by increased living standards for societies in their entirety (Ferguson, 1994; World Bank, 2010). For example, overly optimistically predicting the LHWP's benefits to Lesotho, a 1991 WB report stated that

> *no other project has been identified that would have anywhere near as large a beneficial impact on Lesotho…benefits include employment opportunities, both directly and indirectly, and are estimated to be between 7,000-10,000 jobs during the peak construction period…construction of housing and roads…promotion of agriculture…and tourism* (World Bank, 1991: iv).

Embedded in this belief of large-scale development as the main solution to world poverty, is the idea of "national best interest" or "development for the good of all" found in the public interest perspective on development (Penz, 1997; Colchester, 2000). The "national best interest" justification of large dam development argues that certain interests and needs of individual citizens and communities must be sacrificed in the name of enhancing overall well-being of the society as a whole (Penz, 1997). Under this rationale, numerous nations make legal allowances for the right to eminent domain (or expropriation of private or communal property in the name of national interest), claiming that the benefits of large-scale development occurring on such land will eventually outweigh sacrifices forced upon smaller groups within the society (Colchester, 2000). Decisions regarding which projects fall under the category of "national best interest" are usually motivated by quantitative CBAs that fail to take into accountsocio-cultural costs of projects whose values are not easily translated into exact figures, such as disruption of community and family unity, ancestral beliefs and other cultural practices and psychological well-being (WCD, 2000).

Additionally, large-scale development projects such as large dams tend to fall victim to cost over-runs and benefit shortfalls due to the exaggerated benefits on paper by prospective developers seeking funder approval. Described by Flyvberg (2005) as the "Machiavellian world of underestimated costs and overestimated benefits" in which a "culture of covert lying" emphasizes benefits of projects to gain project funder approval, megaproject development rarely follows CBA predictions (Flyvberg, 2005: 21). Instead, projects often end up experiencing cost over-runs of more than 50 percent and cause devastating impacts on local populations (Flyvberg, 2009). Yet, despite the host of evidence pointing to these problems, large water transfer and hydroelectric projects continue to be championed as a dominant means of economic transformation claimed

to benefit the majority.

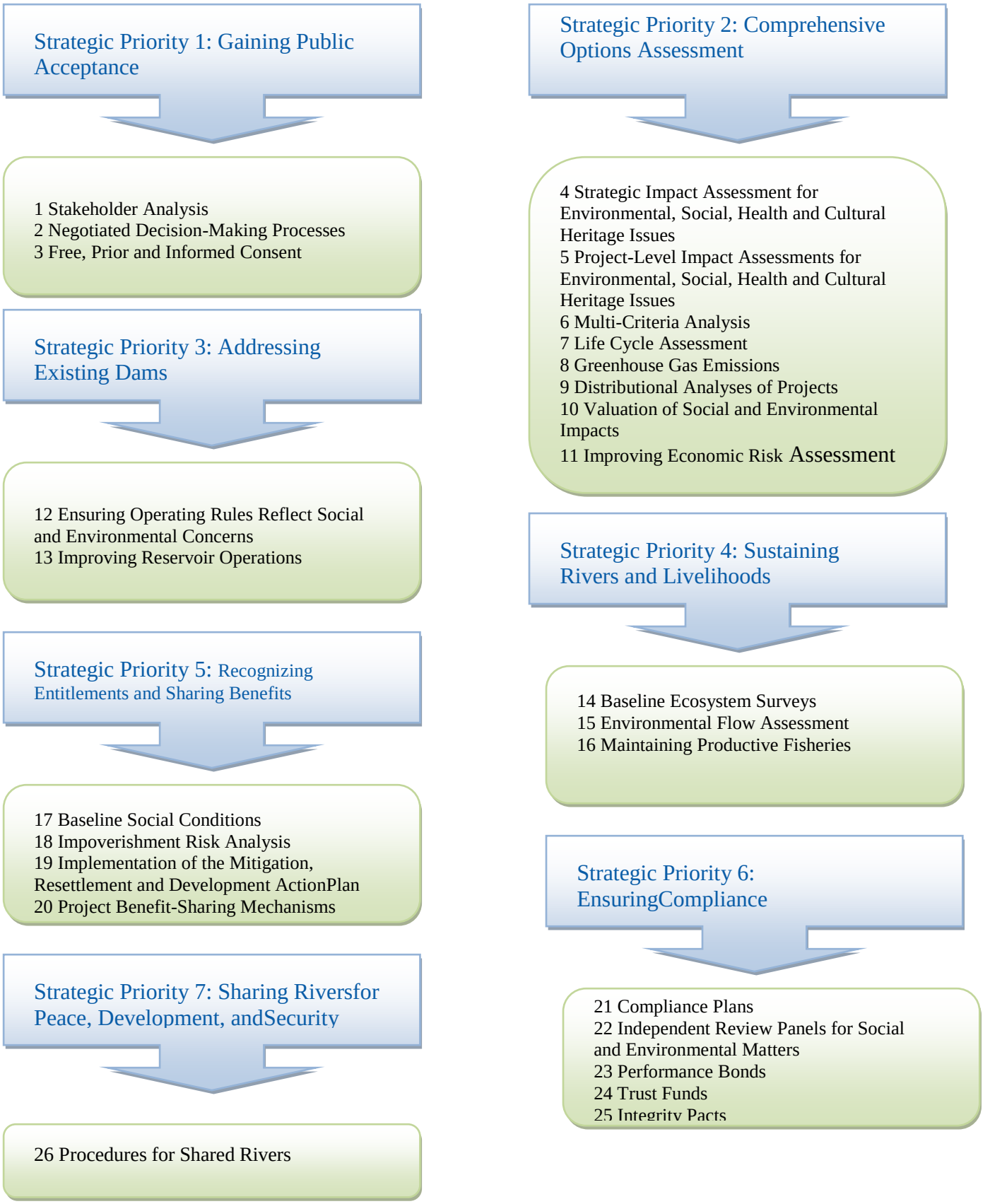
2.1.2Impacts of Large Dam Development

The international experience with impacts of large-scale water and hydropower projects has been widely documented over the past four decades (Scudder, 1982; Cernea, 1995; Weist, 1995; Tilt et al., 2008). Impacts can be both positive and negative, yet the distribution of costs and benefits of such megaproject development is highly unbalanced with local rural communities bearing a disproportional burden of costs (WCD, 2000). The benefits of large dams cited by dam proponents (and most often exaggerated on paper to gain funder approval) include cleaner and more renewable energy, local employment and skills development, increased access to services related to education, health and trade (because of expanded physical infrastructure such as roads and clinics), job creation, industrial growth, electrification, and increased export capability (Cernea, 1997; WCD, 2000). While such positive impacts on the micro and macro-economies of countries look great on paper, they most often do not becomes realities on the ground (Flyvberg, 2009). On the other hand, the adverse impacts of large-scale water projects, felt mostly by local communities for which elusive benefits translate into dissipated hope are vast and include what Cernea (2004) has categorized into four main classes of social impacts including forced population displacement and impoverishment, boomtown formation around major constructions, downstream unanticipated changes in agro-production systems and loss of cultural heritage assets. While other sociologists have grouped the social impacts of large dams into somewhat different descriptions, such as Tilt et al.'s (2008) effects on rural economy; effects on health, culture, health and gender; and effects on infrastructure transportation and housing, this study embraces Cernea's (2004) classification system as it is particularly relevant to the experiences of residents of Khohlo-Ntso (which will be demonstrated in the final chapter of this report).

The most comprehensive international study researching large dams worldwide is the WCD report (2000) *Dams and Development: A New Framework for Decision Making*,

which provided 8 detailed case studies of large dams, presented surveys of 125 additional water projects, 2 country evaluations and 17 thematic reviews on issues connected with large dam development. The WCD (2000) found that distribution of costs and benefits of large-scale water development over the past century is overwhelmingly unbalanced and that major changes need to be adopted in decision-making regarding large dams. The report outlined five core values that need to be applied to decision-making processes including equity, efficiency, participatory decision-making, sustainability and accountability. These five core values were based on seven strategic principles which included gaining public acceptance, comprehensive options assessment, addressing existing dams, sustaining rivers and livelihoods, recognizing entitlements and sharing benefits, ensuring compliance and sharing rivers for peace, development and security (WCD, 2000). In addition, the WCD's 26 guidelines for engaging in best practice large-scale water development are outlined in Figure 2 on the following page.

Figure 2 : WCD (2000) 7 Strategic Priorities and 26 Guidelines



While the WCD report (2000) marked groundbreaking research, largely influencing subsequent studies on large-scale water projects, the findings have had limited success in influencing large dam funders' and developers' policies and practices (McDonald-Wilmsen & Webber, 2010). Major international financiers of large dams such as the WB and ADB never officially adopted WCD guidelines despite assertions that these organizations share WCD (2000) core values and concerns. In a published response to the WCD report, the WB writes,*"the World Bank's conclusion on the guidelines is best summarized by the Chair of the WCD, who has explained that "our guidelines offer guidance, not a regulatory framework. They are not laws to be obeyed rigidly….They are guidelines with a small 'g'"* (World Bank, 2001: 1) The WB response to the WCD (2000) then outlines main differences between their policies and WCD guidelines.

The most notable of these divergences concern the WCD's (2000) recommendations that local communities living in areas where dams are planned for construction give free and informed consent before developers may continue with projectsand also that PAP should be directly involved with decision-making regarding development and mitigation plans. Rather than grant such participatory power in decision-making processes that would drastically impact their lives, the WB asserts that the "*state has the right to make decisions that it regards as being in the best interest of the community as a whole, and to determine the use of natural resources based on national priorities*" (World Bank, 2001: 2). The document then inserts "*free and meaningful consultations*" with local populations in place of the WCD's (2000) "*prior, free and informed consent*" (World Bank, 2001: 3; WCD, 2000: 215). As the primary financial backer of large dam development, such watered-down rhetoric has been criticized for justifying continued Bank involvement in what is estimated to be a potentially US$1 trillion market (Cernea, 1997; Shiva, 2002). The causes for hesitant adoption of WCD (2000) guidelines on the part of large dam funders and developers become apparent when one gains an understanding of the politics behind massive water infrastructure projects, namely hydropolitics.

2.1.3 Hydropolitics

Justifications of the increasing commodification of water throughout the world (by large transnational firms and international financial giants such as the World Trade Organization (WTO) and the WB) are based on hegemonic neoliberal market paradigms that proclaim that the distribution of water through free markets to regions of water scarcity will increase water prices (reflecting its true economic value) and thus lead to overall environmental conservation of this essential natural resource (Shiva, 2002). Such justifications overlook the social value of water, placing collective water rights enjoyed by humans for all of time in the hands of super powerful transnational corporations, further entrenching existing inequalities in the distribution of natural resources (Kitissou, 2004; Adams, 2000). While proponents of large dams argue that the central aim of this form of large-scale infrastructure development is toboost national economies, therefore benefitting large portions of societies, their adversaries accusesuch proponents of using megaproject water development as a central means to recolonize the global South (McDonald, 2009; Bond, 2004; Oliver-Smith, 2009).As both rural local populations and marginalized urban dwellers are deprived of their basic human right to water (often rendered unaffordable due to the costly development of large water transfer schemes and hydroelectric power plants), large mining and other industrial giants become the real beneficiaries of massive public spending that goes into such projects (McDonald, 2009).

South Africa and Lesotho are especially pertinent examples of what Turton (2002) has defined as hydropolitics or the "authoritative allocation of values in society with respect to water" (Turton, 2002: 16).As the LHWP increased the foreign debt owed to international financial institutions of both South Africa and Lesotho by tens of millions, rural and urban water users alike are suffering from the lack of availability and unaffordable prices of water. In Maseru (the capitol of Lesotho), some urban water users are required to deposit R2-5 into community water stations, which purchases only one ten liter bucket of this essential life source. Thousands of urban Johannesburg township residents have had their basicsupplies cut off after not being able to afford

increasingly higher electric and water bills in Johannesburg. With the definition of water shifting from that of a common good to a private good, the hydropolitics of large dam development is at the center of the erosion of the basic right of human beings to water. It is no wonder that after the WTO identified the water industry as the most profitable sector for investors, the WB and IMF began attaching water privatization as a condition for developing countries to access/renew loans (Shiva, 2002; Kitissou, 2004).

2.2 SOCIAL IMPACT ASSESSMENT

Social impact assessment is a tool used largely by sociologists, developers and governments for addressing the consequences of development policies and large development projects on human populations. The U.S. *National Environmental Policy Act of 1969*set the stage for development of social impact assessments (SIAs) and this approach has been used in numerous studies researching the effects of large dam projects on PAP (Lockie, 2007; Cernea, 1997; WDC, 2000). While the 1969 U.S. Act limited the definition of SIA to a technical approach concerned with both predicting and measuring impacts of development with certainty and accuracy, a large school of sociologists view SIA as a philosophy connecting development with equity and democracy rather than merely a methodological tool measuring development interventions (Lockie, 2007; Vanclay, 2002). In the past few decades, researchers have used SIA as a framework that

> *embodies all human impacts including aesthetic impacts (landscape analysis), archaeological (heritage) impacts, community impacts, cultural impacts, demographic impacts, development impacts, economic and fiscal impacts, gender assessment, health impacts, indigenous rights, infrastructural impacts, institutional impacts, political impacts (human rights, governance, democratization etc.), poverty assessment, psychological impacts, resource issues (access and ownership of resources), tourism impacts, and other impacts on societies* (Vanclay, 2002: 2).

Thus SIA is particularly suited for assessing impacts of large-scale water projects on PAP as this form of megaproject development involves almost every category of impacts listed above. After growing recognition that an internationally standardized form of SIA was needed to assess the impacts of large dams, the International Association for Impact Assessment (IAIA) established a set of agreed upon principles that could be applied to all large dam projects. Included in these principles are protection of biodiversity, cultural heritage and diversity, commitment to the precautionary principle, adherence to basic human rights, equitable development the internalization of costs of large-scale water projects (Tilt et al., 2008). Utilized by a multitude of organizations and researchers over the past few decades including the WB, WCD, UN, anthropologists and sociologists alike, SIA has been integral in providing evidence of the massive disruption large dams have on every aspect of life in human societies around the world (Cernea, 1997; WCD, 2000; UN, 2007;Namy, 2007; Vanclay, 2002; Lockie, 2007). The study at hand followed closely with other research on large dam development, using SIA principles, especially those concerned with equity and internalization of costs, to assess how local residents of Khohlo-Ntso have experienced benefit sharing within the LHWP. In line with studies using SIA as a guideline for researching impacts of large dam policy and development, this study attempted to contribute to ultimately changing the way in which large-scale water projects are handled in order for PAP interests to be prioritized.

2.3 DEVELOPMENT-INDUCED DISPLACEMENT

The WB estimates that more than four million people are displaced by large dams each year (World Bank, 2004). Of all large-scale development projects, large dams have displaced more people than any other form of megaproject development (Thukral, 1992). Displacement is not limited to forced physical removal of communities from places of residence, but also includes livelihood displacement in which PAPs' means of production are interrupted or destroyed by large dam construction and related infrastructure (WCD, 2000).

Thukral (1992) identifies three categories of displacement induced by large dams. The first kind of development-induced displacement(DID), and the most commonly referred to form of DID, involves PAP who are directly impacted by the dispossession of their land and properties, which are acquired by nation-states or developers in order to make way for construction of dam walls, inundation of lands to create reservoirs and/or construction of related dam infrastructure. Directly displaced PAP are forced to move out of their homes and leave areas where most have lived for generations. The second and third categories of DID concern those PAP who are indirectly affected by large dam development. They include PAP whose land-use patterns have changed due to loss of resources or other means of livelihoods as a consequence of projects (such as the exit of masses of construction workers who had served as a customer base for small business enterprises) and are thus forced to leave the area in search of work, or those PAP who are impacted by environmental changes resulting from reduced river flows (usually downstream communities). While PAP who are directly impacted are frequently compensated and assisted with resettlement, the second and third categories of DID victims are most often left to fend for themselves (Thukral, 1992). Located only 10 km downstream from Katse Dam, this study included participants who have experienced the second and third categories of displacement.

The two key models of DID developed over the past forty years of experience with large dam development address only the first category of PAP, those who have been forced to move from their homes and lands due to large dam construction. These include the Scudder-Colsen model of DID resettlement (commonly referred to DIDR) developed by Scudder andColsen throughoutthe 1970s and early 1980s after lengthy anthropological research of the impacts of the Kariba resettlement scheme in which nearly 60,000 Gwembe Tonga peoples were directly displaced by the Kariba Dam project in Zambia, andCernea's (1995, 1997) Impoverishment, Risks and Reconstruction (IRR) approach to DID formulated in the early 1990s (McDonald-Wilmsen& Webber, 2010). The first sociological model attempting to understand and predict responses of communities, households and individuals to resettlement, the Scudder-Colsen (1982) predictive model was groundbreaking work. The model identifies and distinguishes between four

stages of relocation including recruitment, transition, preferential development and handing over/incorporation. Concentrating on the common behavioral tendencies of resettlees through each stage, the Scudder-Colsen (1982) model was initially developed to describe stages of voluntary resettlement and later used in explanations of involuntary resettlement. However, after various studies throughout the 1980s and 1990s pointed to increasing evidence that the stages were not applicable to cases of involuntary resettlement, it was widely acknowledged that a new model was needed to explain impoverishment in forced resettlement schemes (Stanley, 2004).

Thus Cernea (1995) developed the IRR approach as a new predictive model of responses to DIDR. Today's most influential approach to contemporary studies on DIDR, the IRR model identifies principal risks inherent in DIDR and ways in which PAP reconstruct their livelihoods after displacement and resettlement (Cernea, 1995, 1999). The seven risks identified by Cernea include landlessness, joblessness, homelessness, food insecurity, increased morbidity and mortality, loss of access to common property resources and community disarticulation. Expanding on these impoverishment risks, Mahapatra (1999) proposed that loss of educational opportunities be added to the list and Mathur (1998) suggested that the list be extended to include loss of access to public resources. Cernea's IRR model has been criticized for neglecting the vulnerabilities and capabilities of resettled PAP (Muggah, 2000) as well as what some deem the unrealistically optimistic assumption that preemptive planning can drastically reduce risks of DIDR (de Wet, 2001). The IRR model was an important component of the WCD's (2000) development of its Strategic Priorities and Guidelines, linking the adverse impacts of DID with human rights.

While these two key DIDR models have been crucial to understanding the risks and adverse impacts of DIDR experienced by PAP, those directly affected by DID are only a small proportion of people whose lives and livelihoods have been interrupted or destroyed by large dam development. Relatively few studies have focused on the risks, social processes and responses of PAP who live in the vicinity of dam works but are not resettled or downstream communities that face devastating consequences of indirect

DID (Adams, 2000). In the past decade recognition of other categories of PAP by the WCD (2000) include host communities of resettlees, project immigrants and those PAP who have experienced livelihood displacement. More updated work of Scudder's (1996, 1999) points out the need for further research examining DID in this wider context rather than exclusive focus on physical displacement of PAP (Thukral, 1992). While the scope of this study did not allow for a comprehensive assessment of impacts of the LHWP on Khohlo-Ntso's downstream community as the focus was local residents' experiences with benefit sharing mechanisms, many adverse impacts were noted by participants, thus this study hopes to contribute to greater understanding of PAP indirectly affected by large dam development.

2.4 DOWNSTREAM COMMUNITIES

Populations living downstream of large dam projects are the most numerous yet also most neglected of all "victims of development" (Horowitz, 1991). The socio-economic impacts of large dams on downstream PAPs are caused by changes in the amounts and timing of river flows on which aquatic and riparian ecosystems rely. As the effect of river flows in these ecosystems is complex and not well understood, even less is known about the impacts of altering river flows on aquatic and floodplain biodiversity and downstream communities (McDowell et al., 1996). Such impacts occur over long periods of time and can stretch for hundreds of kilometers downriver (Adams, 2000). The few studies that have attempted to document downstream impacts of large dam development found evidence that downstream PAP suffer both material and non-material consequences including reduced water quality, fish populations, dry-season grazing areas, waterfowland decreased fertility of cropland (van Gelder et al., 2002; Adams, 2000; Hoover, 2001; Hirji & Davis, 2009). In addition, reduced river flows can lead to increases of black fly and other pest populations that deteriorate animal health, exotic plant encroachment and water-borne diseases such as malaria, filariasis and schistosomiasis (van Gelder et al., 2002). Livelihoods of downstream communities are closely connected with the health of river ecosystems, making them especially vulnerable to such changes in aquatic biodiversity.

While the WB and several other large dam funders and developers have established guidelines for resettled PAP populations, a policy vacuum exists for communities living downriver whose livelihoods, social networks and cultures depend on the steady flow of water that nature has provided (Adams, 2000). However, recent recognition of the severe impacts of large dams on downstream PAP is leading to innovative environmental assessment techniques thatlend promise to filling this vacuum (WCD, 2000; Hirji & Davis, 2009). Environmental flows refer to the "*quality, quantity, and timing of water flows to maintain the components, functions, processes, and resilience of water ecosystems that provide goods and services to people*" (Hirji & Davis, 2009: xiii). The incorporation of environmental flow assessments (EFAs) into water management decision-making is a young and still developing field that requires costly and time-consuming studies, substantial institutional capacity and strong political will. Leading the way in integrating EFAs into water allocation policy, South Africa's new water law has been highly influential in increasing visibility of downstream impacts of large dams (Hirji & Panella, 2003).

Constructed and implemented at a time when environmental impact assessments (EIAs) were a relatively new practice internationally, EIAs were neither conducted for upstream nor for downstream PAP communities affected by the LHWP (LHDA, 2002). However, after various studies (presented in the following section) documented the tremendous adverse impacts of LHWP Phase 1A on local villages, the WB required LHDA to perform an EIA for Phase 1B that led to somewhat improved compensation and resettlement procedures. In addition, an instream flow requirement (IFR) study was conducted in 1997 to assess downstream impacts of the LHWP. The IFR study developed what the WB claims is "*from a methodological point of view, the most comprehensive effort supported by the World Bank to address EFR in project development*", namely the Downstream Response to Imposed Flow Transformation (DRIFT). Developed specifically for the LHWP IFR study, DRIFT assesses EIAs from a biophysical, social and economic standpoint, taking into consideration flow alterations impacts on all aspects of PAP livelihoods (Hirji & Panella; LHDA, 2002; LHDA, 2004).

The IFR study set up downstream flow scenarios in which estimates of downstream impacts of the LHWP were made based on such scenarios with assessed variation of impacts depending on differing levels of water released to downstream water channels from the Katse Dam. These included the actual Treaty scenario where 90-95 percent of water is diverted from downstream rivers, a hypothetical baseline scenario with 40-45 percent of water diverted and two intermediate scenarios in which water releases from dams varied, but fell between the Treaty and baseline scenarios. The IFR study found that each scenario resulted in significant adverse impacts on downstream communities, with the baseline scenario causing minimal impacts compared to the other scenarios. Most importantly, the study reported that the Treaty scenario caused severe changes in the geomorphology and water quality of downstream rivers, estimating that acute reductions in fuelwood, wild vegetables, medicinal plants, bird life, fish populations, river sand and animal fodder would significantly reduce local populations' abilities to sustain livelihoods.

Limiting populations at risk (PAR) to a 5 km band on either side of the Malibamats'o, Senqunyane and Matsoku rivers for 100 km downstream of Katse Dam, the study calculated that approximately 155,000 people would be severelyimpacted by changes in downstream river flows under the Treaty scenario (LHDA, 2002; LHDA, 2004). Estimates of loss of material resources to these PAP came to more than US$2 million per year, many times the amount of average income in Lesotho (Hirji & Davis, 2009). LHDA responded to the study by agreeing to alter flow releases from Katse and Mohale Dams three and four times the minimum Treaty requirements, respectively. In addition, it was decided that losses to 23 downstream communities living in proximal reaches of the dams would be given communal cash compensation of differing amounts. These communalcompensation payments would be dispersed in two stages, the firstin May of 2004 and a second payment after further IFR studies were conducted at an unspecified later date (LHDA, 2004).

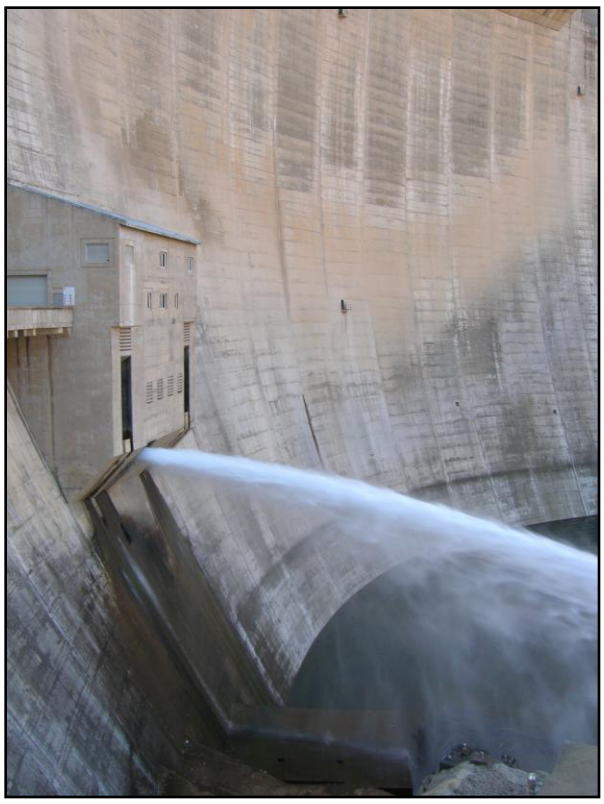


Photo 1: Water being released from Katse Dam in accordance with new IFR policies.

2.5 LESOTHO SOCIO-ECONOMIC CONTEXT

Lesotho has one of the poorest and most unequal societies in the world (Thamae & Pottinger, 2006). With one-third of the population (of approximately 2.1 million people) living under one dollar a day, many Basotho people struggle to meet their basic needs and live in abject poverty (Devitt & Hitchcock, 2010). By 2003, Lesotho was one of seven other southern African countries requiring six million tons of food aid per year (Matli, 2005). Divided into four geographic zones with differing agro-climatic conditions, including the foothills (15 percent of the country), the lowlands (20 percent), the Senqu River Valley (4 percent) and the highlands (60 percent), 86 percent of the population reside in rural areas. The country faces serious environmental and resource constraints, with water deemed its only abundant resource (World Bank, 2010). As only 10 percent of land in Lesotho is arable and the country is plagued by sheet erosion, poor topsoil

and overgrazing, Basotho farmers have experienced steadily declining agricultural yields since the 1950s (Hoover, 2001; Motsamai et al., 2003). Historically a cheap labor reserve for South African mines throughout the 20th century, mining remittances played a crucial role in sustaining livelihoods (making up 40 percent of the GDP) up until the mid-1990s when significant numbers of Basotho miners have been retrenched due to increasing mechanization of the industry and thus lower labour demands in South Africa (Braun, 2010; Turner, 2001; Devitt & Hitchcock, 2010). Additionally, Lesotho has the third highest prevalence rate of HIV/AIDS in the world and is home to more than 140,000 orphans (Braun, 2010; Motsamai et al., 2003; UNICEF, 2005).

With one of the top ten greatest income disparities globally, the richest ten percent of Basotho enjoy 43.4 percent of the total income in Lesotho, while the poorest ten percent share only 0.9 percent (Matli, 2005). The most destitute Basotho people reside in the highlands, also home to all major LHWP infrastructure, where communal land tenure systems empower chiefs and headmen (*barena*) to allocate grazing and cropland to local residents (Sechaba Consultants, 2000). Sixty-five percent of mountain land is used for grazing and livestock production, while less than one percent of the country is under forest area (Motsamai et al., 2003). Recent estimates find that more than 40 percent of the country is unemployed, living under the current poverty line of US$1.2 per day (with estimates reaching 60-70 percent for highlands residents) (UNICEF, 2005). Adhering to the WB's and International Monetary Fund's structural adjustment conditions attached to loans, which Lesotho adopted in the early 1990s, the country's national fiscal and economic policies of reduced state funding for education and other public programs work against poor Basotho (Maema & Reynolds, 1995). The geopolitical structure of wealth and power comes at a great disadvantage to highlands residents where communal resources (such as water) are highly prone to elite capture and are used to benefit the state and urban areas (Tilt et al., 2008; Turner, 2001).

Lesotho is no stranger to foreign aid. As an enclave of "freedom" inside South Africa's apartheid state throughout the second half of the twentieth century, Lesotho has received enormous amounts of external development aid over the past forty years

(Ferguson, 1994; Tilt et al., 2008). More than 26 countries and 72 international agencies and non- and quasi-governmental aid organizations have provided Lesotho with tens of millions (USD) of development assistance during this time (Ferguson, 1994). The failure of development programs to alleviate poverty and enhance Basotho livelihoods has been attributed to unrealistic funder assessments of Lesotho's geopolitical situation in which widespread corruption and elite capture of wealth prevents development aid from reaching the majority of the population (Ferguson, 1994; Tilt et al., 2008). The WB, playing a significant role in numerous development projects in Lesotho dating back to the 1970s, is a major focus of this criticism, viewing Lesotho *"as a nation of farmers, not wage laborers; a country with geography, but no history; with people, but no classes; values, but no structures; administrators, but no rulers; bureaucracy, but no politics"* (Ferguson, 1994: 66). Thus the political context of Lesotho, in which interests of entrenched elites possessing a disproportionate amount of wealth and power develop policies and execute programs to further accumulate capital, rather than benefit the impoverished majority, is largely ignored by leading development agencies. As we shall see, the LHWP is no exception to the multitude of development projects in Lesotho that have fallen prey to self-interested corrupt politicians at the expense of the poor.

Historically victims of colonial exploitation and racial oppression, Basotho have experienced a tumultuous political history since the country gained independence from Britain in 1966. Lesotho has also been a historical underdog to South Africa, almost completely economically dependent on its neighbor. The division of costs and payment of royalties under the LHWP has been criticized as unfair to Lesotho, depriving this tiny country of its only abundant natural resource (Maema & Reynolds, 1995). While a significant proportion of the water delivered by the LHWP to South Africa is transferred to industrial firms, Basotho communities have been robbed of essential resources which are dependent on the natural flow of this water, to procure some level of livelihood. Citizens of Lesotho have engaged in multiple livelihood strategies for more than century, incorporating subsistence agriculture, miner remittances and small income generating projects (among other things) to provide for themselves and their families (Turner, 2001). The LHWP has made it that much more difficult for these mountain people to survive.

2.6THE LESOTHO HIGHLANDS WATER PROJECT

2.6.1 Overview

The Lesotho Highlands Water Project (LHWP) is the second largest water infrastructure project being built in Africa today (Devitt & Hitchcock, 2010). This binational interbasin transfer scheme, involving the construction of five dams, more than 200 km of tunnels, two hydroelectric power plants, andover 265kilometers of access roads planned over the next 30 years, has the capacity to transfer 2,200 million cubic meters of water per year (the equivalent of one swimming pool (70 cubic meters) of water every second) from the Senqu River Basin in Lesotho to the Gauteng region of South Africa (LHDA, 2002; Hoover, 2001). LHWP's two main objectives, outlined in the LHWP Treaty signed by the governments of South Africa and Lesotho in 1986, are the sale and delivery of water to Gauteng's industrial and private sectors and the domestic generation of electricity (180 MW capacity) in Lesotho (Willemse, 2007; LHDA, 2002). The total cost of the Project is estimated at US$8 billion (World Bank, 1991).

Divided into four phases, the first phase of the LHWP is comprised of Phase 1A and Phase 1B. Phase 1A involved the construction and implementation of the Katse Dam (at the confluence of the Malibamats'o and Bokong Rivers), Muela Dam, Muela Hydropower Station, and two transfer tunnels with a total length of 82 km. The largest curved dam and highest (at 2,000m above sea level) in Africa, the Katse dam is an 185m high, 700m long double-curvature concrete arch dam with a 1,950 million cubed meter reservoir (LHDA, 2002). The total cost of Phase 1A was approximately R20 billion. Construction works for Phase 1A started in 1986, with wall construction beginning in 1991. This first phase was completed in 1998.



Photo 2 : The Katse Dam wall. Katse Dam is the highest double curvature dam in Africa.

Phase 1B consists of the Mohale Dam, built on the Senqunyane River, 37.6 km of transfer tunnels funneling water to the Katse Reservoir and a 72 MW hydropower station at Muela that connects with the Southern African Power Pool, generating all of Lesotho's electricity (LHDA, 1999). The total cost of Phase 1B was approximately R6.5 billion (Mwangi, 2007). Construction for Phase 1B was begun in 1998 and completed in 2004 (Devitt & Hitchcock, 2010). The governments of South Africa and Lesotho recently (just last year) signed the implementation agreement for Phase 2, which consists of the Polihali Reservoir on the Senqu River, the second hydropower station and a transfer tunnel to Katse dam estimated at a cost of R15 billion. Phase 2 is expected to be completed and operational by 2018 (Naidoo, 2011).



Photo 3 : Mohale Dam.

LHWP's impact on the economy of Lesotho is significant, with project revenues estimated at 28 percent of the country's GDP. Direct contribution to the GDP includes water royalties paid by South Africa, customs revenues generated from large material imports and increased tax revenue, while indirect contributions include ancillary development such as roads, bridges, communication and urban infrastructure (Mwangi, 2007). The contract for this multi-donor bilateral project runs from the completion of Phase 1A in 1995 to 2045 (Barrett & Senaoana, 1998).

2.6.2 History of the LHWP

Signed into being through the LHWP Treaty by two illegitimate non-democratic governments in January 1986, that of the National Party apartheid regime in South Africa and the military regime of General Justin Lekhanya in Lesotho, the LHWP is both one of the most comprehensive engineering projects of its kind in the world, while also one of the most contentious dam projects in recent history (Mwangi, 2007; Tilt et al.,

2008). First conceived of in the 1950s while Lesotho was still under British colonial rule, several preliminaryfeasibility studies were conducted throughout the late 1960s, 1970s, and early 1980s (SAICE, 2002). However, due to political opposition from Lesotho's civilian government (which had resisted signing the Treaty for more than a decade), the transboundary water project did not get off the ground until the late 1980s (Matli, 2005). Claiming that the civilian government in Lesotho harbored and supported anti-apartheid fighters, the then apartheid South African government successfully supported General Justin Lekhanya's military coup in February 1986, thus removing all political obstacles in way of the Project (Matlosa, 1998). General Lekhanya's military regime (subsequently maintaining autocratic rule for the next 23 years) and the South African government hastily signed the LHWP Treaty on 24th October 1986 and the massive water transfer and hydropower project was set into motion (Rothert, 1999).



Photo 4:1986 Treaty Signing by Foreign Ministers of Lesotho, Col. ThaabeLetsie (left) and South Africa, Mr. Pik Botha (right) in Maseru, Lesotho (SAICE, 2002).

Thus the LHWP's birth was instigated by two oppressive military regimes that were undoubtedly interested in maintaining authoritarian rule rather than engaging in national development focused on poverty reduction. Apartheid South Africa was facing a serious economic crisis during this time due to political upheaval, persistent capital flight after the 1960s Sharpeville shootings and global economic sanctions. The apartheid

government desperately needed to rebuild foreign investor confidence in the country and required large amounts of water to fuel its industrial development, whereas the new military regime in Lesotho necessitated support of the apartheid government to maintain autocratic rule, thus the Project fulfilled both states' central objectives at that time (de Wet, 1999). While the LHWP faced ANC opposition throughout the 1980s as the Project amplified apartheid state power, the new democratic South African ANC government deemed the LHWP vital to its 1994 Reconstruction and Development Program and rapidly changed from an oppositional stance to one of collaboration (Matli, 2005). With the Project bringing in large amounts of revenueduring construction phases in the early and mid-1990s, Lesotho's poor economic situation forced the country to continue with the sale of its primary natural resource (Matlosa, 1998).

As a historical underdog to South Africa, almost completely economically dependent on its neighbor, Lesotho accepted less than optimal terms in the Treaty, allowing South Africa rights to 40 percent of its water, what some have termed a "reservoir of goodwill" (Qaddumi, 2008: 7; Tilt et al., 2008; Rothert, 1999). After extensive negotiations in which the two nation-states struggled to redirect costs of the Project back and forth to the other, it was decided that South Africa would finance all water transferinfrastructure, while Lesotho would pay for the hydroelectric component of the Project and cover compensation for socio-economic losses of PAP(SAICE, 2002). Many authors have criticized this outcome for its unfairness to Lesotho as all major infrastructure works would occur within its borders, thus a disproportionate share of costs of the Project would fall on Basotho shoulders (Maema and Reynolds, 1995).

2.6.3 The LHWP Treaty

Signed only a few months after the 1986 coup in Lesotho, the LHWP Treaty formally established a legal binding agreement between South Africa and Lesotho to proceed with the Project. The Treaty outlined set volumes of water to be delivered to South Africa annually, the basis for sharing costs of the Project, calculation of royalties to be paid to Lesotho and each country's respective requirements and responsibilities

concerning the LHWP (GoL, 1986b). In addition, the treaty clearly sets out provisions for waters released to rivers downstream of LHWP structures, stating:

> *The LHDA should at all times maintain rates of flow in natural river channels immediately downstream of the Katse and Mohale dams not less than 500 and 300 liters per second respectively and shall, if so required, release the quantities of water from either Katse or Mohale reservoirs as the case may be, necessary to maintain such rates of flow*(GoL, 1986b).

Such provisions for downstream water flows were established at a time when consideration of downstream impacts of large dams projects were almost completely neglected by dam planners and nation-states (Thamae & Pottinger, 2006; LHDA, 2002). Only in the past decade have the adverse environmental impacts of large-scale water projects on downstream communities gained attention, with few studies researching the impacts of changing natural flows of river patterns as they occur over long periods of time, are extremely complex and deemed costly by hydropower developers (Adams, 2000). As the treaty calls for anastonishing 96 percent reduction in river flows downriver of Katse Dam, harmful impacts on downstream communities are significant, including contamination of water, loss of valuable vegetation, extinction of the Maluti Minnow and loss of drought relief coping mechanisms (LHDA, 2002; Hirji and Davis, 2009). The 570 kilometers of rivers downstream of Katse and Mohale dams are home to 155,000 Basotho suffering varying levels of environmental degradation due to reduced river flows (LHDA, 2002). Downstream impacts of the LHWP were not raised until 1995 by one of the first Panel of Expert's assessments (POE), an independent research group established by the WB to monitor the LHWP. The POE's dismal findings of severely degraded downstream river environments motivated the first Instream Flow Requirement Study to be undertaken two years later (Willemse, 2007).



Photo 5: Malimabast'o River downstream of Katse Dam.

The most pertinent sections of the Treaty addressing PAP are found in Articles 7 and 15. Article 7(18:27) of the Treaty states:

> *The LHDA shall effect all measures to ensure that members of the local communities in the Kingdom of Lesotho, who will be affected by flooding, construction works or similar project-related causes, will be able to maintain a standard of living not inferior to that obtaining at the time of the first disturbance, provided that such Authority shall effect compensation for any loss to such member as a result of such project-related causes not adequately met by such measures*(GoL, 1986b).

Similarly, Article 15 of the LHDA Order, of 1986 states the following:

> *The Parties agree to take all reasonable measures to ensure that the implementation, operation and maintenance of the Project are compatible with the protection of the existing quality of the environment and, in particular, shall*

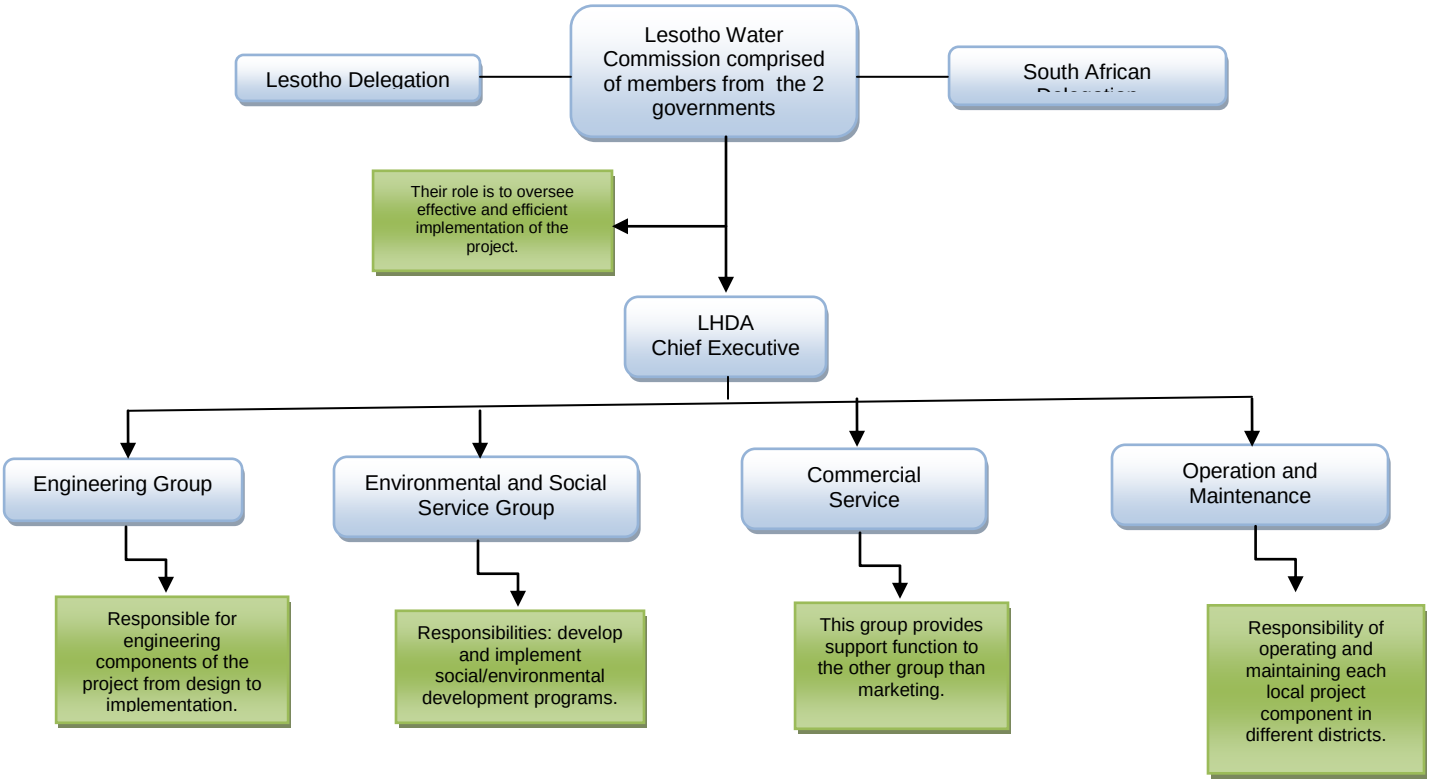
pay due regard to the maintenance of the welfare of persons and communities immediately affected by the project(GoL, 1986a).

The legal obligation to maintain PAPs' standards of livings before disruption by the Project almost exactly replicates WB guidelines for resettled and displaced populations (de Wet, 1999). Taking into account the impoverished state of most Basotho PAP before the LHWP came into their lives, such standards are contradictory to justifications for large-scale development projects proclaiming to benefit entire societies (especially those funded by the WB which has repeatedly reasserted its dedication to poverty reduction in the past two decades). However minimal such stipulations for maintaining standards of living of PAP may be, the legal rights of PAP affected by the LHWP have largely been disregarded (Devitt & Hitchcock, 2010).

2.6.4 Management Structure of LHWP

The Treaty also outlined terms for institutional arrangements to conduct LHWP operations. The LHDA Order of 1986 established the Lesotho Highlands Development Authority (LHDA), a parastatal charged with the responsibility ofsupervising engineering projects and maintenance of PAP standards of living including resettlement, compensation and economic development programs (GoL, 1986a). On the South African side, the Trans-Caledon Tunnel Authority (TCTA) was given the responsibility of managing water transfers in South Africa. Additionally, a binational body, the Joint Permanent Technical Commission (JPTC) (later renamed the Lesotho Highlands Water Commission (LHWC)) was established to supervise, monitor and approve activities undertaken by the LHDA and TCTA (Maema & Reynolds, 1995). The institutional structure of the LHDA is divided into four divisions including the Engineering Group, Commercial Services, Operation and Maintenance and the Environmental and Social Service Group (ESSG). Figure 1 on the following page describes the functions of each division.

Figure 1 : LHWP Management Structure



Institutional management of the LHWP was riddled with problems from the start. Consisting mostly of engineers and politicians, the technocratic orientation of all LHWP management structures translated into neglect of socio-economic concerns and development objectives at the expense of PAP. A WB report in 2007 found that the institutional relationship between the three bodies was “cumbersome and slow” with the JPTC micro-managing LHDA and TCTA activities, especially ESSG endeavors involved in ensuring successful compensation, resettlement and maintenance of standards of living of PAP. Lack of accountability and lack of institutional capacity on the part of the LHDA resulted in delays in reaching and implementing decisions regarding compensation dispensation, resettlement and economic development programs. One WB report found that only 4 out of 12 senior LHDA official positions had been appointed (World Bank, 2007). After construction of Phase 1 was completed, restructuring of LHDA reduced management staff positions from 439 to 231, of which only 64 were

filledby April 2005. The WB reported that appointments to high-level positions within the LHDA were driven by political interests rather than sufficient qualification and experience (World Bank, 2007; Thamae & Pottinger, 2006). As Ferguson highlights, the "*development apparatus in Lesotho is not a machine for eliminating poverty that is incidentally involved in state bureaucracy; it is a machine for reinforcing and expanding the exercise of bureaucratic state power*" (Ferguson, 1994: 255). As guilty of other major WB funded projects in Lesotho, the LHWP major funder failed to take into account the geopolitically skewed context of the country, with inequality defining distribution of wealth and resources.



Photo 6: LHDA headquarters in Katse.

2.6.5 Socio-Economic Impacts

While internationally renowned for its technological innovations, winning numerous engineering awards, the LHWP has likewise become internationally notorious for its devastating impacts on highland and downstream communities (Thamae & Pottinger, 2006; Hoover 2001). Several studies researching the socio-economic impacts of the LHWP on PAP have confirmed that a substantial number of Basotho have suffered devastating consequences resulting from the Project. Phase 1A and 1B dispossessed more than 30,000 Basotho of their cropland and grazing land, a relatively small number compared to other large dams projects in the world, but highly significant for the Basotho population as the country suffers from overcrowding and exceptionally low percentages of productive land (Thamae & Pottinger, 2006; Hoover, 2001; Mwangi, 2007). This first phase of the project submerged 1,500 ha of arable land, 1,900 ha of cropland and more than 5,000 ha of grazing land, exacerbating soil erosion and overgrazing as farmers were forced to cultivate on progressively steeper slopes and graze animals in increasingly smaller and condensed areas (Willemse, 2007; Mwangi, 2007). The dispossession of this land had significant impacts on PAP standards of living as two-thirds of people in project areas rely on subsistence agriculture as one of many diversified livelihood strategies (Mwangi, 2007). The lack of direct supervision of construction companies by LHDA resulted in destruction of additional cropland as blasting activities threw large stones into fields and bypass roads created deep culverts filled with water destroying crops.In addition, other valuable resources used in sustaining livelihoods including trees, medicinal plants, wild vegetables, thatching grass, river sand and fish were lost due to the adverse environmental impacts of reduced river flows (Hoover, 2001).



Photo 7: The LHWP deprived Khohlo-Ntso of valuable grazing land, severely affected livestock health.

With the influx of more than 20,000 migrants seeking employment in dam construction, community and family life in LHWP sites was considerably disrupted. Marital affairs between female local residents and construction workers became all too common, young school girls were bribed to engage in sexual relations with men working on the dam andHIV/AIDS infection rates skyrocketed in construction areas (Tilt et al., 2008; Hoover, 2001; HSRC, 2009). Originally LHDA provided ferryboat services to PAP to cross the reservoirs, but this transport service was considered too costly and shortly discontinued. Thus social ties between communities living on opposite sides of the reservoirs were interrupted as well as access to services such as clinics, schools and retail shops (Matli, 2005). Various studies reported increased incidences of stock theft, of great significance to PAP lives as the value of livestock in Lesotho holds as much or more weight culturally as their economic value (Hoover, 2001). With the most remote poorest regions of the country selected for construction, such destruction of livelihoods, social networks and health rendered life in these highland areas all the more difficult. A more extensive discussion of socio-economic impacts is provided at the end of this chapter.

2.6.6 World Bank and Other Financiers

At the time of the Project's inception, economic sanctions against South Africa, resulting in de-investment of R15 billion between 1982-1984, prevented the country from receiving international funding. This was easily bypassed with Lesotho named as the primary borrower for Project loans (Rothert, 1999). Co-financed by the governments of Lesotho and South Africa, German, British and French bilateral aid,the WB, Development Bank of Southern Africa (DBSA), European Investment Bank (EIB), the United Kingdom Commonwealth Development Corporation (UKCDC), African Development Bank (ADB), numerous private banks and Africa export credit-backed loans, the estimated cost of the LHWP is approximately US$8 billion (van Gelder et al., 2002; Tricarico, 2000). By 2002, the Project had aggregate outstanding debt of R17,588 million (US$1,552 million). Table 1on the following page presents an exact breakdown of LHWP financing.

Table 1 : A Breakdown of LHWP Financing (van Gelder et al., 2002)

BANK	COUNRTY	AMOUNT (USD)
African Development Bank	International	US$ 50.0 Million
Foreign development agencies	Various	US$ 117.8 Million
Commonwealth Development Corporation (now: CDC Capital Partners)	United Kingdom	US$ 36.1Million
Development Bank of South Africa	International	US$ 241.0 Million
European Development Fund	International	US$ 57.0Million
EuropeanInvestment Bank	International	US$ 20.0Million
United Nations Development Program	International	US$ 0.3 Million
World Bank	International	US$ 110.0 Million
Coface	France	US$ 104.0 Million
ExportCredits GuaranteeDepartment	United Kingdom	US$ 82.0 Million
HermessKreditversicherungs	Germany	US$ 118.0 Million
SACCE	South Africa	US$ 107.0 Million
BanqueNationale de Paris (now part of BNP Paribas)	France	US$ 19.7 Million
CréditLyonais	France	US$ 17.0 Million
Hill Samuel (now part of Lloyds TSB) with CréditLyonais	United Kingdom/ France	US$ 14.5 Million
Dresdner Bak (now part of Alianz) withKreditanstaltfu□rWiederaufbau	Germany	US$ 15.8 Million
Development Bank of SouthernAfrica	International	US$ 47.0 Million
EuropeanInvestment Bank	International	US$ 109.0 Million
World Bank	International	US$ 45.0 Million

The WB's involvement in the project was essential for bringing other funders on board. A 1991 WB Staff Appraisal report initially stated that environmental and social impacts of the LHWP would be minimal, estimating less than 16,000 Basotho would be directly impacted by the project (almost half of the actual numbers), excluding PAP affected by access roads and other ancillary project infrastructure. Listing local employment creation as one of the Project's central benefits, this report asserted that the LHWP was essential for improving Lesotho's economic prospects and bringing the country's domestic absorption under control (World Bank, 1991). The WB named the entire population of Lesotho (with emphasis on poverty-stricken Basotho), industrial and urban

water users in the Gauteng region of South Africa, Basotho contractors, LHDA employees, project construction workers and highland communities as the main beneficiaries of the LHWP (World Bank, 2007). Despite the WB's assertion that the Project established productive long-term employment prospects in Lesotho, a meager 3,000 Basotho were employed by the project, most of whom found jobs as lowly-paid laborers with most skilled positions filled by country foreigners (Matli, 2005).

WB reasoning for support of the LHWP falls in line with an ideological insistence on the part of megaproject development proponents that massive development projects have trickle-down effects that improve local populations' qualities of life. Thamae & Pottinger (2006) describe such attitudes as part of an *"institutional culture…built on incentives to make loans and keep disbursements flowing rather than achieving actual sustainable development"* (Thamae & Pottinger, 2006: 37).

2.6.7 Royalties

One of the major economic benefits of the LHWP to Lesotho is the payment of water royalties for a period of 50 years (LHDA, 1999). LHWP water royalties are comprised of two components, namely a fixed component which is paid monthly and calculated on the basis of amounts of water transferred to South Africa, and a variable component which depends on the difference of electricity costs attributable to pumping operations and to operation and maintenance of the alternative projects (Mokorosi, 2007). While initially assessed that royalty payments would reach estimates of US$55 million per year, in actuality Lesotho has received an average of US$18 million annually. Lower values are attributed to extended droughts occurring in Lesotho in which water levels are much lower than were originally assumed (Tilt et al., 2008). By the end of 2006, Lesotho had received R1,918 million in royalty payments (World Bank, 2007). Table 2and Table 3 below present royalty payments to Lesotho from 1996 to 2004 and amounts of water delivered to South Africa, respectively.[1]

[1]Though data for more recent years was requested from LHDA in this study, no data was provided and no public data is available.

Table 2 :LHWP Water Deliveries and Royalty Revenue (LHDA, 2005)

Year	Water Deliveries (million cubic meters)	Royalty Payments Million Maluti
1996 (Nov-Dec)	-	M130.50
1997	-	M81.83
1998	439	M129.20
1999	540	M146.93
2000	570	M153.24
2001	587	M174.80
2002	611	M210.50
2003	652	M204.73
2004	661	M220.98

Delivery to date: 4062.04 Million cubic meters
Revenue to date: M1,452,620,227.32

Table 3 : LHWP Electricity Generation and Sales Revenue (LHDA, 2005)

Financial Year	Total Planned Generation (GWhrs)	Total Actual production (GWhrs)	'Muela Peak Output (MW)	Electricity Sales to LEC (Million Maluti)	Export Energy (GWhrs)	Export Revenue (Million Maluti)
2000/01	387	371.57	78.1	M44.13	-	-
2001/02	391	372.95	77.7	M44.76	23.22	M44.13
2002/03	389	377.93	78.5	M43.25	35.32	M44.76
2003/04	436	428.79	77.9	M48.69	40.28	M43.25

As will be discussed in the following chapter, a significant percentage of these royalty payments were designated for the LHWP benefit sharing mechanism incorporated into the project for purposes of economic and social development. This study aimed to explore whether such funds had reached the village of Khohlo-Ntso and what their experiences were with projects initiated under the Lesotho Highlands Revenue Fund (LHRF).

2.7 OTHER LHWP STUDIES

Numerous studies have been conducted by sociologists researching the impacts of the LHWP on project-affected Basotho communities. Focuses of these studies include the micro and macro-economic, socio-cultural and health impacts of the Project, LHWP DID, participation of PAP in decision-making processes of compensation and resettlement procedures, usefulness of SIAs in assessing impacts of the LHWP, resettlement experience of PAP and assessment of the Treaty's requirements for maintenance of standards of living (Makuta, 1991; Maema & Reynolds, 1995; LHDA, 1995; Archer, 1996; Barrett &Senoana, 1998; Matlosa, 1998; Tricarico, 2000; Hoover, 2001;Sakoane, 2001; LHDA, 2002, Akindele&Senyane, 2004; Matli, 2005; Thamae & Pottinger, 2006; Willemse, 2007; Tilt et al., 2008; Slater &Mphale, 2009; HSRC, 2009; Devitt & Hitchcock, 2010; Braun, 2005, 2010). This research has been fundamental in documenting adverse impacts of LHWP on Basotho communities and influencing mitigation policies.

2.7.1 LHWP DIDR

The LHWP directly displaced more than 30,000 Basotho from their homes and lands (Mwangi, 2007). Maema & Reynolds (1995) reported that project planners underestimated numbers of displaced by 600 percent.To this day, no EIA has been conducted for PAP affected by Phase 1A construction and implementation, thus Phase 1A PAP (including residents of Khohlo-Ntso, the dam-affected community under study) are considered the worst off of all LHWP affected communities (Matli, 2005). Thamae & Pottinger (2006) found that 27,000 people experienced direct and indirect displacement in Phase 1A. While the first houses and lands were acquired by the Project in 1987, compensation for such losses had still not occurred by 1989. Braun (2005) substantiated this finding, reporting that a few months before the Katse Reservoir was planned to be filled, no houses for the 71 families displaced by submerged lands had been built, thus LHDA engaged in hasty construction of resettled houses resulting in poor quality infrastructure which rapidly became dilapidated. Scudder (2005) reported that in Phase 1A, 1,100 highlands residents lost parts of theirfields, of which 365 local

residents were left with no fields at all. Overcrowding of already scarce cropland and grazing land was exacerbated, and more than 400 sharecroppers in Phase 1A were left with little to no means of subsistence production (Thamae & Pottinger, 2006).

An LHDA Resettlement and Development study in 1995 reported that ventilated pit latrines, provided to only a small proportion of resettled PAPs, were poorly constructed and had deteriorated after only a few years (LHDA, 1995). Devitt & Hitchcock (2010) found that after dismal POE reports and widespread criticism compelled LHDA to revamp their resettlement and compensation policy, participants of the study reported a much improved resettlement experience in Phase 1B (including communities affected by the construction of Mohale Dam), with more choices of what kind of houses they wanted, preferences of what areas of the country to resettle and kinds of compensation they wanted to receive. However, the study also found that participants reported more frequent food shortages and unquantifiable social, spiritual and personal losses.



Photo 8:A ventilated pit latrine constructed by LHDA in Khohlo-Ntso in the early to mid-1990s, remnants of the water sanitation project under the LHRF.

2.7.2 Health Impacts

Studies found that one of the most severe adverse impacts of the LHWP was on the health of PAP, affecting nutritional levels, increasing rates of HIV/AIDS and other STDs and drastically reducing PAPs' abilities to meet their nutritional needs. One HSRC (2009) study found that while the prevalence of HIV/AIDS in dam areas was only 1 percent in 1993, this number had risen to 24 per cent by 2006. Similarly, Thamae & Pottinger (2006) reported a 0.5 percent infection rate of local residents living within a 5 km radius of Katse Dam, yet antenatal tests ofpregnant women at Katse Clinic in 1999 showed that 22 percent were positive. Makuta (1991), LHDA (1999), Matli (2005) and Tilt et al. (2008) further substantiated these findings, with research recounting significant increase in sex work, HIV/AIDs and other STDs and exposure to violence and stigma associated with these diseases. Inadequate nutritional levels due to loss of essential resources (discussed in the next section) exacerbated adverse health impacts, especially with Lesotho facing major food shortages in the past decade due to elongated droughts (Pottinger, 2007). LHDA handled the negative health impacts poorly, with agriculture and health care programs considerably underfunded under the LHRF (Tilt et al., 2008). Braun (2010) found that the health of women was especially negatively affected.



Photo 9: Child malnutrition is a major health problem in the areas surrounding Katse Dam. Loss of fields and other natural resources acquired for the project has drasticallyexacerbated undernourishment in Khohlo-Ntso.

2.7.3 Livelihood Impacts

With 60 percent of households in the Katse and Muela areas falling below the national average income and ranked as “very poor” at the beginning of Phase 1A construction, LHWP impacts on livelihoods rendered already impoverished communities completely destitute(Sechaba Consultants, 2000; Tshabala& Turner, 1989; Hoover, 2001). Not only

did PAP communities lose fields to dam infrastructure and access roads, but side spoil from blasting activities also ruined many fields (Matlosa, 1998; Hoover, 2001; Tricarico, 2000). Leaving 25 percent of PAP landless, and many more sharecroppers without means of production, the two most important forms of life sustenance for people living in project areas, namely livestock and arable land, came under serious peril (Matli, 2005; Tricarico, 2000). Periods of construction in project areas provided some means of replacing these essential components of Basotho livelihood, with 20,600 people moving to the Katse area in the early to mid-1990s to work on the dam. These migrant workers provided a customer base for various businesses including *joalengs* (shebeens), rental of living quarters and sale of *makoenya* (fat cakes) and other food goods (Matli, 2005). However, businesses faltered with the exodus of migrant workers, further exacerbating difficulties in sustaining livelihoods. Very few local residents found formal work with the LHWP, thus already dire unemployment rates increased with the completion of Katse Dam (Tilt et al., 2008; Hoover, 2001). As early as 1991, one study reported that due to the paving of roads allowing greater access to the lowlands and the increased customer base, prices of essential goods rose substantially during construction periods (Makuta, 1991).

In the 2001 Hoover study, 40 percent of PAP reported a significant decrease in medicinal plants while 10 percent of the study participants said they had stopped using the herbs altogether. At least 175 medicinal plants grew in the submerged zones and served as valuable sources of income as they were often sold to*sangomas*(traditional doctors) in the lowlands. The study also reported decreases in thatching grass, river sand and fuel sources. Submerged lands in the Katse area had contained renewable resources valued at approximately US$146, now rendered completely unavailable to local communities.

With most highlands incomes falling below US$320 per year, Hoover (2001) estimated that some 45 percent of annual household income is now used to replace lost natural resources. Additionally, a significant proportion of participants in various studies reported increases in stock theft (Hoover, 2001). One other major source of livelihood

lost to PAP was income generated from sale of *matekoane* (marijuana), which grows wild in the Lesotho highlands and is an important source of cash income for many families, paying for school fees, transport and other goods and services requiring a cash income (Devitt & Hitchcock, 2010).

Table 4: Estimated Values of Resources Harvested From Senqu Riparian Zones (Hoover, 2001)

	Percent of Households That Harvested Resources	Average Amount Collected Annually per House	Market Value per Unit (USD)	Annual Cost of Resource Loss per Household (USD)
Willow Trees	22.7%	5.5 trees	$4.82	$26.51
Poplar Trees	22.7%	14.6 trees	$2.68	$39.13
Woody shrubs	47%	190 bundles	$1.12	$212.80
Wild vegetables	43.1%	148 bags	$0.35	$51.80
Medicinal plants	19.8%	N/A	N/A	$8.02
Thatch grass	24.7%	6.5 bundles	$1.22	$7.93
Craft grass (Leola)	17.0%	4.2 bundles	$2.02	$8.48
River sand	9.2%	N/A	N/A	$63.98
Average Annual Cost of Total Resource Loss per Household				$146.00



Photo 10: The Khohlo-Ntso River, which runs downstream of Katse Dam. Catchment of water in Katse Dam has resulted in extremely low levels of water in the river.

2.7.4 Cultural Impacts

Cultural impacts of the LHWP on PAP communities have also been severe. Studies have documented an increase in extra-marital affairs as the Project necessitated massive influxes of male immigrants to work on construction sites (Tilt et al., 2008; Matli, 2005). With the Katse High School located only a few kilometers from the dam, school girls were forced to walk past construction sites and often lured into sexual relations with male workers in possession of cash incomes (enticing female students with cell phones and other material teenage wants). Authors have reported destruction of family and community unity due to conflicts over new cash incomes brought by the project (Matli, 2005). Other studies have pointed to increased inequality as some local residents received cash compensation, new houses or found employment at dam sites, while others did enjoy such benefits, creating labour hierarchies among communities (Matli, 2005; Tilt et al., 2008). During Katse Dam construction and implementation, a“gated foreign suburban community”,the Katse Village, was established, consisting of residences for LHDA workers originating from the lowland areas and the Katse Lodge,

which prevents local residents from entering freely (Hoover, 2001:). Houses in Katse Village have electricity and modern plumbing, while the villages surrounding the community go without.



Photo 11: The entrance to Katse Village, a gated suburban community established by LHDA to house LHDA employees and to host tourists at Katse Lodge. Local residents are required togive reasons for entering Katse village and to sign in before gaining entry. The village seen behind the gate still goes without electricity or running water after almost a quarter century of LHWP development.

2.8 BENEFIT SHARING

2.8.1 Justifications for Benefit Sharing

One of the most recent developments within large dam development is that of benefit sharing (Paiement, 2007). As dam opponents commonly highlight, costs and benefits of large water transfer and hydropower projects are most frequently distributed unevenly. The winners of such projects are urban water users and large powerful organizations such as international financial institutions, governments, private or state owned electric companies, mining and other major corporations, construction contractors and equipment producers. The losers are most often marginalized groups living in rural areas hosting large dam sites and communities downstream of dams. The winners earn substantial amounts of profits from large dam projects while the majority of losers are further impoverished, bearing a disproportionate share of the costs (WCD, 2000). Undeniable evidence of the unequal distribution of costs and benefits of large dams has spurned much opposition to this form of megaproject development. Growing consensus has emerged that compensation is inefficient to balance the scale and thus, more drastic measures should be taken to ensure that local stakeholders are primary beneficiaries of large dam development (Milewski et al., 1999; Cernea, 2008). Benefit sharing provides one innovative way for this to happen.

Defined as "*a direct monetary redistribution of project-related revenues or profits to project-affected populations, associated with the existence of an economic rent*", benefit sharing is based on the principle of equity, which the third main debate about social impacts of large dams revolves around (Egre et al., 2002: 2). Adams (2000) discusses three axes of the equity debate (or the ways in which positive and negative impacts of large dams are distributed) including the balance sheet approach of cost-benefit analysis (CBA) commonly used by large dam developers to assess whether to build dams, the question of whether losers also enjoy benefits and thirdly, comparison of how costs are dispersed between different groups both spatially and temporally. Thus benefit sharing mechanisms potentially provide a resolution to the equity debate as they provide arrangements that ensure those who lose out also reap the benefits. Three main arguments can be made for benefit sharing, namely the economic rationale, the

ethical rationale and the development rationale (Egre et al., 2002). The first is based upon the theory of economic rent in which, as outlined by Rothman (2000),

> *the exploitation of natural resources, including water resources, can generate significant economic rent- a surplus return over and above the value of the capital, labour, materials and other factors of production employed to exploit the resource…Surplus means that the return is more than what the factor could earn in its best occupation. In other words, the return is greater than needed to keep the factor in that use or a reward in excess of that required to bring forth a desired effort or function…Therefore developers do not "earn" rent as they do normal profits (i.e. return to the capital and entrepreneurship). Rather, rent is a windfall created by the bounty of Nature* (Rothman, 2000: 13).

Thus the first argument justifying benefit sharing is concerned with the notion that substantial amounts of revenue generated by large dams can be shared by dam owners with multiple groups of PAP. The second argument for benefit sharing is positioned within ethical considerations of large dam development. While proponents of the "national best interest" developmentalism argument (discussed in the first section of this chapter) believe that economic development must come at some sacrifice to individual interests of communities for well-being of entire populations, opponents of such justificationaccuse"national best interest" positions as morally repugnant, employed by elites of the world to defend their exploitation of public resources for self-serving capital accumulation (Penz, 1997).

The second justification for benefit sharing recognizes that large dams transfer water resources to distant locations, depriving local populations of a natural resource that they have used and shared for time immemorial, thus the assertion that these communities should share in the benefits generated by the resource they have been forced to sacrifice. Cernea (2008) highlights that while securing economic rents and returning them to the general public has been practiced for many years, the novelty of benefit sharing lies in its "*enactment of the priority entitlement of a special sub-group of the public…to an earmarked amount*" (Cernea, 2008: 99).

The third argument for benefit sharing embraces the view of large-scale water transfer and hydroelectric projects as means of developing poorer regions and countries in the world. Here large dams are seen as having significant development potential for local populations who can benefit from regional economic development plans funded by revenues generated by such massive infrastructure projects (Egre et al., 2002). As we shall see, this is the form that benefit sharing was intended to take in the LHWP.

2.8.2 Types of Benefit Sharing Mechanisms

Milewski et al. (1999) outline four kinds of benefit sharing mechanisms, namely preferential electricity rates, property taxes, revenue sharing and equity sharing or full ownership. While preferential electricity rates involve agreements in which local or regional populations receive discounted or free power from hydroelectric producers, the second mechanism, property taxes, allow local or regional governments to collect taxes from owners and operators of plants on the land hosting hydropower infrastructure. The third mechanism, revenue sharing, allocates a certain percentage of water royalties to local or regional authorities. The last benefit sharing mechanism (and the most radical) is equity sharing or full ownership, in which local or regional governments have partial or full ownership of the hydropower facility, sharing both the benefits and risks of the project. While Milewski et al. (1999) considered only hydropower projects in identifying the above benefit sharing mechanisms, their work was expandedupon a few years later by Egre et al. (2002) to include all large-scale water transfer projects. Additionally, the latter study added development funds as a fifth benefit sharing mechanism. Development funds use revenues generated by large dam projects to foster economic development including training and capacity building programs, job creation, community infrastructure and funding for education i.e. the LHWP LHRF.

White et al. (2008) use a different method to classify benefit sharing mechanisms, finding five ways in which benefits of large-scale water projects can be fairly distributed. The four classifications include compensation for lost assets or loss of access to

resources, restoration and enhancement of livelihoods, community development and basin development. Though White et al.'s (2008) system of classification may be useful for other research on benefit sharing, this study uses Egre et al.'s (2002) different kinds of benefit sharing as they include development funds, which is the primary benefit sharing mechanism assessed in this research.

2.8.3 International Experiences with Benefit Sharing

Of the relatively small amount of literature available regarding benefit sharing in large-scale water projects, a handful of studies have provided analyses of international experiences with benefit sharing schemes (Milewski et al., 1999; Adams, 2000; Egre et al., 2002; Egre, 2007; Cernea, 2008; Paiement, 2007; Dagou & Mamina, 2009). These studies evaluated different benefit sharing mechanisms employed in 9 hydropower projects located in different countries around the world, namely Columbia, Brazil, Panama, China, Japan, Canada, Norway, Ghana, and Lesotho. While some studies limited their approach to summary reviews describing different forms of benefit sharing mechanisms employed in various countries, others presented comparative analyses of various countries' experiences with benefit sharing.

Main conclusions of the research cited above included the now widespread evidence that cash compensation was insufficient to restore PAP livelihoods and that benefit sharing mechanisms should be implemented in large dam projects to complement compensation (Cernea, 2008). They further found that the success of such schemes is highly dependent on government organizations' institutional capacity and transparency (Egre et al., 2002). Additionally, benefit sharing is an excellent means for developers to establish cooperative partnerships with local communities in areas surrounding dams and hydropower projects in remote areas that have little access to investment in infrastructure and services must be compelled to incorporate benefit sharing schemes as important means of livelihoods are frequently destroyed by such projects (Milewski et al, 1999). A brief summary of the assorted forms of benefit sharing employed in different hydroelectric projects is provided below.

Columbia

The National Law 99 passed by the Columbian government in 1993, applicable to all hydroelectric plants of 10 MW or more, obligated power producers to share project revenues with local watershed agencies and authorities. This legislation was followed by Decree 1933, which stated that 3 percent of revenues should be transferred to both upstream municipalities and those located next to the reservoir. A few years later, National Law No. 99 established an “Environmental Compensation Fund”, increasing these percentages to 20 percent of project revenues. Directly displacing 5,800 people due to acquisition of 15,000 ha, the Urra 1 hydroelectric project is thus required to transfer 3 percent of profits to the local watershed management agency CoporacionAutonoma Regional del San Jorge. Most of the revenues transferred are allocated to water, sanitation and environmental conservation projects, with no specific requirements for funds to subsidize social and economic development projects (Milewski et al., 1999). The hydroelectric project is located in an area fraught with problems including severe environmental degradation, armed conflict and a great influx of immigrant settlement. Despite the involvement of one municipality and one watershed agency dealing with transferred revenues (one main prerequisite for successful benefit sharing identified by researchers), and legislative requirements that public accounts of transfers must be available, lack of transparency and lack of accountability have resulted in little improvement of PAP welfare living in the area (Paiement, 2007).

Brazil

As with the LHWP, the Itaipu hydropower plant is a binational initiative supplying Paraguay with 25 percent and Brazil with almost all of the respective countries’ electricity requirements (Milewski et al., 1999). Due to multiple reservoirs involved in the project, indigenous local communities across both countries were displaced and faced severe impoverishment from the 1980s on. Four federal laws were promulgated within 12 years after project completion including Brazilian Law 8001 of 1990, which specifies that a striking 98 percent of all revenues generated by hydropower plants in Brazil be transferred to national and local authorities. Legislation mandates that

transferred revenues be divided in the following way: 40 percent allocated to maintenance of electrical infrastructure, 35 percent to water resources management and monitoring and a minimum of 25 percent dedicated to environmental protection (Cernea, 2008).

With 45 percent of profits allocated to municipalities that have lost land due to the project, Itaipu generates more than US$75 million for 16 local governments annually, totaling $989 million since 1991 (Adams, 2000). The hydropower project also has its own large-scale environment and social development program that engages in various endeavors to improve PAP standards of living including reforestation, public health, reservoir fisheries and environmental monitoring (Milewski et al., 1999). The few studies assessing effectiveness of the above Brazilian legislation on improving PAP welfare have found that the designated transfers of revenues are taking place and drastically improving livelihoods in impoundment zones and surrounding areas. However, downstream PAP impacted by the massive hydropower project do not receive assistance (Milewski, 1999; Egre et al., 2008).

Panama

The Bayano Dam in Panama was envisioned with analogous regional and economic development objectives as the Itaipu project, however, while the Brazilian government has taken serious initiative to address adverse social impacts of its massive hydroelectric project, the situation faced by PAP in Panama is much more dire. Despite environmental laws promulgated in 1998 compelling resource developers to involve PAP in negotiations for compensation and benefit sharing arrangements, agencies in charge of project management have largely ignored legislation, PAP received no compensation andthey have been excluded from decision-making processes. After being removed from their fertile lands possessing much biodiversity and resources to sustain livelihoods, PAP resettled in polluted lands unsuitable for human habitation. Thus Paiement (2007) writes, "*Bayano has become synonymous for all the evils of mega-dams and the excesses of multi-lateral financed development projects in the*

Third World (i.e. financial debt, social conflict, ecological damage, cultural change, etc.)" (Paiement, 2007: 9).

Canada

One of the most infamous large-scale water projects across the world, the James Bay hydroelectric project, involving the construction of more than 20 large dams, would have upset the entire tribal Cree Indian population from their homelands. However, after repeatedly holding organized protests and taking legal action, the Cree prevented HyroQuebec (Canada's main power company) from completing construction, thus setting the stage for successive Canadian legislation concerning large dam development (Scudder, 2005). The government utility established a partnership strategy with local communities centered around the idea of equity sharing, indicating that due to donation of lands and development potential attached to such resources, local native populations are also considered partial owners or investors in the project and thus shall receive a proportionate amount of project revenues (Milewski et al., 1999; Cernea, 2008). The "Pais des Braves" agreement between the Cree Nation and Government of Quebec compels HydroQuebec to pay the Cree US$70 million annually over a period of 50 years (total costs of hydroelectric projects undertaken are estimated at US$4 billion) (Paiement, 2007). Held up as one of the few examples of "international best practice" for large-scale water development for once translated into reality, the massive Canadian hydroelectric project provides a variety of options to Cree communities for receiving revenues and allows for extension of the agreement for another 49 year within the set period of 50 years (Milewski et al., 1999).

Norway

A world leader in hydropower equitable benefit sharing, Norway had established mechanisms for distribution of large dam projects as earlier as 1917. Current national legislation provides for environmental and social safeguards, rules for management and operation of dams and licensing requirements. The Glomma-Lagen Water management authority is responsible for operation and management of 40 reservoirs and 51 hydropower stations. Largely distributing hydropower revenues to local counties and

municipalities through taxation mechanisms, more than 80 percent of revenues had been returned to regions hosting major project infrastructure by 1998 (Paiement, 2007). Norway's 1997 "Power Taxation Act" entitles PAP regions throughout the country to three forms of tax revenue. These include a 28 percent taxation on all hydropower companies' profits distributed equally to national and local governments, a 0.7 percent property tax to local communities where companies are located and finally, a tax on natural resource exploitation which is also distributed evenly to local and national governments. Additionally, legislation compels hydroelectric firms to provide (at their own cost), a 10 percent proportion of electricity generated to their local municipality, a form of in-kind benefit sharing (Cernea, 2008). Thus Norway practices one of the most progressive hydropower benefit sharing programs globally.

Japan

Benefit sharing mechanisms take a different form in Japanese hydropower projects than anywhere else in the world. Attempting to resolve tensions between the country's necessity for domestic hydropower generation and meeting relocated populations' needs, Japan has enacted land-lease agreements in which PAP receive two kinds of payments, namely one up-front payment to landowners leasing the reservoir to national power firms and secondly, regular rent disbursements for the entire life of the project. Thus, the lost land, now immersed by water used to generate electricity, remains a constant source of livelihood support for displaced peoples. Such an approach has proved extremely effective in mitigating the risks of resettlement (Cernea, 2008). However, as with most of the other projects described above (with the exception of Norway and Canada), the welfare of downstream communities facing environmental degradation and loss of important resources is not addressed.

2.8.4 Benefit Sharing in the LHWP: The Lesotho Highlands Revenue Fund

Required by the WB as a poverty alleviation component of the Project as well as to supplement compensation for lost assets and resources, the Lesotho Highlands Revenue Fund (LHRF) was created in 1991 with objectives of poverty alleviation through income generating projects and other rural development programs (World Bank, 2007). Forty percent of total LHWP royalties were supposed to be allocated to the Fund. The program included projects involving animal husbandry, range management, mountain horticulture, field crops, community forestry, commercial trout ventures, youth development, tourism, rural training programs, community water supply, rural access roads, sanitation and rural electrification. After prolonged conflicts between the governments of South Africa and Lesotho concerning who should be responsible for funding the program, an agreement was made that the two governments would split the costs evenly, each paying US$18 million over a ten year period. This amount was far below the amount of US$54 million initially projected for the program (Hoover, 2001; Devitt & Hitchcock, 2010; POE, 1995). Similar to the compensation and resettlement programs, LHRF programs were poorly implemented and riddled with problems from the outset. As early as 1995 (only two years after the project got off the ground), the program was highly criticized for its lack of capacity to effectively implement projects, spending only 3 percent of its annual budget (Devitt & Hitchcock, 2010).

After two successive POE reports in 1995 and 1997 found that successes of projects were exaggerated by LHDA on paper, that high levels of corruption existed in which money went into politicians pockets rather than contribute to socio-economic development and, finally, that most projects failed to raise Basotho standards of living, the WB called for a special audit of the Fund, subsequently insisting that the LHRF be restructured (POE, 2006; Matlosa, 1998). Reformulated into the Lesotho Fund for Community Development (LFCD) in 1998, the LHRF successor established an additional component to the program aimed at providing communal compensation to upstream and downstream communities directly impacted by the LHWP (World Bank, 2010). Thus, the LHWP became the first large dam project to compensate villages located outside of construction sites (Khotle& Caswell, 2004). The LHWC approved recruitment of a four person Technical Assistance Unit (two in Katse and two in Mohale)

to assist PAP communities in developing cooperatives and business plans, which would then allow these Local Legal Entities (LLEs) to access communal compensation funds. Between 2001 and 2002, 43 villages in Katse and Mohale were trained to form LLEs, but Technical Assistants were not hired until 2005 (Thamae & Pottinger, 2006). Again, funds allocated for Technical Assistant training were underutilized, with only R392 million of the R600 million loan disbursement spent (World Bank, 2007).

A recent WB report (2010) found that the LFCD suffered the same problems experienced by its predecessor and ranked the new program the least successful element of the LHWP. Rather than contribute to poverty alleviation, LFCD funds had again been subject to elite capture, with "*parliamentarians…given license to select projects to fit their own constituency interests and royalties were used to finance politically chosen and non-participatory investments…thus the original purpose of the project was lost*" (World Bank, 2010: xi). The document also reported that no monitoring and evaluation program had been established and data collection on existing projects was absent. Furthermore, the training program to enhance LHDA staff capacity, which had been planned to begin in 1998, was still not in existence in 2001. The report concluded, "*in effect, the funds could have been used, without any monitoring, for any purpose whatsoever*" (World Bank, 2010: 9).

As described in the previous chapter, the Lesotho Fund for Community Development (LFCD) (the successor of the Lesotho Highlands Revenue Fund (LHRF)), falls under Egre et al.'s (2002) fifth classification of benefit sharing mechanisms, namely development funds.

CHAPTER THREE:METHODOLOGY

3.1 RESARCH STUDY OVERVIEW

This chapter describes the study's research design, data collection techniques, sampling techniques, description of the area studied, data processing techniques and constraints.The research for this study was conducted from June to December of 2011. A desktop study of relevant literature and primary documents was undertaken throughout the study, while three field visits with a duration of ten days each occurred during the last three months of 2011. As the study aimed to ascertain the local residents'experiences with benefit sharing within the LHWP,a qualitative single-case study design was chosen to provide a holistic in-depth investigation of such internal perceptions.

3.2 RESEARCH DESIGN

Qualitative research explores human behavior and social phenomena that cannot easily be predicted, quantified, or assumed beforehand (Strauss & Corbin, 1990). It contextualizes interactions within local settings, enabling a deeper understanding of human behavior in relation to the historical, social, economic, and political environment in which they are manifested (Strauss& Corbin, 1990). Yin (1993) outlines three different types of qualitative studies, namely exploratory which explores the "what" questions of phenomenon, explanatory which examines the "why" questions of a research topic and descriptive which develops a descriptive social theory. As this study focuses on "what" questions including what local residents' experiences were with benefit sharing within the LHWP, what they know about the LHRF, what changed in their lives due to their proximity to the Katse Dam, what were their general feelings about the Project and what developmentsresulting from LHWP they felt could improve the quality of their lives, an exploratory single-case design was used to gain an in-depth look at one downstream community's experience with benefit sharing under the LHWP.

While exploratory studies have the disadvantage of rudimentary findings and lack representativeness, they are particularly useful in researching experiences or phenomenon not previously understood and incremental in providing guidance for future research in the area (Yin, 1993). An exploratory single-case study design was the optimum choice for this study as most studies concerning the impact of large dam development have focused on displaced and resettled affected communities with very few reporting on the realities and perceptions of downstream communities.

Examples of qualitative methods include ethnography, action research and case study. Utilization of the qualitative case study in this research has not only provided detailed knowledge of the issues at hand, but has also helped to trace the history of the LHWP, the lifestyles and livelihoods of community members before and after project implementation, identify and examinelocal residents' attitudes about the LHWP and discover what participants believe to be the way forward (Strauss & Corbin, 1990). As Strauss and Corbin (1990) highlight, this kind of qualitative case study research can then be used to develop future LHWP and other megaproject policies, evaluate current LHWP and other dam programs experience with benefit sharing, and add to basic knowledge about megaproject development.

A qualitative case study research design enables the researcher to capture a detailed account of the internal experiences of study participants as well as the complexity and context in which people's social location in the world affects their perception and description of experiences (Temple & Edwards, 2002). While the qualitative case study technique has been criticized for lack of generalizability, its strengths lie in the ability to provide valuable insights into the experiences of dam-affected communities and what members of such communities believe concerning how dam projects can be utilized to improve qualities of their lives. As de Vaus (2001) explains, this type of exploratory research attempts to make sense of observations which may ultimatelycontribute togeneration of theoryconcerning large dam projects, benefit sharing and downstream communities.

3.3 DATA COLLECTION TECHNIQUES

Qualitative case studies utilize a triangulated research strategy in which multiple sources of data are examined to increase the reliability of the study by substantiating data gathered from multiple sources (Bowen, 2009). Such triangulation is important to decrease potential researcher and respondent biases that can result in skewed or inaccurate data as well as discover possible alternative findings (Yin, 1993). Methodological triangulation involves the utilization of multiple data collection methods in research. Of the four kinds of triangulation defined by Denzin (1984) including data source triangulation, investigator triangulation, theory triangulation and methodological triangulation, this study used the latter to ensure accuracy of data and thus credibility of the study. In this study, data collection techniques included document analysis, semi-structured in-depth interviews, and focus groups.

3.3.1Document Analysis

Document analysis is an unobtrusive method of inquiry in which the contents of documents such as letters, advertisements, study reports, institutional reports, minutes of meetings, journals and newspapers are systematically examined for any relevant data which might contribute to the study at hand (Corbin & Strauss, 1998). Documents are useful in developing the substantive framework of the study, in providing the researcher with the background and historical context of phenomena being studied, in corroborating data with other sources and in assessing change and development. This qualitative research method can be more efficient, less time-consuming and cost-effective than other methods as it involves data selection as opposed to data collection (Bowen, 2009). Other advantages of document analysis methodology include its unobtrusive and 'non-reactive' nature as analysis of documents' contents has no impact on data, avoiding the problems of reflexivity found in other qualitative research techniques (in which the researcher's own biases or presence may skew what or how phenomena are observed) (Bowen, 2009). In addition, documents provide exact detail concerning dates and other details of events as well as giving broader coverage of the

issue being studied (Yin, 1993). Potential disadvantages of this qualitative research technique are lack of availability as some documents are not retrievable and biased selectivity in which the researcher fails to examine all relevant documents (Yin, 1993).

Two kinds of documents were evaluated in this study. First, a comprehensive survey of relevant literature concerning large dams and their impacts was conducted to identify the available theory and literature on benefit sharing and downstream communities and to evaluate other research surrounding the impacts of dams, benefit sharing, and different approaches to development in general. As noted in the literature review chapter of this report, such documents were composed of previous reports of studies focusing on large dams (including studies of the LHWP itself)and literature concerning the conceptual debates surrounding megaproject development. Content analysis of such literature provided the researcher with an in-depth understanding of the historical context of large dams, international responses, policies and legislation concerninglarge dam development and other LHWP studies' findings as well as what issues have yet to be researched.

The second document analysis technique involved examination of primary documents relevant to the study, a research tool that involves examining primary sources from the past which can include letters, newspaper articles, policy documents or other papers in which original information has not been interpreted and is presented in its original form (Mariampolski& Hughes, 1978). Primary documents examined for data collection in this study included international agreements and declarations concerning dams, World Bank and other funder policy documents, LHWP and LHDA policy documents, the LHWP Treaty and the Memorandum of Understanding between LHDA and the LLE association in Khohlo-Ntso. These were analyzed to establish a solid knowledge of the rights provided to dam-affected peoples, policies and practices of the LHDA and findings of the impacts of the LHWP on downstream communities.Both secondary and primary sources were used to guide interview questions and sub-research topics. In employment of the document analysis technique, it was important to consider the source and motivations of documents, whether documents contained accurate

information, and if other documents corroborated that information (Yin, 1993). Consulted documents were attained from various data bases including internet searches, the LHDA library, the University of Witwatersrand's libraries, LHDA's Panel of Experts reports and newspaper articles.

3.3.2 Semi-Structured Interviews

Semi-structured in-depth interviews have been defined as a "*conversation with a purpose*" (Deflem, 1998). This qualitative data method involves interviews between the researcher and one or more study participants in which the researcher decides and guides topics that are discussed (Weiss, 1995). As opposed to survey interviewing, which presents interviewees with a list of set questions as the central instrument of exploration, researchers conducting semi-structured in-depth interviews are themselves the central instrument of investigation, loosely guided by an interview schedule setting out focal topics to be discussed without dictating exact questions or the flow of the interview (Weiss, 1995). Such qualitative interviewing enables researchers to develop a thorough understanding of participants' internal cognitions, perceptions and emotions of external events as well as their fears, hopes, values and goals. In addition, semi-structured in-depth interviews can collect data enabling comparison between past and present inner feelings of respondents (Weiss, 1995). This method of data collection is particularly suited for exploratory research as it focuses on research problems not previously or comprehensively defined and provides researchers with a hermeneutic knowledge of participants' attitudes (Tellis, 1997).



Photo 12: The researcher's interpreter and friend, Sefiri Seepheephe, with an interviewee in Motse Mocha.

Weiss (1995) presents seven purposes for conducting qualitative interviews including developing detailed descriptions, integrating multiple perspectives, describing process, developing holistic description, identifying variables and framing hypotheses for quantitative research, learning how events are interpreted and bridging intersubjectivities. The semi-structured in-depth interviews conducted in this study serve the latter two objectives, specifically to make available a holistic understanding of the local residents' internal perceptions concerning benefit sharing within the LHWP. A total of 41 people were interviewed using the semi-structured in-depthinterviewing technique. Such interviews were composed of one pilot interview to develop the substantive frame of the study and illuminate study objectives, five key informant interviews (with LHDA officials, community leaders and a TRN activist) to collect data from people with first-hand information and expert knowledge of the LHWP and its impacts on downstream communities,and 35 interviews with local residents of Khohlo-Ntso.

All in-depth semi-structured interviews were recorded on tape and conducted face-to-face except for one key informant interview, which occurred over the telephone as the person was unavailable during fieldwork. While most local residents were interviewed in their homes, allowing the researcher to observe how participants lived, meet family members and enhance the comfort of participants, one participant elected to be interviewed in a classroom at Khohlo-Ntso Primary School, four in the researcher's own accommodation and one person in a field where the participant was resting after harvesting potatoes. The key informant interviews were conducted in LHDA offices, at Khohlo-Ntso Primary School and in one community leader's home.

Interviews lasted from 30 to 90 minutes. As mentioned in the introduction of this report, the researcher was either known personally or known by many participants, thus the rapport between researcher and interviewees was very good. Ten of the interviews including the pilot interview and key informant interviews were conducted in English by the researcher while the remaining 25 interviews were conducted in Sesotho with the help of an interpreter. Taking into consideration Temple and Edwards (2002) findings that the active participation of interpreters is crucial to the final research product, the translator was first interviewed using the same semi-structured in-depth technique and interview schedule and played an active role in the interview process, providing clarity to participants' understanding of the topics being discussed, probing respondents for more information and assisting the researcher in data analysis.

3.3.3Focus Groups

The third methodological tool for data collection employed in this study was the use of focus groups. Morgan (1996) has defined focus groups as "*a research technique that collects data through group interaction on a topic determined by the researcher*" (Morgan, 1996: 130). The use of focus groups in qualitative research is incremental in capturing group norms and cultural values and for determining levels of consensus and diversity of viewpoints among study participants (Kitzinger, 1995; Morgan, 1996). While focus groups compromise the confidentiality of participants and run the risk of silencing

individuals who disagree and/or are dominated by other more out-spoken participants, this qualitative method can be especially useful in determining issues not previously considered by the researcher, contributing to the substantive framework of the study and in determining important issues which could be explored more thoroughly in individual interviews (Morgan, 1996). In addition, focus groups sometimes give participants more confidence in discussing taboo topics, as well as allow the researcher to observe group dynamics and to discover similar experiences shared by participants (Ressel et al., 2002).

Three focus groups conducted during the researcher's time in the field were fundamental to this study. Not only did the meetings provide a group forum in which the researcher could both assess participants' awareness of their rights under the Treaty and enable the construction of collective knowledge of this information among the group, but also allowed the researcher to utilize her limited time in Lesotho efficiently by incorporating more local residentsin the study while capturing internal perceptions of a broad range of participants (Ressel et al., 2002). As Kitzinger (1995) writes, "*group discussion is particularly appropriate when the interviewer has a series of open ended questions and wishes to encourage research participants to explore the issues of importance to them, in their own vocabulary, generating their own questions and pursuing their own priorities*" (Kitzinger, 1995: 299). Most importantly, the inclusion of focus groups in this study provided an open forum in which local residentscould learn about the contents of the Treaty, discuss their frustrations and facilitate one another's generation of ideas for potential beneficial developments of the LHWP that they would like to see happen. Thus the experience was described as empowering by some focus group participants.

Using a more standardized focus group format, each of the three focus groups were presented with the same interview schedule questions as individual interviewees in the semi-structured in-depth interviews. The design of the focus groups was "more structured" in that the researcher kept the focus of discussion on specific topics, yet less

structured in that participants were given as much time to talk, bring up additional issues, ask questions and converse with oneanother (Morgan, 1996: 144).

Each of the focus group sessions were conducted with participants sitting in a circle facing one another. While the first focus group discussion transpired in the communal waiting room at the village clinic, the following two were conducted in rondavals resided in by one of the focus group participants. Excluding the researcher and interpreter, 8 local residents attended the first focus group, 6 local residents attended the second meeting and 9 participants were present at the third focus group. The duration of the first meeting was 95 minutes, with the second two focus group discussions lasting 50 minutes each. All meetings were tape-recorded. The questions in each of the focus groups were asked in English, interpreted into Sesotho, and then responses and follow-up questions translated in Sesotho and English respectively.

3.4 SAMPLE SELECTION AND SIZE

Crucial to both quantitative and qualitative research design, sampling is the systematic selection of units (which can be persons, objects or events) to be included in a study (Teddlie& Yu, 2007). The most frequently used sampling technique in qualitative research is purposeful (also referred to as judgment) sampling. Purposeful sampling is the process in which units are selected based on their potential to contribute the richest data to answer the research question (Marshall, 1996). Unlike quantitative sampling designs (probability sampling), which aim to be representative to an entire population and are focused on statistical generalization, purposeful sampling techniques are more concerned with theoretical generalization (Yin, 1993). This is because purposeful sampling techniques are best suited for research that is "*informed a priori by an existing body of social theory on which research questions may be based*" (Curtis et al., 2000: 1002).

Qualitative samples are usually small in size, extensively studied, produce detailed and large amounts of data and their units are selected sequentially rather than

predetermined before commencement of the study (Curtis et al., 2000). While such qualitative sampling has been widely criticized for lack of generalizability, Stake (1995) introduced the concept of “naturalistic generalization”, which enables greater comprehension of the phenomenon under study due to the inherent intuitive characteristics of case studies and how they resonate with experiences of a diverse group of readers. Thus, though this study’s findings are not representative of the Basotho population as a whole, nor all dam-affected communities, this report will contribute to shared knowledge of experiences of downstream dam-affected peoples.

Due to the complexity of the research problem, this study employed multiple purposive sequential sampling techniques to collect as much detailed information as possible. Using theoretical sampling (units are selected based upon their contribution to defining or elaborating upon various manifestations of issues being studied), opportunistic sampling (units which present themselves unexpectedly during the study and that may potentially contribute important data are selected) and snowball sampling (selected units identify other elements that may provide useful information, these additional elements are studied and suggest other potential units and this process is continued until a point of saturation is reached when no other new elements can be found), units in this study sample were gradually selected rather than fixed at the outset of the research (Teddlie& Yu, 2007).

LHDA has identified more than 80 downstream villages impacted by the construction of the Katse Dam. While qualitative studies that involve the inclusion of multiple cases of downstream communities impacted by large dam construction are crucial to developing both new policies and mitigation strategies for such communities, the time and financial restraints allowed the researcher to study only one case in-depth. Khohlo-Ntso was chosen as the study site due to the researcher’s extensive experience living in the village. The researcher’s intimate knowledge of the area and excellent rapport with local residentsallowed for a trusting environment in which information most often flowed freely and rich detailed data was captured. No ethical issues arose as informed consent was attained from each participant of the study and research presented no real risks to

participants (Miles and Huberman, 1994). While confidentiality was ensured to interviewees through signed confidentiality agreements, the lack of anonymity of focus groups was first discussed with respondents before they agreed to participate in the meetings.

3.5 SELECTION AND DESCRIPTION OF STUDY AREA

The site of research, Khohlo-Ntso, is a rural village in the Thaba-Tseka district of Lesotho. The village, located 10 kilometers from Katse Dam, is home to approximately 3,000 people composed of 448 households spread throughout six sub-villages, namely Lebenkeleng, Ha Mothepo, Motse Mocha, Ha Sepiriti, Chaena and Linkoaneng. Set in some of the highest Maluti mountain ranges, Khohlo-Ntso experiences a harsh climate with long cold winters, periods of elongated drought and heavy winds. With an estimated 60 percent unemployment rate in the area, many of the able-bodied men and women have left the village in search of domestic or mining work in South Africa. Most people living in Khohlo-Ntso have minimal cash income, with most local residents falling below the US$1.25 poverty line. There is no electricity or running water in the village and the one road that runs through the area remains unpaved with treacherous potholes. Though Khohlo-Ntso clinic provides some medical service to local residents, key medicines and equipment are absent as well as staff. A doctor visits the clinic only once per month (and sometimes less frequently) and is overwhelmed by a multitude of people in need of medial care that have often travelled far distances from neighboring villages.



Photo 13: One of five sub-villages of Khohlo-Ntso, Motse Mocha.

HIV/AIDS and Tuberculosis plague the area, with multiple funerals held every Saturday. Out of the 435 students enrolled in Khohlo-Ntso Primary School, the only school in the village, forty percent of the students are double orphans. The primary school, understaffed with more than 50 students per teacher and often under-supplied with exercise books, pens, and other learning materials well into the school year, struggles to provide a decent education to its students, with many children lacking shoes to climb the treacherous eroding mountain to reach the school and warm clothes to brave the area's bitterly cold winters. Few families can afford secondary school fees and related school expenses, thus less than 30 percent of residents of Khohlo-Ntso matriculate. Those fortunate enough to attend secondary school must leave their house at five o'clock in the morning to reach school, located in Katse Village, and often return home well past dark. This is especially straining on girls who are expected to complete domestic chores before and after school. During the time that the researcher lived in this region, an eight-month drought resulted in substantial loss of livestock and maize crops, leaving the already nutritionally deprived local residents at an even greater loss.

Even during periods of adequate rainfall, cattle, sheep, goats, horses, and donkeys compete for overgrazed pastures, evident in the ribs and hipbones jutting from their skin.

3.6 DATA PROCESSING

Data processing is an analytic technique used in all quantitative and qualitative research studies. After qualitative data are collected, the researcher decides what will be analyzed and for what reason (Yin, 1993). Various qualitative data analysis techniques exist including pattern-matching, explanation-building and time-series analysis. The former was used in this study as thematic analysis (a form of pattern-matching in which categories of data analysis are determined by themes that emerge during the process) facilitated the researcher to not only develop the substantive frame of the study according to conceptual debates concerning large dam construction, but to also determine the most common themes emerging in interviews and focus groups (Fereday& Muir-Cochrane, 2006). Such themes were integrated with themes that emerged in document analysis and key informant interviews.

Exact transcription of interviews and focus groups on Microsoft Word were undertaken, followed by color and number coding of this data. Themes included but were not limited to demographics of study participants (duration of time residing in Khohlo-Ntso, age, gender, number living in household), awareness of rights under treaty, perceptions of whether such rights were fulfilled, livelihoods before and after the LHWP, awareness and experiences with the LHWP, kinds of development local residents wanted to see as a result of the dam and suggestions for the future. These themes were each attributed a certain color and then correlating data was coded with color and ascribed a number depending on the response or position of that item. In addition, certain local residents' quotes were extracted from interviews and focus groups to provide a more personal account of research findings.

3.7 LIMITATIONS

The following limitations constrained this study:

*The content discussed in interviews and focus groups proved too complex for the researcher's basic conversational Sesotho skills, thus the use of an interpreter was required. As highlighted by Temple and Edwards (2002), cross-language research requires much more than a literal translation of exchanges as the symbolic and cultural meanings behind words are of equal importance as the words themselves. Though the translator was actively involved in the research project and possessed a comprehensive understanding of the research problem, it was impossible for the researcher to be certain whether both questions and responses were translated in the most favorable way to ensure accuracy of captured data. The interpretation process made it more difficult for the researcher to discern and examine important markers, thus follow-up and probing in some interviews and focus groups were constrained. However, such weaknesses were counteracted by the interpreter's extensive experience in translation and personal experience with the research problem as a native resident of Khohlo-Ntso. Additionally, the interpreter's excellent rapport with fellow community members accompanied by the familiarity of local residents with the researcher made the interviews and focus groups much more relaxed and productive.

*As Khohlo-Ntso is located deep in the mountains of Lesotho and a seven-hour drive from Johannesburg (where the researcher lives), time, finances and transport were serious constraints in this study. Without access to private transportation, the researcher was able to spend a limited amount of time in the field conducting fewer numbers of interviews and focus groups,as the number of visits and time in the field were constrained by time and financial requirements of public transport. The availability of taxis in the area is limited and thus the researcher was forced to walk long distances to access LHDA offices. Thus most of the field research was conducted in the village itself and visits to Katse and Maseru, the locations of LHDA offices and other sources of key informants, were constrained.

*The study was conducted by a Master's student with little experience in qualitative research, potentially resulting in less detail collected in initial interviews.However, as an amateur researcher, interviewing skills of the researcher improved as the study ensued.



Photo14:A study participant in the sub-village of Chaena sniffing tobacco.

CHAPTER FOUR: RESULTS AND DISCUSSION

4.1 PRESENTATION OF FINDINGS

Collected through face-to-face semi-structured interviews and one semi-structured telephone interview (all tape-recorded), responses to interviews were divided into fivecategories presented in the following sections below. Classifications of questions included the socio-demographic characteristics of local residents, study participants' reported impacts of the LHWP on their lives, their awareness of the Lesotho Highlands Revenue Fund (LHRF)(the benefit sharing mechanism employed in the LHWP), local residents' experiences with the LHRF and lastly, their suggestions for the future concerning benefit sharing within the LHWP. As the researcher did not collect socio-demographic information on participants of the 3 focus groups included in this study, the data collected from this methodological tool was integrated into the latter four categories of questions (the same questions were discussed in these meetings as in interviews).

The study at hand used a qualitative case study design with the aim of capturing local residents' experiences with and perceptions of the LHRF. The findings below are composed of the primary data collected in this study (from 36 interviews and 3 focus groups), with supplementary data collected from 5 key informants presented in the sixth section of this chapter. Though reformulated into the LFCD (as mentioned earlier in the report), the study referred to the LHWP's benefit sharing mechanism with the original (LHRF) name to avoid confusion. As only a few study participants were aware that the LHRF had been restructured, this did not pose a problem for accuracy of the data. Only the data collected through interviews and focus groups is presented here as information gained from primary document analysis has been integrated into other chapters of this report. All the data collected was provided with previous voluntary consent of participants and participants were neither guided nor coerced to give specific answers, thus the information below is direct descriptions of local residents' own individual responses to questions.

4.2 SOCIO-DEMOGRAPHICS OF LOCAL RESIDENTS INTERVIEWED

4.2.1 Gender

Gender is a significant factor in how PAP experience impacts of large dams (WCD, 2000). Other LHWP studies have reported that the Project has affected women in different ways than men, especially concerning compensation procedures and livelihood sustenance, thus it was important in this study to present the gender distribution of participants (Braun, 2010). Of the 36local residents interviewed, 26 (72.2 percent) were women and ten (27.3 percent were men). The gender discrepancy in this study can be attributed to two factors. First, there is an obvious gender division within Basotho highland culture in which men and women socialize in divided settings, thus making women more approachable and easier to talk to as the researcher is a young female (having a male Mosotho interpreter assisted in the inclusion of men in this study). The second factor related to the timing of the study, which was conducted during plowing season (a traditionally male task) that influenced the higher availability of women in the village when interviews were conducted.



Photo15: One study participant sewing school uniforms as part of her multiple livelihoods strategy.



Photo 16: A study participant posing at a local village pump. Basotho culture in the highlands is vey traditional, with most bo-ntate (men) wearing likobo (traditional blankets). This protects local residents from extremely cold winters experienced in Khohlo-Ntso.

4.2.2 Age

Average age of local residents was 51 years old, with the youngest study participant aged 30 and the oldest aged 80. 4 of the interviewees were 71-80 years (11.2 percent), 3 were aged 61-70 (8.3 percent), 7 were 51-60 years old (19.4 percent), 10 were aged 41-50 years (27.8 percent), and 12 were aged 30-40 years old (33.3 percent of interviewees). Local residents under 30 years old were purposely excluded from the study as they were deemed too young at the time of Katse Dam construction to remember how life was before the dam was built. Such comparison was important to this study because the LHRF was established in the early 1990s, thus participants needed to be at least 30 years old to provide detailed descriptions of experiences over the 25 year time period since initial construction works began.

4.2.3 Level of Education

The majority of residents of Khohlo-Ntso are not able to access higher education (meaning secondary school and above) due to lack of cash incomes. For most highlanders, costs of secondary schooling is unaffordable with the average annual costs of school fees, exercise books, uniforms, pens and other necessary educational supplies estimated at more than US$420 (significantly more than the average village annual income). Therefore, it came to it is no surprise that 24(more than 65 percent) study participants had not completed secondary school, of which 10 (approximately 28 percent) reported not having the opportunity to finish primary school. Of the 12 interviewees (33.3 percent) receiving a full secondary school education, 5 (13.9 percent) study participants had completed at least 2 years of university. In addition to lack of funds, pressure for children to contribute to livelihoods in highland regions of Lesotho is a major cause of low education levels (Turner, 1999). Furthermore, *balisana* (herdboys) rarely have the opportunity to attend school for more than a few years as most of their time is spent in distant areas of mountain ranges where richer grazing land is found.



Photo 17: Balisana (herdboys) taking cattle out into the mountains for grazing.



Photo 18: Khohlo-Ntso school children posing in front of the old primary school.

4.2.4 Period Resided in Khohlo-Ntso

Of the 36 local residents interviewed in this study, 24 (approximately 67 percent) had lived in Khohlo-Ntso their entire lives, while 25 study participants (69.4 percent) reported that their family had lived in the research site for many previous generations. Only 4 interviewees (11.1 percent) had resided in the study site for less than 20 years, while the remaining 8 local residents (22.2 percent) interviewed reported that they had lived in Khohlo-Ntso for more than 35 years. Respondentsresiding in the village for less than 20 years were all females who had moved to the area after marriage (as traditional Basotho culture requires female to relocate to the husband's family residence). It was important to include this data in the study as experiences with benefit sharing within the LHWP may differ from region to region and the duration of residence in the study site could impact local residents' perceptions of and experiences with projects initiated under the LHRF. However, all study participants were originally from the Thaba-Tseka district, with most who had relocated to Khohlo-Ntso coming form nearby villages.

4.2.5 Livelihood

One CARE study conducted in 1999 found that "*all mountain areas have at least 79% of their households under the poverty line – compared with a national average in 1999 of 65%*" at R80 per month (Turner, 2001: 19). The poorest highlanders are from the Thaba-Tseka district, home to this study's participants. Due to the impoverished nature and difficulty of mountain life in Lesotho, most Basotho have pursued multiple livelihood strategies over the past century (Turner, 1999). Combining subsistence agriculture and gathering of wild vegetables with South African mining remittances, sale of *joala* (home-made beer), baked goods, handicrafts and other income generating activities, the majority of people in Khohlo-Ntso have difficulty feeding themselves and their families throughout the year. Nutrition levels in the village are extremely low, with more than 80 percent of children reported as suffering form malnourishment (Turner, 1999). However, as an extremely resilient people, the combination of livelihood strategies, community support and food aid save the poorest of local residents form starvation.

All 36 study participants reported engaging in multiple livelihood strategies. Sixteen interviewees (44.4 percent) reported they owned fields from which they cultivated various crops including maize, beans, wheat, and sorghum, while 13 study participants (36.1 percent) mentioned animals as an important livelihood strategy. Other livelihood strategies reported by local residents included fruit trees, sewing and selling clothes, brickmaking, growing food in gardens, gathering and selling wood, sale of *joala* and cabbage and assistance from wealthier family members. Only 16.6 percent (6) of local residents participating in the study had formal employment (1 as a driver for LHDA, 1 as principle of the primary school, 3 teachers, 1 a local government employee). 2 other interviewees owned shops. Finally, 4 local residents reported having no means of livelihood at all, owning no fields, animals or other means of sustenance.



Photo 19: One study participant separating small rocks from harvested beans.

4.2.6 Household details

A household unit in this study included those people living in family compounds and sharing at least one meal a day. The average size of a household consisted of 6 people, with 5 interviewees (13.9 percent) having 1 other person or less living with them, 6 study participants (16.7 percent) living with 3 other relatives, 12 local residentsresiding with 5-6 other people (33.3 percent), 7 respondents (19.4 percent) reporting they lived with 7-8 people, and 6 (16.7 percent) interviewees were found to live in a household of more than 9 people. Thus the total number of local residents living under households in this study amounted to a daunting 206, of which 141 (composing 68.5 percent of study household members) were dependents under the age of 18. Almost exactly even, 15 interviewees reported living in male-headed households while 16 female respondents said they themselves were heads of the household.



Photo 20: One highland household. Households in Lesotho are often composed of three generations or more.

4.3 REPORTED IMPACTS OF LHWP

Though the document analysis component of this research (especially perusal of POE reports, LHDA documents and other LHWP studies) made it aptly clear that the Project has resulted in devastating impacts for LHWP PAP, it was considered important to ask questions encouraging local residents to give accounts of what kinds of impacts they felt had changed their lives the most. This information was necessary as the local residents' perceptions and experiences with the benefit sharing under the LHWP may be linked to what they perceive to be the costs and benefits of the Project to their lives. Questions included how local residents felt about the LHWP in general, what were their expectations of the project at the time of construction and now, what they experienced during and after construction of Katse Dam and whether themselves or the community as a whole has lost resources as a consequence of the Project. The data collected indicate a mixed range of attitudes and experiences among local residents regarding these questions. While some felt the Project had destroyed their way of life and harbored extremely negative feelings toward Katse Dam and LHWP, others responded

that changes brought on by LHWP had benefitted them and their children. Both perceived negative and positive impacts reported by interviewees are outlined on the following page.



Photo 21: Orphans digging potatoes in Khohlo-Ntso.



Photo 22: The one tarred access road leading from the lowlands of Lesotho to Katse Dam and surrounding areas.

Positive Impacts Reported by Local Residents

While almost all study participants' expressed disappointment with the LHWP and the unfulfilled promises that loomed large around the dam and their community (94.4 percent), more than half (53.2 percent) indicated they had benefitted in some way or another, either currently or during the construction phase of the Katse Dam. Positive benefits discussed in interviews included exposure to new knowledge (mentioned by 4 local residents) including witnessing how other people lived, enjoying seeing automobiles for the first time and being exposed to other cultures (i.e. dress, different kinds of food, music). These issues were raised by younger study participants (in the 30-50 age range) who also expressed a desire to live a more "modern" lifestyle. Best reflected in the local residents' accounts themselves, excerpts from interviews presented below express such sentiments.

> *You know when the dam was being built, it was very great to us because it taught us so many things, like before we did not know nice things like clothes, then the people from the lowlands, we saw many things from them, clothes, the way to do things because we watched them. It was very good because when you go to the lowlands, if you come from the mountains, before you speak people will see ahh, this one comes from the mountains, the way you wear is the way they will tell you. But now it helps us that the people can see we are the same as them now.*(Female respondent, age 36)

> *Our lives changed because even during the building of the dams, most of the people got jobs, eish, we saw so many things that we didn't know before, like some of the children, even us, didn't know about the vehicles. There were so many, different types of them. That changed a lot.*(Male respondent, age 42)

> *There were people who came from the lowlands to stay here. They hired our houses to stay, so they gave us money. We were able to buy clothes and food. Before that it was difficult, because sometimes I had to go to the mine workers and they would give me money for washing their clothes.*(Female respondent, age 55)

Other positive benefits brought to light by interviewees was greater access to the lowlands due to new roads, thus expanding the diversity of goods available in the community, the addition of new classrooms by LHDA to Khohlo-Ntso Primary School and new houses (in which 2 respondents still lived) established by LHDA. While interviewees mentioning the above benefits spoke in the present tense, most positive

impacts mentioned and discussed in interviews were spoken about in relation to the construction period of Katse Dam. These included new and bigger retail shops, an increase in employment opportunities and income generating activities including selling wild vegetables to construction workers and renting accommodation. The greater availability of cash incomes (discussed by a significant 25 percent of respondents) was the most frequently cited benefit enjoyed during the construction phase, allowing people money for school fees, clothes and other material goods they had not been able to afford before the project came into their lives. Such benefits are best expressed in the interviewees own words:

> *This project somehow is very important for us because it helped us from the road from Mabalane to here. They helped us with the road from the lowlands up to the highlands, so it was very important for us because before they arrived here, everything was difficult. If we want to go in lowlands, it was too expensive, like when want to Leribe you supposed to use this direction of Maseru and the road was very bad before they arrived here. So they helped us with the road and everything is very easy now. And that thing I like it too much. They helped us also because when they arrived here, there was little shops, so when the road was open, the people started making big shops, like Kaste General. So now we have something, like Vaseline.*(Female respondent, age 36)

> *They use horses to get down to the lowlands before, but if you don't have horses we were to use this direction from here to Maseru and also to Leribe, so it was very difficult and the road was bad. Only 4X4's, and no public transport. Like the grocery, it was only medicine, but for now we can have big things if we want to buy. Like maybe, maybe you want to buy mealie, everything is easy, but before it was difficult. Before they built the dam, we were supposed to eat papa kameroho and wheat, but when they make the dam, it was very easy for us because now we can buy easy-bake, and 10 kgs of rice if you have money. But if you do not have money, it is still difficult. Life of the people who do not have money was not changed by the dam.*(Male respondent, age 34)

> *There are still many things that we have since Katse was built that we weren't able to have at the time. They sell water to SA and that money has made primary to be free. Before the dam, there was no free primary school, you had to pay the fees. It became free in 2000.*(Female respondent, age 32)

> *I have learned that there will be many people coming from many places that come to this project to work. Even our people got jobs because before the dam was built many of the people were not working. But after the project was finished, there were no jobs to do people were just staying at home and resting and doing nothing.*(Female respondent, age 57)

There were many business people and the businesses at that time were very successful. People were making houses for people to stay to pay them rent, many shops were successful at that time. But not many people from KN found jobs building the dam because they were taking people from many areas.(Female respondent, age 65)

We were so happy because we wanted our lives to be changed. We had people from our area going to find jobs in LHDA and also people were having money because they could sell things. People came and rented our houses and that's another way we got money. They made road maintenance. Before the roads were very bad. We made roads with our hands. It was horses most of the time and you can rarely see the car.(Male respondent, age 50)

Negative Impacts Reported by Local Residents

Much more time was spent on discussing adverse effects of the Katse Dam and changes the LHWP had brought to the area than on the positive impacts mentioned above. As adverse impacts have been widely documented by other studies and are not the focus of this research, data collected on such impacts are discussed here to provide the reader with an idea of how local residents perceived costs of the projects to contextualize how and why they felt they have, should, or could benefit from the LHRF.



Photo 23: Dormitories built in Khohlo-Ntso to house dam workers during the construction period of Phase 1A. The structures have remained empty for several years after exodus of migrant workers.



Photo 24: Deep culverts were created by LHWP access roads.

Significant losses of resources reported in this study included loss of land due to the construction of roads (21 local residents, 58 percent), loss of medicinal plants (12 respondents, 33 percent), loss of trees (9 local residents, 25 percent), loss of animals due to theft, drowning and starvation (9 respondents, 12 percent), and loss of grazing land (6 respondents, 16.7 percent). Also raised in interviews were losses associated with decreased amount of grazing land, sand available in the river, and less food availability. A few of the study participants (5 interviewees, 14 percent) discussed changes in water levels in Khohlo-Ntso River and adjoining waterways, lamenting the drastically reduced water available for washing clothes and blankets as well as water available for animals during periods of drought. Not only was the reduction of water a problem, but also the occasional artificial floods created by releases of water from the dam reservoir, which became a problem for those local resident who needed to cross the river to access other areas. Additionally, a significant number of respondents mentioned the increased need for cash to buy goods due to less natural resources being available since the time of construction began (mentioned by 5 local residents, 13.9 percent). Such expressions of loss are presented in the study participants' own words on the following page.

Yes my family lost part of its farmland. I remember well even now they still get something. They were first getting food for the place that they lost, but right now it's money for that lost land. I don't think it's enough because the family land is so important. It's lifelong. But I think, that earning of money for that land won't last forever. By the time this started, they had estimated the time of getting compensation for up to 50 years. I'm not sure how much money it is. The new generations will have nothing when the money finishes. In other words, we have lost. We didn't benefit anything since what they told them never happened because we were dreaming high. We thought it would bring changes, like the life would be the same as in the lowlands, they would create jobs by building the factories, so people who are not dedicated can have a job. And yet nothing, that didn't happen.(Male respondent, age 47)

The community lost many things like the grass, when there is a lot of water, the medicinal plants are taken by the water and we have nothing and we have nothing to give the animals. We used Malimakatso river when there was a lot of drought, but now we have nowhere to go. Life was easier than now because we weren't thinking of money before the project, but now we wish we could get a job with LHDA, but before we milked the cows. Now it is very difficult because so many people suffer from HIV. Before I was able to take my children to school, but now I have less fields to grow things and sell.(Male respondent, age 56)

Since this project has come to Lesotho, I can say that people are living on hunger because some of the fields have been taken by the dam and so some have been paid for that, some are not paid because they say that their fields have been taken just a little. Since this water project has come to Lesotho, people are starving because it made people have less food. And they have made the dongas which catch around the animals and we can feel so afraid when going because of the machines they have used for taking some concrete and they left them and they didn't leave some grass in places. The dongas can hurt the people because the robbers can hide in their in the evening after the sunset, you can't go there because you will be in danger.(Female respondent, age 38)

A lot of disadvantages. We used to take the sand from the river to make the bricks, but now the sand is empty from the river, but nowadays, because the water does not move, there is not a lot of sand. Less water in the river, it used to flow more, but now it's dried up.(Male respondent, age 45)

If the poor people could get some cash, rods going into the villages so the lives could be easier. Don't know about the treaty. They said the only people that were affected were the people from Makhoabeng, that side, those are the only people. The life before was good, because we had a lot of cash during the project, but after, food is hard to maintain, to keep the kind of food we were eating before the dam. Corruption, people started stealing property and things like that. Plus we don't have the medicine and all the herbs for medicine are all gone and the trees are all gone. One medicine called koenea, it used to be around the edges of the river, and was used for stomach ache, throwing up and other things, but this is all gone now. There is more sickness now. The amount of water flow from the rivers is very highly affected because if you go down, like now when there is drought like this, we would take the animals down the rivers and the animals were having something to drink, but now, no water to drink. These are all the truth. Because

> *they promised people to work, but we never worked and we don't work now and there is not enough food in the families.*(Female respondent, age 67)

> *Yes, my family lost the fields. We were given maize only as comp., but only once a year in Aug. Its not that much good, we were promised more than this, but it did not happen. When you grow maize, you start eating it in March until June/July, but we are not given it in March, only in Aug. Before I was able to grow wheat, beans, pumpkin, vegetables, but now I only get maize.*(Female respondent, age 57)

Accompanying the positive benefits associated with the sudden presence of foreigners in Khohlo-Ntso and surrounding areas, local residents discussed a multitude of negative consequences brought on by this influx of migrant workers. As the adverse impacts of boomtowns are widely documented, only a brief summary of the most frequently highlighted issues discussed by local residents are presented here. First, a striking 33 (91.7 percent) brought up the increase of HIV in the community, most often discussed in relation to the change in teenagers' behavior. This was considered a serious negative impact of Katse's construction days, as younger adults were reported to increasingly disobey and disrespect their parents as the construction phase continued. Respondents reported that teenage pregnancy became more common and family conflict became rampant (extra-marital affairs was alluded to, but not referred to directly). One of the most harmful consequences discussed by this new exposure to the outside world (referred to by 18 study participants, 50 percent) was a change in self-perception on the part of local residents, seeing that they were poor in comparison with their new neighbors they watched drive past the village on a daily basis, with "town clothes" and money to spend. Respondents reported this change of attitude having a negative impact on their satisfaction with the ways they were living and their overall happiness. The following excerpts from interviews demonstrate such lamentations.

> *After they finished building the dam, small-scale retailers declined, there were no jobs and there were many diseases so people were dying. I see no advantages of dam. We are not able to visit across river and we miss people on the other side of the mountain.*(Female respondent, age 43)

> *Something that was worse that was experienced during the construction was that since there were too many people we also experienced so many people got diseases. I think that was because of too many people in one place.*(Male respondent, age 38)

The people were left without working and they were starving and there were many orphans. Most of the people have been killed by HIV/AIDS and Lesotho was left with so many orphans. Even the shops were closed because the people have gone away and there was no money, some big shops have fallen down and now people are going so far for the shops such as long as Thaba-Tseka to get things they want because the big shops have fallen because no customers. They have taken their shops and gone away. Things were cheaper in the big shops, but now it is expensive to travel to Thaba-Tseka.(Female respondent, age 74)

Our children became orphans. They were no more listening to the parents. The people were stealing while they were working and that was not nice to us because we didn't even see that kind of thing before. When they were living here, there were many new businesses that came, like selling beer, food and other things. They left and there was no jobs and our businesses stopped at that time because most of the people were far away. Not many people from here found jobs there, those people who were working there were from other districts. The weather is colder now. The fields are no more producing food as much, so now as I see when they made this dam, these problems started. Now the river is not good. We have the drought and there are some plants which are no more growing along the river.(Female respondent, age 59)

HIV, Since the dam was built, teenagers started having children. They felt free to make babies, and they don't even ask. When I grew up, a married woman would have children, but that has changed now.(Male respondent, age 41)

Its true that children did not respect the parents. Even some of the families have split because of the money that the operators and builders, the wives here were leaving the husband to go to those guys, so now there are some families which are broken up.(Male respondent, age 62)

Like since Katse was built, the children are not listening to their parents, they do whatever they like, and there are so many diseases like HIV. There are so many people getting no benefits from Katse. Less poor? No, more poor now. Before Katse was built, there was a better system. If I wanted to buy your house, you would give me my sheep or goats and then you would give me the house. So now people are using money, so that is difficult for them since they are not working to be paid.(Male respondent, age 55)

The kids started to use the glue and they started sleeping in the classes because they spent the last night not sleeping. And also the kids were not in control.(Female respondent, age 43)

If the poor people could get some cash, rods going into the villages so the lives could be easier. Don't know about the treaty. They said the only people that were affected were the people from Makhoabeng, that side, those are the only people. The life before was good, because we had a lot of cash during the project, but after, food is hard to maintain, to keep the kind of food we were eating before the dam. Corruption, people started stealing property and things like that. Plus we don't have the medicine and all the herbs for medicine are all gone and the trees are all gone. One medicine called koenea, it used to be around the edges of the river, and was used for stomach ache, throwing up and other things, but this is all

> *gone now. There is more sickness now. The amount of water flow from the rivers is very highly affected because if you go down, like now when there is drought like this, we would take the animals down the rivers and the animals were having something to drink, but now, no water to drink. These are all the truth. Because they promised people to work, but we never worked and we don't work now and there is not enough food in the families.The people that came from all over the country and some from overseas, they bribed the kids here, and they started sleeping with them and this is one of the problems that are here. Some of the kids were told to go to school, some of the kids instead of going to school. They would go to Katse and make their own business there.*(Female respondent, age 67)

When discussing adverse consequences of the dam on their life, local residents most frequently talked about ways they had suffered when construction was complete. The few members of the study who worked at the dam site talked of losing their jobs while other study participants discussed decline of their businesses during this period. Many local residents reported feelings of being better off before the Project started, as cash had become an important element to their livelihoods when it was abundant during the construction period and they had no money when the dam was completed. Their new reliance on cash, accompanied by a new desire to live the "town" life, left members of Khohlo-Ntso feeling dissatisfied and some interviewees reported new feelings of inadequacy in their ability to support their household and satisfy their family members new desires. While many other negative impacts were mentioned, including drowning of people in the dam, colder weather with heavier winds, decreased river water and quality and loss of mobility, the increased incidence of HIV (and drastically higher numbers of orphans), the change in young adult behavior and family unity accompanied by villager's decreased satisfaction with their life as it was before the project.

4.4 LEVEL OF AWARENESS OF LHRF

Interview questions assessing levels of awareness of study participants pertaining to the LHRF included whether they knew how much revenue was generated by the LHWP, whether they were aware of their rights under the LHWP Treaty (compensation and standards of PAPs' living maintained), if they had heard about the LHRF, and how much LHDA had worked with the community to expand such levels of awareness. The concept of awareness was operationalized as how much information each interviewee was able to provide concerning these details of the LHWP. Awareness of such information was integral to the study as local residents' knowledge of these issues influenced whether they felt they had shared in benefits of the project.

Of the 36 local residents interviewed, only 6 (16.7 percent) knew how much Lesotho made from selling water to South Africa, while 30 study participants had no idea how much the Project generated in revenues. When told that the government of Lesotho was paid more than 25 million rand per month in royalties, study participants were highly surprised and wanted to know where the money went, reporting that none of it had been used to develop Khohlo-Ntso or surrounding areas. It is notable that a community living only 10 km from the very place where most of LHWP water was stored had no idea the economic value of this natural resource to their country. Questions of why they did not receive any of the benefits generated by sale of what they deemed to be a communally owned natural resource were often raised when discussions of royalties occurred and respondents felt extremely disenchanted by this information. Descriptions of such sentiments are presented below.

> *We don't know what happens with this money, but this is our water. Even when we have a very dry season, we don't use the water at all.* (Female respondent, age 39)

> *Yes, that one I think I'm quite sure because we were once in Katse with the students and we were told that the Lesotho government is earning up to 25 million per month for selling this water. I still wonder what happens with the money. I want to know.* (Female respondent, age 53)

I don't know, but maybe 35 million a month. This money goes to the government. The government is just like LHDA, it promises to do the tar road, but it doesn't.(Male respondent, age 33)

I don't know how much they make for selling our water. That's a lot of money (in response to being told the amount) I don't know where this goes. Not sure if money given to the grandfathers and grandmothers who are above 70 years, if this money is coming from SA. This money does not come back to me.(Female respondent, age 42)

That money goes to corruption. No money comes back to Khohlo-Ntso, they didn't even make the roads to the villages, we don't even have the toilets. I'm scared that they get 30 million per month. (Male respondent, age 54)

That's a lot of money because everyone says Lesotho is poor. Our government says that. I don't know, maybe they take it in their pockets. None of it comes to KN. It has been announced two times that we need to get something because of the filling of water, but we never got anything and from there they never said anything.(Female respondent, age 68)

No, don't know. What do they do with this money?? I have never heard that we get that amount. They just take it in their pockets, the government of Lesotho. Noone in Khohlo-Ntso gets anything from this.(Male respondent, age 73)

I don't know if they were lying but they say the government gets 4 million monthly. Sometimes the money comes here for the local government so they sometimes pay people for working in the dongas and making furrows behind the fields. (Female respondent, age 45)

As with the amount of royalties earned by Lesotho, levels of awareness of rights under the Treaty were extremely low, with only four (11.1 percent) of the local residents having any knowledge of the Treaty at all. When informed of such rights and asked if provisions in the treaty had been fulfilled, 20 (55.6 percent) indicated that they were worse off because of the Project and that such rights had not been respected. A significant 28 percent (10 local residents) had mixed feeling about whether their standards of living had been restored, noting that while essential resources were lost due to the LHWP, their lives had been improved by the various positive impacts presented earlier in this chapter. When asked about the Treaty, responses of local residents included:

I've never heard of that.(Female respondent, age 46)

Our rights were not respected. Life now is worse, bad behavior, many things. Some of them are because of the dam.(Male respondent, age 53)

> *The purpose was to develop the area. No, they haven't respected the community, some are getting compensation, but others are not and they have the same damage. So we don't know why some are getting and others are not getting.*(Female respondent, age 68)

> *No, I never heard of that. Life is more difficult now because we have no wood nearby, we don't have jobs, the fields were taken, people from far come here and work.*(Female respondent, age 33)

Most significantly, 94.4 percent of local residents were completely unaware of the LHRF, its objectives, and that it had been reformulated into the LFCD. They reported little to no interaction with LHDA management employees, finding it extremely difficult to access such people, to discuss impacts of Katse Dam on their lives or make inquiries about social and economic development projects. This indicated that after more than a decade of LHDA reports (in response to high levels of criticism from WB and others) broadcasting higher levels of awareness of the Fund and greater success in implementation of programs, the community of Khohlo-Ntso was still without knowledge of essential components of the LHRF and how it was meant as a mechanism to assist in increasing their welfare. As with other similar large dam project benefit sharing mechanisms that take the form of development funds, the lack of consultation and training of PAP indicates that into the twenty-first century, the LHWP has failed to incorporate equity into the distribution of benefits generated by the Project.

4.5 EXPERIENCES WITH LHRF

As the central aim of this research was to discover what local residents of Khohlo-Ntso had experienced with the benefit sharing mechanism incorporated into the LHWP (taking the form of the LHRF), questions regarding this issue comprised the main substance of this study. Such questions inquired whether any projects had occurred in Khohlo-Ntso under the direction of LHDA and details of such projects, whether the interviewee was involved in projects and whether projects had impacted the villager's life in any way. Responses to the above questions were used to assess whether benefit sharing had actually occurred for the community of Khohlo-Ntso, whether the LHRF had been successful in distributing benefits and why or why not. Thirty-one of the 36 local

residents interviewed (86.1 percent) reported having no knowledge of any projects executed under the LHRF by LHDA, 2 were unsure and 2 other study participants mentioned projects including brick-making, community sewing initiatives and a pony-trekking cooperation. After further inquiry about these projects, it was discovered that members of the Khohlo-Ntso community were required to create cooperatives in order to accessR1.1 million allocated to the village as compensation for lost communal resources due to severe environmental impacts of reduced downstream river flows.



Photo 25: Still unpaved after 25 years since the beginning of the LHWP, the one main road passing Khohlo-Ntso is poorly maintained and filled with deep potholes.

Thus, the projects did not fall under the LHRF, but under the community compensation paid to downstream villages located within proximal reaches of the Katse and Mohale impoundment zones after the IFR studies discussed in the Chapter 2 of this report found that the Treaty scenario had resulted in massive loss of resources of downstream communities. While one million rand is not a significant amount of money for the 3,000 local residents living in the community plus their future generations, the LHWP is one of few large-scale water projects (especially in the global South) to address impacts on downstream communities. The community compensation is meant to fund sustainable income generating projects to benefit the entire village, yet the money still sits in the bank after more than a decade of disbursement. Interviewees and members of focus

groups reported that the brickmaking and sewing projects had failed because equipment deteriorated and LHDA failed to replace broken machines. Additionally, quarrels within cooperatives concerning how to spend the money led to distrust and many members withdrew from the different cooperatives.



Photo 26: An old sewing machine, a remnant of the LHRF's sewing project initiated in Khohlo-Ntso.

23 percent of study participants reported that the committee created and trained by LHDA, (an LLE), charged 15 rand membership fees per year and respondents were either not able to afford this or not willing to pay the fee as they had seen nothing happen with the compensation money thus far. Others discussed corruption within the committee, which they accused of holding the money in the bank and pocketing the generated interest. Yet another story of corruption concerning Khohlo-Ntso's communal compensation referred to LHDA, where the Technical Assistant, charged with the responsibility of assisting LLEs to utilize compensation funds, asked for R6,000 to pay an accountant to overlook the committee's books and returned with neither the books nor the money. Data collected from interviews indicates that distrust of LHDA was extremely high within the community. Of those respondents interviewed who discussed what was happening with the money now, there is high hope that it will be put toward electrification of the village. A new committee has been formed in the past year and they

are now attempting to bypass LHDA and go straight to Lesotho Electric Company (LEC) to start negotiations for installing electricity in the village. However, when asked how people in the community will pay for the electricity once infrastructure is in place, the reply was that only one room of each house would be wired and people would pay as they could. As most people in the village are unable to afford paraffin, it is doubtful that many can afford LEC's relatively high monthly power bills. The excerpts from interviews presented below demonstrate the dissatisfaction with LHDA's efforts to implement development projects in the village and express the problems experienced by local residents with the compensation payment the village received.

> *We have not seen anyone here doing studies on downstream impacts. There was someone who collected all the books to see what we want and how things could be improved, but this lady came and asked between 3000-6000, and she took the books and she took the money, and she brought the books back, some were missing, we don't see anything she did, everything was the same. This money was compensation money in winter 2010. The books for luma-luma, registration, things like how much money was used, what it was used for. Those guys what they want is to take out our money, because we tell them what we want, they don't do anything, in taking money, they do it, but listening to what we want, they don't. That's why we chose electricity because it can last forever. Now they are talking of doing electricity in the area, and the next money, if it comes, we can do things like raising up chickens and pigs, and that's why we want electricity, so we can start a factory and give people many jobs, to help out the orphans in the area.*(Female respondent, age 47)

> *Yes, they talked of some projects, but they didn't fulfill them. Catering, sewing, knitting. They were not successful. There have been no other projects. LHDA has been so bad because they started this project of sewing for handicrafts, and after some time they told us to pay for rent to use the houses and then we didn't have the money for the rent to pay and then the business was bankrupt.* (Female respondent, age 44)

> *The people of World Bank, many times they were telling lies because before the dam they made pitso, and they tell us they would give money, like everyone 5,000, so many things, but they were lying because they didn't do it. The make pitso everywhere in the village. They said because we are now near Katse dam they want us to join together so that they will give us money so that maybe we can maybe buy pigs to sell, but this never happened.*(Male respondent, age 53)

> *What we do, before we tried to make the business, brickmaking, and there was a lady from LHDA and they said they will bring the people so we can buy them, and she was lying because she didn't bring them and the money was wasted because no one came to buy the bricks, about 20,000.*(Female respondent, age 43)

Concerning the community, all those were affected. It is true that we have the money, they say they will supply all the villages around the dam with the money. For KN it was 1 million. Because if you give someone too much money without teaching them how to use that money, it's like a play. But you can just see KN, it's just the same, with no improvement to KN because people don't understand the real mission of the money. It created jobs for people who never attended school. To build, to sew, and to knit. People do not still have these jobs today because they do not have the equipment, so they only have the knowledge, like they can knit, but they don't have the machine to sew and LHDA does not help to get the equipment. They say they only give them compensation for only what they have knitted. (Female respondent, age 36)

That land, our plants, trees, grass for the animals. Yes, we received compensation, if I can still remember around 2000. Now it is 2011, still that money is in our hands in the bank, so we, now as the community, we are not coming together. Because you see, we have so many options, but we don't agree on one. But now of late, we have decided to buy electricity.You know, I don't like it. For the first time, when they choose this place, we went to the government. It is still changing our lives. We are poor poor. They should at least give us money or jobs. They have taken our land here, but they failed to give us anything for it.(Male respondent, age 57)

One time I was at school and when I returned, I found a letter from the chief's place saying that I am the one they have selected to go to Mexico to talk about the LHWP, so I packed myself, I spent my money to buy some clothes. Then those who were coordinator with the water supply, I had been announced through the radio saying I am the one to be going to Mexico. So I prepared and asked permission from who I am working, then I think I spent the whole day here waiting for them to take me. They did not come to me to say Me Teresia, we are no more taking you, we have taken someone. Because they say these people can choose one and so they chose me. I think because the one from the water supply asked me to not agree with the statements saying that we don't have toilets, water in our houses. I said Ntate, I cannot say that, people have chosen me because they trust me to tell the truth. 2006 I think.(Female respondent, age 31)

Yes, we work with 'M'e … (name deleted for confidentiality purposes). Sometimes she comes once a month, sometimes she comes once in two months. Another 'M'e was coming more often. She was helping the community more because she helped us buy those machines for sewing. Me …. is a tsotsi. She has done nothing for us. She came to pick up the committee, those people she picked to put in the big committee with the 22 villages, but she picked her own, she didn't involve everybody. And also she just called the committee to a place without informing all the people.(Male respondent, age 33)

LHDA talked of protecting soil erosion for the locals and for the fields, but they never did. They played with the people. They did the quarries and left everything like that without planting grass or anything like that. It was the best if the amount of money they gave, if they were giving it, period after period, so we could look

after their families. They never paid for the quarries or anything like that.(Female respondent, age 67)



Photo 27: The remnants of equipment used for the Brick making project under one community compensation project.

Therefore the main research findings of this study were extremely low levels of awareness of the LHRF and rights of LHWP PAP under the Treaty, changed perceptions of self wealth and adequacy as consequences of influxes of foreigners in the Khohlo-Ntso area during dam construction, and no projects had been successfully implemented under the LHWP's main benefit sharing mechanism. In addition, there was much confusion in the village surrounding the communal compensation granted to Khohlo-Ntso. LHDA had not made a distinction between development projects initiated under this money and those under the LHRF. As to answering the research question of what have local residents of Khohlo-Ntso experienced within the LHRF, the unfortunate overwhelming answer is dissipated hope and distrust in the government as expressed in the following excerpts from the study participants' own words below.

It seems like all of these people are corrupt. When the WB was here, they said they would do this and this and that, but after the WB manager left, they never did anything. Sometimes you find one guy is having 5 orphans and it is hard to take care of them, but then we have this money from LHDA which needs to work on that to help those, but it doesn't do anything. We have so many old people taking care of kids now, but nothing is happening. (Female respondent, age 36)

They said we were going to have a better life, electricity, clean water, all these things, but now we don't have. None of the promises have come through. (Female respondent, age 57)

Our feelings were high then, hoping that we were going to have a better life. But if you just compare the people that are in Katse Village and you compare them with people who are outside of Katse, their standard of living are better than the people outside of this scheme. (Female respondent, age 33)

Yes, we were promised people would come stay in these houses we built for five years. Now they are empty. They came to rent the houses for 8 years, but then nothing. That building was for the post office, but after we can't even use the post office because they have broken the windows, the doors, everything.(Male respondent, age 42)

I have learned that there will be many people coming from many places that come to this project to work. Even our people got jobs because before the dam was built many of the people were not working. But after the project was finished, there were no jobs to do people were just staying at home and resting and doing nothing.We were feeling happy at first because we heard there would be many jobs for many people, but there was not. They said that Lesotho would become so rich and maybe the economy would go up. They say that even electricity would be there in the villages, but we don't see it, but it not there at all. There were many people from many villages, some got jobs, some did not. They changed the life of the village. Some steal because of hunger. That made us so poor. They were stealing because there were no jobs, there was no place to stay. Some were stealing animals from the villages, so they left us.(Male respondent, age 48)

It's very painful because they take the water from us here, but we still need the water and we don't see the benefit, we don't get anything. They talked of irrigation for the plants and the field and things like that, but now they never did that. LHDA does not help us.(Female respondent, age 63)

Ninety-three percent of interviewees reported that they had been happy and hopeful when first hearing about the project, believing that it would improve their lives. As most study participants recounted promises made to them by LHDA when the construction of Phase 1A of the LHWP had just begun, they expressed regret regarding their belief in the early 1990s that these things would come true. Promises included employment, improved quality of education, paved roads, electricity, in-door plumbing and enrichment of the Basotho population as a whole. All of these projects were supposed to happen under the LHRF. As none of the promises came to fruition (with the exception of classroom additions made by LHDA at the primary school), local residents of Khohlo-

Ntso instead experienced family and community social disarticulation as communal compensation resulted in conflict and distrust of one another.



Photo 28:A village watering point in Khohlo-Ntso constructed by LHDA in the early to mid-1990s.



Photo 29: Marketing stalls constructed by the LHDA which have nowremained unused and empty for several years.



Photo 30: Students and teachers of Khohlo-Ntso Primary School crowded into one older classroom to view a movie.As the village has no electricity, the television was run from a generator.

4.6 HYDROPOLITICS AT THE COMMUNITY LEVEL

As with all communities, Khohlo-Ntso is highly differentiated in its composition of residents. Participants in the study group not only varied in age, gender, length of residence in the area, level of education attained and size of household, but also in socio-economic status. While measuring how the LHWP affected different groups within the Khohlo-Ntso community was beyond the scope of this study, it is important to note that local residents' experiences with the Project and the LHRF varied. This is likewise true of study participants' awareness of the Treaty and the LHRF as well as the compensation the village received for losses endured due to the LHWP. The few respondents that expressed positive benefits of the Project (5.6 percent of the study group) were younger, received higher levels of education and were employed in the local government or had at one time worked for the LHDA as drivers. Each of these interviewees were aware of the LHWP Treaty and could differentiate between projects attempted under the LHRF and those that occurred due to the compensation the village received. They were also among the respondents that expressed mixed feelings about

the LHWP who cited exposure to other cultures and technology as major benefits of the Project.

As with Braun's (2010) research, which found that women experienced greater adverse impacts of the LHWP than men, when disaggregating data collected in the study at hand, it became evident that women experienced impacts of the LHWP much differently than men. While the most frequently mentioned adverse impacts mentioned by men in this research was loss of grazing land, deteriorating health of animals and livestock theft and marital affairs of local female residents with migrants working on dam construction, women more often discuss loss of food availability, higher incidence of diseases (especially HIV) and an the related increase in numbers of orphans and loss of mobility to visit family members and friends living in villages located across Katse dam.

Most notably, those interviewees who had the means to build houses to rent to people migrating to the area during dam construction, those who owned shops and those who had at one point in time worked in some capacity for LHDA all noted benefits brought to them by the LHWP. In contrast, study participants who lacked such opportunities for income generation during and after dam construction were found to express negative sentiments concerning the project and LHDA much more frequently. Additionally, interviewees possessing access to some form of cash income who could afford to pay the fee required to become a member of the association responsible for managing compensation reported higher hopes that the Project would eventually benefit the village (particularly through using the compensation money to install electricity in the village), while those who were not part of the association largely expressed lack of hope that the LHWP would improve their lives in the future. The difference between such sentiments are presented in the local resident's own words found below.

> *Even the community around here that have lost some of their things, they get something for that. Even for grazing land, they get something for that. The money is for the community as a whole. They stick together, decide what they can do with the money. Just like, now, at our place, we have applied for electricity in Ha Nkokana. I think Khohlo-Ntso will try to get the same thing. (Male respondent, age 53, member of compensation association)*

Yes, I know about 1 million in compensation money, but I don't know where it is now. We wanted the electricity installation, but they don't install it in time. The community is in charge of this money. I think electricity is the best since it lasts and the grandchildren will find it. We'll pay 50 rand maybe monthly until it makes 2000 rand. (Female respondent, age 41, member of compensation association)

Because I am not a member of that association, I do not know what they do with that money. Because there is a subscription fee we pay, I don't have the money to join. I don't know how much it is, but maybe ten rand. (Female respondent, age 36, not a member of compensation association)

Yes, the community lost land, the biggest thing, but we also lost trees, fodder, medicine. No, community was not given anything for these losses. The money was given to the luma-luma in 2003. It was given to bring development in the area, we are still in the process. Yes, I am a member. We want to bring electricity in the area. I don't know if everybody will be able to afford to buy electricity every month. I would make sure everyone has good food, but electricity is the best because it affects everyone in the area. (Male respondent, age 43, member of compensation association)

Yes, I heard about luma-luma, but I never been part of it because I didn't have 15 rand. I really want to be part of it, but my problem is I cannot pay. Yes, I think electricity is good but I don't know how we will all benefit because many many people here have no money to pay for paraffin, so how will they pay for electricity? The people who want to spend the money on electricity have money, but what about all of the people without? (Female respondent, age 67, not part of compensation association).

Thus, as at the international and national levels, the hydropolitics of the LHWP has infiltrated the community of Khohlo-Ntso. While class differentiation in the village most likely existed before construction and operation of Katse dam, certain responses provided in the 36 interviews in this study point to variation in access to benefits of the LHWP among local residents depending on their access to cash income. This may be one reason for the commonly expressed view that the Project had resulted in some level of social disarticulation within Khohlo-Ntso. Though the lack of time and resources to further delve into this apparent impact of the LHWP on local residents was limited in the study at hand, it is strongly suggested that future research be conducted evaluating the LHWP's impacts on internal dynamics of dam-affected communities.

4.7CONCLUDING REMARKS

The results of this study are disappointing, yet not surprising. As we have seen, international experiences with benefit sharing and hydropower projects in the global South have not met with much success. Benefit sharing mechanisms that take the form of development funds are easily mired in elite political capture and inefficient bureaucracies which prevent monetary benefits of large-scale water and hydropower projects from reaching local populations. The case of Khohlo-Ntso demonstrates that problems may erupt at many institutional levels where large sums of money are concerned. Whether conflict and mistrust begins at a community or municipal or national institutional level, this study demonstrates that despite years of criticism and forced reform, management of the LHRF (now LFCD) has not improved. Rather than enhance economic and social opportunities for the local residents of Khohlo-Ntso, the LHWP benefit sharing mechanism as well as its communal compensation policy, has only heighted tension between community members themselves and between the village and LHDA. The majority of study participants remain unaware of their rights under the LHWP Treaty, feel that the LHWP has adversely affected their lives, have seen few or no projects implemented under the LHRF and remain skeptical that they will benefit from the LHWP in the future. Though the LHWP is the first large-scale water project to compensate downstream communities, it appears that compensation measures have proved highly inadequate to mitigate the severely negative impacts of dam construction and operation on the community of Khohlo-Ntso.

After thorough examination of other international experiences with benefit sharing, no one best option becomes apparent. Advocates of local dam-affected communities are recommended to examine a legal route through which to assist PAP regain their basic human rights and fight for an equitable share of what was once a local resource communally shared amongst themselves. Only once the World Bank and other major funders are compelled to turn rhetoric into practice will the potential for benefit sharing in the southern countries be realized.

4.8SUGGESTIONS FROM LOCAL RESIDENTS

The final section of this study concludes with suggestions made by the local residents themselves regarding how they believe they could equitably share in benefits of the LHWP, and what advice they would give local residents of Polihali where the next LHWP dam will be built next year. When asked how they felt they could best share benefits under the LHWP and how the LHRF could improve their lives, 98 percent of the responses provided by interviewees involved projects that were named as responsibilities of the LHRF (renamed the LFCD) initially. A laundry list of such projects included: modern houses with in-door plumbing, training programs for skills enhancement, a grinding mill, chicken and clothing factories, electricity, better roads, more schools, a mortuary, dairy cows, irrigation for fields, pig projects, a blanket-making business, more clinics and hospitals fully staffed with doctors available at all times, fisheries, bricking-making businesses, forestry projects, a bridge for the school, tractors for plowing and other small business ventures. Only one study participant mentioned direct monetary distribution as members of the study expressed desires for long-term sustainable projects, which could benefit future generations. It was recognized that cash payments did not last. Thus, local residents in Khohlo-Ntso do not have high demands of the LHDA or their national government, but simply want the same kinds of regional economic development projects first promised them at the beginning of the Project. The below excerpts highlight the most common suggestions of how study participants felt they could benefit from the LHWP, followed by advice to residents of Polihali where the next LHWP dam is to be constructed in 2013.

> *I would ask for money to start my own business like a shop.* (Female respondent, age 38)

> *I would start businesses in the villages like factories for fish and I would bring the electricity to the village.*(Female respondent, age 31)

> *We would tell LHDA to bring electricity here and also to take care of the orphans in the area, who are about 150 or more orphans, especially just to provide education for them. Also, I would like to see businesses started like to make bricks, to buy paper mill, maize grinder or to buy the truck to rent out.*(Female respondent, age 52)

Because we have water and they sell that water to SA, they should bring us the toilets, help us with the dry times here for our fields. (Male respondent, age 42)

They must make sure we have electricity, we have access to communication, here in Khohlo-Ntso we were using the tower and it was struck by lightning and even now it hasn't been sorted out. Also, make sure people get jobs there.(Male respondent, age 57)

Na, I don't think I need so many things. I could just suggest that we get better roads from here to Thaba-Tseka, this is our main problem. They have been here among us, they have used some of our things, and so on. Electricity, if it is impossible to do on our own, they can help us with that. About businesses, I think every business that can be brought to us can be ok, even though I am not sure what I might want, any business that keep our people doing something.(Female respondent, age 63)

I would like to make some projects because we are just doing nothing. We have got the goats, so we can wash the wool and also factory to make clothes here.(Male respondent, age 49)

We could set up a market place and start poultry businesses and have pigs.(Female respondent, age 48)

To the communities surrounding Polihali:

"I would just advise them that they must have a strong team or a strong committee that will try to manage everything going into their place. First of all you can say if you compensate us, you must do it before, don't just say we shall. Like people who will work there, the people in that area should get the jobs first unlike here where many people who got work were from the lowlands and other places. Besides that, they must try to train the people to have the work there. Here the compensation happened afterwards and they failed most of them."

"They should help before Polihali dam is built, they should have something made for them that something will last long."

"Really, the dams they can make after this one, they can make a lot of improvements. Like the houses they built, they were not good. So to make better houses. And electricity. Look, Katse village has electricity, why do we have to use our own money, why can't they do this for us so we can do something else with that money."

"I'm laughing because those people are going to get problems! I would say its much better not to build dams at all!! Because they are NOT going to do those things. I know them. They only do it to make themselves rich."

“To give people affected by the dam the first priority. To tell the people that the dam is coming and to teach them about it.”

“They should be aware of these people working in LHDA because they don’t fulfill their promises. They only want themselves to be rich, they don’t care about the villages. They should also be aware of people who come there because when they arrive there, they are going to steal.”

I” would tell them that the project is helpless to them because they will promise everything, but won’t fulfill anything.”

“I would suggest that those people they have to be in the LHDA to decide how much money, what to be done with the villages and all that.”

“I would tell them that they need to know that their kids will make other kids and the kids will be out of control and sometimes when you try to discipline them they tell you you live your own life.”

“I would suggest that whatever they agree, they have to sign it up and also it has to come to pass.”

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APPENDIX A : VILLAGER INTERVIEW SCHEDULE

LHRF AWARENESS

1. Are you aware of how much Lesotho gets paid for selling LHWP water? (Where is money allocated? Do funds return to Khohlo-Ntso?)

2. Have you heard of the LHWP Treaty? (How heard? Aware of rights? Rights fulfilled?)

3. Have you heard of the Lesotho Highlands Revenue Fund? (How? What do you know? Aim of LHRF)

4. Did project coordinators visit the village to talk about LHRF? (When? How often? Relationship?)

IMPACTS OF THE LHWP

1. What were your expectations of the LHWP when you first learned of the project?

2. What did you think about the project at that time?

3. Did building of the dam change the way you lived? How?

4. What happened when the project was completed?

5. Did you/your family lose any land or other assets because of the dam? (Compensated? How much? When?)

6. Did the community as a whole gain/lose access to any resources? (If yes, compensated? How? Management? Distribution?)

7. Does anyone from K.N. work for LHDA? (How many? Members of your family? How long? Type of job?)

EXPERIENCES WITH THE LHRF

1. Have any projects occurred in K.N. under direction of LHDA? (How often visited by reps of LHDA? Expectations? Success/failure of projects? Benefitted village?)

2. Were you involved in any of the projects? (How long? Personally benefitted?)

3. Do you think the LHRF has changed how you live/your life now? (Family life? Culture?)

SUGGESTIONS FOR THE FUTURE

1. If you were mookameli of LHDA/in charge of how water royalties were spent, what kinds of things do you think would benefit K.N. most?

2. What projects do you think would be most helpful in K.N under the LHRF?

3. What advice would you give people living in Polihali? (How best could they share in benefits?)

DEMOGRAPHICS

1. How long have you lived in Khohlo-Ntso? (Generations?)

2. What is your level of education?

3. How many people in household? (# children, household head?)

4. How old are you?

5. How do you make your livelihood? (Employed? Now compared to before dam?)

6. Has your/your family's livelihood been changed at all by LHWP?

7. Is there anything else you would like to add?

APPENDIX B: KEY INFORMANT INTERVIEW SCHEDULE

1. How have you been involved in the LHWP? (How long? What is your specific role?)

2. What can you tell me about the LHRF?

3. Have you been involved with any projects under the fund? (When? What kinds? Experience?)

4. What were the aims of these projects? (Achieved objectives? Why? Why not?)

4. Were communities downstream of the dam involved in choosing/planning/implementing projects?

5. Did any trainings to increase capacity of local residents?

6. How were local residents motivated to participate in projects? (What level of participation? Level of cooperation?)

6. Did local residents benefit from projects?

5. How were projects funded? (Local residents have control over money?)

6. Was funding sufficient to achieve objectives?

7. What were benefits of projects?

8. What were challenges of projects?

9. What kind of improvements do you think would enhance project performance?

10. Anything else you would like to add?