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Lesotho Highlands Water Project

Communications Practices for Governance and Sustainability Improvement

Lawrence J.M. Haas

Leonardo Mazzei

Donal T. O'Leary



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Foreword

The past decade has witnessed a major shift in thinking about water, including how water infrastructure development strategies can help advance sustainable development and the global fight against poverty.

This reflects, in part, greater attention now being paid to governance reforms promoting integrated water resource management (IWRM), the efficient and wise use of water, and expanding access to water and energy services. In addition, the increased emphasis on developing and implementing anti-corruption strategies increases confidence that water infrastructure can be developed efficiently and equitably. There is also growing appreciation of the strong linkages between water, environment and energy security and climate change - impacting on decisions about the development and management of water infrastructure, especially in water-stressed regions, and of the central role that public, private sector and civil society partnerships can play in encouraging innovation, tackling challenges, promoting transparency and accountability and creating synergy.

Communication is the thread that links these concerns and underpins achievements in sustainability and governance reform in water. Not only to ensure that up-front strategic assessments mobilize all viable options to meet the challenges unique to each situation, but also to better integrate governance and anti-corruption reforms and sustainability into all stages of planning and the project cycle of infrastructure. Wider acceptance of multi-stakeholder dialogue is a trend which characterizes beneficial change.

This LHWP is notable for its progressive learning approach as it moved through its implementation phases and is an example of the shifts that are occurring globally in approaches to dam planning and management as they have become more inclusive. It is also a key example of the critical importance of political will in tackling corruption in a large water infrastructure project.

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Acknowledgments

This case study of the Lesotho Highlands Water Project (LHWP) is the combined inputs of Donal O’Leary (Sr. Advisor, Transparency International, principal author), Lawrence Haas (Sr. Consultant Specialist on dams and development), and Leonardo Mazzei (Sr. Communications Officer, EXTDC). The case study is based on interviews and documents collected on a mission undertaken in Lesotho and South Africa during January/February 2008; as well as subsequent updates, particularly in relation to the governance aspects of the LHWP as well as the status of Phase II of the project. The appendixes list people met and documents assembled. The document is the product of discussions the authors had with many interested and affected people in Lesotho and South Africa, listed in Appendix E. Special thanks are extended to Paul Roberts, Jessica Hughes, and Lianne Greeff, who provided valuable support and comment; Leon Trump of the LHWC; Masilo Phakoe and Motulatsi Nkhasi at the LHDA; Johann Claassens, David Keyser, and Ugo Hiddema at TCTA; Cate Brown of Southern Waters; DWAF staff,¹ particularly Wille Croucamp and Reggie Tekateka; and Marcus Wishart, Rafik Hirji and the late Dan Aronson (Consultant) of the World Bank. A special appreciation to Paul Roberts, Cate Brown, Ugo Hiddema, Rafik Hirji and Marcus Wishart for reviewing and commenting on a previous draft of this paper. Opinions expressed and conclusions drawn are those of the authors and do not necessarily reflect the views of the World Bank, Basotho or South African colleagues.

¹ In May 2009 following the election of President Jacob Zuma, the Department of Water Affairs and Forestry (DWAF) was split, with the forestry responsibility transferred to the Department of Agriculture, Forestry, and Fisheries and the Department of Water Affairs (DWA) falling under the responsibility of the Minister of Water Affairs and Environment.

Acronyms

BNWPP	Bank-Netherlands Water Partnership Program
BPCB	Business Principles for Countering Bribery
CALC	Community Area Liaison Committee
CBA	Communication-Based Assessment
CDSP	Community Development Support Project
CE	Chief Executive
CLA	Community Liaison Assistant
CPI	Corruption Perceptions Index
CSO	Civil Society Organization
DRIFT	Downstream Responses to Imposed Flow Transformations
DWAF	Department of Water Affairs and Forestry
EBRD	European Bank for Reconstruction and Development
EF	Environmental Flows
EFA	Environmental Flows Assessment
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
EPP	Emergency Preparedness Plan
EU	European Union
EXTDC	Development Communication Division, External Affairs Senior Vice-Presidency, World Bank
GIP	Governance Improvement Plan
GoSA	Government of South Africa
GSC	Governance, Sustainability and Communication
ICR	Implementation Completion Report
IFR	Instream Flow Requirements
JPTC	Joint Permanent Technical Committee
LEC	Lesotho Electricity Corporation
LFCD	Lesotho Fund for Community Development
LHRF	Lesotho Highlands Revenue Fund
LHWP	Lesotho Highlands Water Project
LHWC	Lesotho Highlands Water Commission
LHDA	Lesotho Highlands Development Authority
LI	Lahmeyer International
LOI	Letter of Invitation
MFDP	Ministry of Finance and Development Planning
MAR	Mean Annual Runoff
MHS	Muela Hydropower Station
MNC	Multinational Corporation
MNR	Ministry of Natural Resources
MOF	Ministry of Finance
MOU	Memorandum of Understanding
NGO	Non-Governmental Organization
ORASECOM	Orange-Senqu River Basin Commission
OVTS	Orange-Vaal Transfer Scheme
PIU	Project Implementation Unit

PMU	Project Management Unit
POE	Panel of Experts
RAP	Resettlement Action Plan
RfP	Request for Proposal
SADC	Southern Africa Development Community
SHEQ	Safety, Health, Environment and Quality
SWAPO	South West Africa People's Organization
TI	Transparency International
UNCAC	UN Convention on Anticorruption
VIP Toilet	Ventilation Improved Pit Toilet
WB	World Bank
WBI	World Bank Institute
WGI	Worldwide Governance Indicators
WSIP	Water Sector Improvement Program

Synopsis

The multipurpose Lesotho Highlands Water Project (LHWP) is designed to transfer water from the water-abundant highlands of Lesotho to the Gauteng region of South Africa (its industrial heartland) and provide hydropower to Lesotho through a series of dams, weirs, delivery tunnels, and associated infrastructure (see Box 1). In addition, for Lesotho, one of the primary objectives of the LHWP is to utilize its export revenues toward poverty alleviation and economic stability. To date, Phase I of the LHWP treaty has been completed as well as the Phase II Feasibility Study; the responsibilities for these and a further two phases are set out in the LHWP, which was signed between the Kingdom of Lesotho and the Republic of South Africa in 1986. In relation to environmental and social issues, the treaty requires that (I) all project affectees “will be able to maintain a standard of living not inferior to that obtaining at the time of first disturbance”; (II) implementation, operations, and maintenance of the project are compatible with the protection of the existing quality of the environment; and, in particular, (III) shall pay due regard to the maintenance of the welfare of persons and communities affected by the project.

To address widespread perceptions that the original institutional arrangements defined in the 1986 treaty were slow and cumbersome in terms of decision making, the governance of the LHWP was revised under Protocol VI to the treaty, signed by representatives of both governments in Pretoria on June 4, 1999. Protocol VI provided for a structure in which (I) the Lesotho Highlands Water Commission (LHWC) is ultimately responsible for the project but with a shift to more of a policy-formulation and monitoring role; and (II) the Lesotho Highlands Development Authority’s (LHDA’s) Board assumed a greater executive role, but its members were to be appointed on the basis of merit by the LHWC, based on a set of proposals of the Government of Lesotho. In addition, Protocol VI provided for (III) the LHDA being responsible for the operations and maintenance of the LHWP within Lesotho; and (IV) the Trans-Caledon Tunnel Authority (TCTA) having similar responsibilities for the project within South Africa. Subsequently, it was agreed to that four members of the LHWC would join the LHDA’s Board (which occurred in 2005), although this arrangement was never formalized.

Being the largest binational water transfer scheme in the world and because of its phasing (Phase I was divided into two very large sub phases, Phase IA and Phase IB, which were followed by the feasibility studies for Phase II), the lessons learned in this case study

Box 1. Lesotho Highlands Water Project (Phase I)—Project Features

These are broken down into Phase IA and Phase IB:

- (a) **Phase IA:** Provided for the delivery of 18.0 cubic meters per second and consisted of: (1) 185-m-high Katse Dam on the Malibamats’o River; (2) 82 km of Delivery Tunnels to South Africa; (3) ‘Muela Dam on the Liqoe River; and (4) 72 MW ‘Muela Hydropower Station. Construction on Phase IA began in 1991 and it was commissioned in 1998 at a cost of US\$ 2.4 billion; and
- (b) **Phase IB:** Provided for the delivery of 11.8 cubic meters per second and consisted of: (1) Mohale Dam (9.6 m³/s) on the Senqunyane River; (2) 15 m Matsoku Weir (2.2 m³/s) on the Matsoku River and 6 km Delivery Tunnel to Katse; and (3) 32 km Delivery Tunnel from Mohale to Katse. Final impoundment took place in July 2003 at a cost of US\$624.3 million.

See Appendix 2 for a map setting out the components of Phase I.

are multifaceted. They are discussed under the headings of overall perspective; governance; sustainability (focusing on its physical, institutional, financial, environmental, and social aspects as well as its impacts in poverty alleviation); and communication. This is followed by a summary of the lessons learned progressively in moving through the first two phases of the project. The synopsis closes with a look at the lessons learned from the involvement of the World Bank in the project. Because of the complexity of this project, selectivity has been applied in the topics discussed, including focusing mostly on Lesotho.

When looked at from an *overall perspective*, there are a number of lessons to be drawn from the LHWP:

- The formulation and institutional arrangements for the LHWP (particularly for Phase I) have been sufficiently robust to adapt to the major political changes in Lesotho and South Africa;
- The project is considered “world class” in terms of the design and implementation of its physical infrastructure; its innovative treatment of environmental flows (EFs); and in meeting its targets in bulk water supply to South Africa as well as electricity generation for sale to the Lesotho Electricity Corporation (LEC);
- The LHWP can serve as a model of mutually beneficial development through demonstrating the benefits of bilateral government cooperation in the development of an international river that exceed those of individual approaches as well as strengthening political cooperation. This model is particularly relevant since approximately 40 percent of the world’s population lives in transboundary river basins and more than 90 percent of the world’s population lives within countries that share these basins. Within Africa, where 61 rivers are shared by two or more countries, well-managed international projects can provide opportunities for poverty alleviation, including through facilitating economic growth; and
- However, because of the uneven record in addressing its social impacts, partly due to communication defects, the project is still struggling to achieve wholehearted support by the host communities and extend benefit-sharing thinking not only between states but among all the stakeholders including specifically the local communities that host the project and those affected by the resource transformations it causes. It is vital to understand that development of strong political support for these kinds of projects is predicated on their acceptance as development opportunities, where the host communities feel they are full partners, rather than more traditionally as simply water resources projects developed to meet specific sectoral needs (such as water supply) with environmental and social impacts appropriately ameliorated.

From the perspective of *governance*, with emphasis on the anticorruption dimension, the LHWP points to the following lessons:

- In addressing corruption issues, *government political will* is key. In accord with the SADC Protocol Against Corruption, bribery should be criminalized and vigorously prosecuted. Anecdotal evidence points to the effectiveness of debarment in changing the culture of corruption, particularly in relation to contracts entered into by overseas corporations and developing country agencies, including in the water sector;
- However, the focus should be on *prevention* rather than *prosecution*. The SADC Protocol Against Corruption sets out a number of preventative measures and mechanisms. According to Transparency International, good operating practice now requires that infrastructure (including water sector) projects include governance improvement plans (GIPs) based on corruption risk assessments at the national, sectoral, and project levels. More support is needed at the project

level to develop indicators of corruption; for example, the World Bank has identified the top ten indicators relating to project level fraud and corruption;

- Emerging good practice also focuses on the key role that the project developers/proponents can play in combating corruption, through the adoption of accepted practices of *good institutional governance*. A good example is the King II Report on Corporate Governance which has articulated a code of good corporate governance that, in addition to the LHWP, is finding regional acceptance in Botswana (by the Water Utilities Corporation) and South Africa; and
- Emerging good practice in implementing governance and anticorruption (GAC) strategies on dams is to use a coalition approach in their preparation and implementation. These need to involve all the project stakeholders in different and complementary roles.

In relation to *physical sustainability*, the principal lessons learned were:

- To maintain the structural integrity of all its dams, tunnels, and related infrastructure, the LHDA is pursuing a program of activities to be certified under an internationally recognized safety, health, environment, and quality assurance (SHEQ) risk management program. This will enable the LHDA to ensure (a) optimal transfer/delivery of high quality water to the Republic of South Africa; and (b) efficient, cost effective electricity production for Lesotho.

In relation to *institutional sustainability* of the LHDA, the principal lessons are:

- To expedite decision making for such a high-profile project, it could have been appropriate to locate the authority within the Prime Minister's Office or under the Council of Ministers, rather than having it report to the line ministry. This could also have enabled the Government of Lesotho to better grasp the development opportunities presented by the project as well as improved coordination and management of the transfer of assets once Phase IB of the project was completed; and
- There is a need for ongoing oversight to assure that the LHDA continues to act transparently and accountably in meeting its responsibilities, particularly in relation to the environmental and social aspects of the project.

Financial sustainability of the LHWP relates to the water transfer and the hydroelectric components of the project. The main lessons learned were:

- Financial sustainability of the project's water transfer component is assured by South Africa's continued economic growth and increasing water demand in the Gauteng region. Revenues are paid from a proportion of the Vaal River water user tariff; and
- Largely due to government inaction on its bulk electricity tariff (which has been pegged at the 2001 level, making it one of the cheapest in the world), the 'Muela Hydropower Station has been lingering in financial uncertainty for the past 8 years. This has been costly in terms of efficiency, management capacity, and the ability to run the station as a commercial entity, including repaying the loans secured to finance its construction.

In relation to *environmental sustainability*, the LHWP experience points to the following lessons:

- The Environmental Flows Assessment (EFAs) should be conducted in parallel and as inputs to the Environmental Impact Assessment (EIAs) and adequate

consultation should be undertaken with other riparians. These activities should be undertaken *prior* to beginning construction work on dams;

- To enable the results of an EFA to be readily accepted by development-oriented managers, it is recommended to have a policy and legal framework in place to guide the EFA;
- Sufficient outlet facilities in dams, to accommodate the agreed EFA recommendations, should be incorporated in the design stage and in the project cost estimate (This is important for financial modeling);
- Since an agreed instream flow requirements (IFR) policy to meet a “target ecological condition” of a river immediately downstream of a dam will never fully restore a river to its pristine state, in accord with good practice, this policy should also include compensation for the downstream affectees; and
- Given that the final agreed IFR scenario (the “Fourth”) of the LHWP Phase I was a negotiated outcome that balanced the impacts on downstream users and the losses in royalties and hydropower benefits (which were valued at the wholesale tariff of then reliable imports from ESKOM); and the radically increased nature of the hydropower benefits of the Muela project (due to the inability of ESKOM to supply reliable power to Lesotho and the major increases in fuel costs), these factors could be taken into account whenever the IFR analysis is revisited;

In relation to *social sustainability*, in addition to dealing with the project’s social impacts on communities downstream from the dam (see p. x), the major issues related to assuring that the upstream affected households and communities were treated by the project in accord with the terms of the LHWP treaty (see p. viii), through a comprehensive resettlement and compensation program. The major lessons learned were:

- Resettlement housing should be demonstrably superior to the housing lost by the affectees, as well as culturally appropriate;
- Compensation programs should be a blend of actual compensation (e.g., the project agreed to pay the value of agricultural production over 50 years) and development programs (such as in agriculture, tourism, and small business support); and
- The importance of conducting baseline and regular follow-up surveys as well as identifying appropriate key project indicators (KPIs) to be able to demonstrate conclusively whether the relevant provisions of the LHWP treaty were met.

In relation to *poverty alleviation*, the LHWP has provided the following lessons:

- Most of the royalties contributed to economic stability and poverty alleviation were direct contributions to government revenues, with nearly two thirds of projects funded in the 2004/5 development budget deemed to be poverty related;
- Two unsuccessful attempts were made to establish Trust Funds directly linked to the project, the second with the support of the World Bank under a Community Development Support Project (CDSP). The Bank’s Project Completion Report (PCR) for the CDSP was unusually critical of the Borrower’s and the Bank’s performance. Given the core importance of addressing poverty, successful management of Trust Funds and similar instruments could be part of a benefit sharing strategy between the project developers and the project affectees; and
- Given the critical linkages between large infrastructure development and income restoration/poverty alleviation, there is a need to closely coordinate both these activities throughout the project cycle. Another key lesson is to ensure a multistakeholder governance for community development funds with transparent, accountable processes to engage beneficiaries in decisions on the use of funds.

As far as *communication* is concerned, the major lessons from the LHWP are:

- *Effective communication in all stages of the project cycle (including identification, preparation, implementation and operation)* is critical to the success of complex hydraulic infrastructure projects involving many stakeholders. Communication is important on several levels, from the advocacy stages to develop consensus on the need and type of measures to prevent and detect corruption and for empowering stakeholders to perform their roles, for example, witness NGOs or associations in their capacities as watchdogs as well as the promotion of a culture of a culture of disclosure, transparency and accountability;
- Also, if *communication is properly embedded in the project*, it is instrumental to strengthening oversight roles over decision-making across the multiple decision points in the life of a project;
- Key actors often overlooked in any communication strategy are *the contractors and other private sector actors*, particularly in relation to the interactions of their employees with the host community. As part of the communication strategy, it is critical to: (I) identify the possible risk of negative interactions between the contractors' staff and the local community (such as increasing the incidence of communicable diseases, such as HIV/AIDS and social tensions or conflict due to employment, ethnic, cultural, or religious differences as well as language barriers); and (II) put in place a program (including a communication strategy to minimize the risk).
- *Effective responsive complaints management* is a critical ingredient in establishing productive relationships between the project developer/sponsor and the host and downstream communities. While the Ombudsman, as an accepted source of appeal, has a critical role to play, the project sponsor continues to have the responsibility to address complaints expeditiously. Complaints management needs to involve not only the project sponsor but also relevant contractors and their staff. Good practice points to adequately resourcing this activity as well as publicly recording complaints and the timeframe for their resolution; and
- Effective communication is a key ingredient in building support for a *sustainable EF policy*. Communication is perhaps even more critical in the successful implementation of an EF policy involving an organization's management, dam operators, and downstream affectees, particularly, when high dam flow releases are involved. Radio has been demonstrated to be an effective communication medium, particularly for isolated, poorer communities.

The LHWP was notable for its *progressive learning* approach as it moved from the implementation of Phase IA to Phase IB to Phase II. Some examples include:

- In terms of environmental and social sustainability, while for Phase IA no formal EIA was undertaken, for Phase IB a complete EIA was undertaken, except for an EFA, which was undertaken subsequent to the decision to undertake the project. For the Phase II Feasibility Study, a complete EIA (including an EFA) is being undertaken and the downstream riparians (Botswana and Namibia) are kept regularly informed of its progress, through the Orange-Senqu River Commission (ORASECOM), to which all the riparians belong;
- Budget allocations for the environmental and social components of the EAP (arising out of the environmental studies in Phase IA and the EIA in Phase IB) increased from US\$ 67 million in Phase IA (about 5% of capital costs) to US\$ 115.6 million in Phase IB (about 15% of capital costs);
- While under Phase IA resettlement of individual households and communities was only allowed within the Katse basin, for Phase IB, to reduce pressure on limited

land resources, resettlement was permitted within the Mohale basin and in all of Lesotho;

- A number of steps contributed to improved communication in Phase IB of the LHWP compared to Phase IA. These included: (I) Appointment of Community Liaison Assistants (CLAs); (II) Setting up of Community Area Liaison Committees (CALCs); (III) Handling of grievances by host and downstream communities, including independent third party adjudication (by the Lesotho Ombudsman); (IV) Organization of annual stakeholder conferences; (V) Opening of Public Information Centers (PICs) at Katse, Mohale, and Muela dams; (VI) Setting up a LHWP Web site; and (VII) Targeted dissemination of WB Aide-Mémoires; and
- For the Phase II Feasibility Study, approximately 35% of the budget is reportedly allocated to communication/consultation to engage more fully with local communities and the public and genuinely involve people in decisions that affect them.

Finally, the *World Bank* played a vital and long-standing role in facilitating the implementation of the project. This began in 1983, when the Bank acted as Executing Agency for the UNDP-financed consultants, who supervised the feasibility studies of the LHWP and continued through various project preparation and supervision stages through the completion of Phase IB. While in absolute terms, its financial involvement was quite minor (about 3% of the Phase I project costs), the Bank financed some of the key strategic components of the project. For example, in Phase IB, Bank financing included the engineering design and supervision of the main works; institutional support to the LHDA (including the engineering and environmental and social Panels of Experts and the Disputes Review Board); and training. Some of the lessons learned were:

- Through its involvement, the Bank provided comfort to other lenders, including the Development Bank of Southern Africa (DBSA), the European Investment Bank (EIB), and Export Credit Agencies, who also relied on its supervision reports to meet their monitoring and evaluation requirements;
- In relation to the corruption issues related to Phase IA of the LHWP, the Bank played an important role through *debarring* two consulting companies that were convicted of bribery in the project: Acres International of Canada for 3 years, from July 2004, and Lahmeyer International of Germany for 7 years, from November 2006. However, the debarment process was slow with 11 months intervening between the conclusion of the Acres appeal of its conviction of bribery in Lesotho and its debarment and 32 months in the case of Lahmeyer. In addition the Bank's own investigation did not find enough evidence to bar the consulting companies and the Bank had to eventually rely on the successful prosecution by the Lesotho authorities for the necessary action;
- The Bank played a successful facilitating role between South Africa and Lesotho in relation to putting in place an IFR policy for the LHWP. It was also able to facilitate an agreement between Lesotho and South Africa enabling emergency releases from the LHWP in the event of flow in the border Caledon river falling to levels that cannot support communities dependent on this source of water supply;
- Through its regular supervision of the project, the Bank's dedicated LHWP Task Team assured that continued attention was paid to sensitive environmental and social issues through compliance with its safeguard policies; and
- However, it seems that *political will* at the management level was not always as strong as it should have been, particularly in relation to the Community Development Support Project, which had been designed to address the failings of a Trust Fund project and apparently ended up in failure also. This issue is particularly important in view of the increasing importance of benefit sharing in large dam projects.

CHAPTER 1

Background

“This project sparkles like a jewel in the crown of the Southern African Development Community (SADC) and the African Union (AU) proving that we can, as Africans, accomplish sustainable development to the mutual benefit of neighboring countries and as an example of projects that are needed all over our continent to achieve our renaissance.”

Extract from the speech of President Thabo Mbeki at the Inauguration of Phase 1 of the LHWP, Mophale Dam, Lesotho, March 16, 2004.

“My Government will do all they need to do to ensure that the LHWP continues to retain the competitive edge through good practice in implementing integrated catchment management plans and related fields to maintain the highest quality of water in the Region and in the world. This will include sound management of the environment to preserve the pristine conditions of the Highland areas.”

Extract from the speech of King Letsie III at the Inauguration of Phase 1 of the LHWP, Mophale Dam, Lesotho, March 16, 2004.

“It is increasingly recognized that integrity and good governance are essential building blocks for meeting the objectives of sustainable development, prosperity and peace . . . Good governance and integrity require the rule of law, effective state institutions, transparency and accountability in the management of public affairs, respect for human rights and the meaningful participation of all citizens in the political processes and decisions affecting their lives.”

Extract from the Opening Address of Kofi Annan, Secretary General of the United Nations at the 9th International Anti-Corruption Conference, Durban, October 10, 1999.

“Above all, displacees must be beneficiaries of the [dam] project. Merely to restore standards of living and lifestyles common to isolated river valleys can be a dead-end development strategy.”

Extract from the report “Involuntary Resettlement: Comparative Perspectives” of Robert Piciotto et al., 2001, Washington, D.C., World Bank, Operations Evaluation Department.

“There’s a need for the LHDA to improve communication with stakeholders, address complaints on time and respond timeously to issues raised in the Ombudsman’s report.”

Extract from the report “Lesotho Highlands Development Authority, March 2008. Strategic Plan: 2008/09–2012/13.”

“The LHWP environmental flow policy and implementation represents the most complete, most analyzed, and best documented project-level environmental flows case globally.”

Extract from the report “Institute of Natural Resources, March 2007. Instream Flow Requirements Audit for Phase I Dams of the Lesotho Highlands Water Project.”

During 2007–2009, the World Bank, Transparency International (TI), and other partners supported an initiative to prepare communication guidelines for practitioners and stakeholders involved in water infrastructure development. This initiative, “Good Practice Communications Guidelines for Governance Reform and Sustainable Infrastructure Development: Opportunities in Dam Planning and Management,” was supported by the Bank-Netherlands Water Partnership Program (BNWPP). The initiative features case studies and the preparation of a good practice toolkit/primer aimed at Bank operational staff and practitioners.

It was part of the ongoing effort to promote sustainable infrastructure development and tackle corruption risks on water infrastructure projects. As set out in the World Bank Working Paper, 121, emphasis was placed on enhancing the role of communication in linking dam planning and management to governance and anticorruption reforms. Underpinning this work is the call by multilateral development agencies to improve communications at all stages of the project cycle and find more effective ways to enlist local media and civil society support in reducing risk exposures for all stakeholders.

The binational Lesotho Highlands Water Project (LHWP), the largest international water transfer scheme in the world (DWAf, 2004), was one of a series of dam projects (primarily hydropower and water supply) selected worldwide to field test ideas for the guidelines and draw lessons.

This case study focuses on a series of questions:

- Question 1. What is the context and what is the project?
- How and why was the project approved?
 - What are the project features?
- Question 2. What governance reforms impacted on the project?
- What governance (corruption) practices surrounded the project?
 - How were these corrupt practices addressed by the Government of Lesotho?
 - What are the lessons learned in addressing corruption risks in large infrastructure projects?
- Question 3. What has the project done to assure its sustainability in its physical, institutional, financial, environmental, and social aspects? What has been its impact on poverty alleviation?
- What are the lessons learned?
 - Have innovative approaches been used?
- Question 4. What communication tools have been employed in different stages of the project?
- What are the different interests and expectations about the project?
 - What and who employed different communications tools?
 - What were the communications challenges faced by the project?
- Question 5. Given that this project has now been going for approximately 25 years, how successful has it been in adapting to changing standards and expectations?
- Where was there a change in emphasis?
 - What was increased or given more emphasis?
 - What was given less emphasis?

This case study is divided into the following sections: Introduction (including Project Features and Project Costs); Governance (focusing on Anticorruption); Sustainability; Communication; Phase II Feasibility Study; Progressive Learning Approach Used in the LHWP; Comments by Civil Society; and Findings. Because of the complexity of the LHWP and its long history, this case study has focused primarily on its impact in Lesotho and has been selective in the choice of topics discussed.

Introduction

The Lesotho Highlands Water Project (LHWP) is a multipurpose project aimed at enabling Lesotho to develop hydropower to meet its national electricity demand and South Africa to tap economic sources of bulk water to meet the water needs of the Gauteng region, which accounts for approximately 60% of its GDP and 40% of its urban population. In addition, for Lesotho, one of the primary objectives of the LHWP is to utilize its export revenues toward poverty alleviation and economic stability. A feasibility study of the LHWP was undertaken during 1983–1986, which proposed a multiphase scheme with an ultimate hydroelectric capacity of 110 MW and a maximum transferable water volume of 70 cubic meters per second (which corresponds to about 47% of Lesotho’s average annual runoff of 150 cubic meters per second). Following the feasibility study, the Treaty on the Lesotho Highlands Water Project between the Government of the Kingdom of Lesotho and the Government of the Republic of South Africa was signed on October 24, 1986. Some of its major features include:

- Although a number of phases were envisaged, the treaty partners (Lesotho and South Africa) only made a commitment to implement Phase I, after which future phases would be evaluated;
- Three institutions were set up to implement the treaty provisions: the Lesotho Highlands Development Authority (LHDA), which is responsible for all project activities within Lesotho; the Trans-Caledon Tunnel Authority (TCTA), which gradually took over responsibility for all project expenditures and all project activities in South Africa; and the Joint Permanent Technical Commission (JPTC—later renamed the Lesotho Highlands Water Commission [LHWC]), which is responsible for the preparation and implementation of the project;
- The treaty addressed environmental and social matters in Articles 7(18) and 15 (LHDA, 2003):
 - Article 7(18) enjoins the LHDA to “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 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;” and
 - Article 15 states that “the Parties shall 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 affected by the Project”;
- South Africa is responsible for paying all water-related transfer costs and Lesotho for hydroelectric power and for ancillary development projects within Lesotho; and

- As soon as the first water is delivered, South Africa will pay Lesotho royalties as follows
 - The savings incurred by South Africa by building LHWP as compared to an alternative project to pump water from the lower Orange River inside South Africa are shared between the two countries on the basis that Lesotho gets 56% and South Africa 44%;
 - The Lesotho share of the capital costs savings will be paid by way of fixed royalties over a 50-year period;
 - The Lesotho share of the savings incurred in respect to maintenance and electricity costs will be paid in perpetuity by way of variable royalties for as long as water is delivered;
 - In both cases the savings were calculated on a comparison between the envisaged LHWP costs and the costs of a hypothetical alternative project.

The Rural Development Plan (RDP), a livelihood restoration program in the Highlands, was not financed under the treaty but negotiated separately. In 1993, the governments of Lesotho and South Africa agreed to divide the costs of the RDP evenly, with each government paying approximately US\$ 18 million equivalent over 10 years.

To address widespread perceptions of its institutional arrangements being slow and cumbersome, the governance of the LHWP was formally changed under Protocol VI to the treaty on the LHWP (Supplementary Arrangements Regarding the System of Governance for the Project), which was signed by representatives of both governments in Pretoria on June 4, 1999. Protocol VI provided for a structure in which (I) LHWC acquired ultimate responsibility for the project but with a shift to more of a policy-formulation and monitoring role. In addition, all communication to the respective governments were to be made through the Commission office; and (II) the LHDA's Board assumed a greater executive role, but its members were to be appointed on the basis of merit by the LHWC, based on a set of proposals of the Government of Lesotho (World Bank, 2007a). All Board members would be nationals of either Lesotho or South Africa. In addition, Protocol VI provided for: (III) the LHDA still being responsible for the operations and maintenance of the LHWP within Lesotho; (IV) TCTA still having similar responsibilities for the project within South Africa; and (V) LHWC also becoming responsible for the hydro-electric part of the Project. Subsequently, it was agreed to that four members of the LHWC would join the LHDA's Board.

While this project was conceived and begun during the apartheid era, it now has the full support of the democratically elected governments of Lesotho and South Africa; in addition, the government of the downstream riparian (Namibia) and upstream riparian (Botswana) have no objections to the project. In addition, in relation to Phases IA and IB of the project, a "no objection" agreement was reached with the South West Africa People's Organization (SWAPO)—the effective "Namibia government in exile" at the time—which was subsequently endorsed by the government of Namibia on gaining independence (Conley and van Niekerk, 1998).

Project Features. These are broken down into Phase IA and Phase IB:

- (a) **Phase IA:** Provided for the delivery of 18.0 cubic meters per second and consisted of: (1) 185-m-high Katse Dam on the Malibamats'ō River; (2) 82 km of Delivery Tunnels to South Africa; (3) 'Muela Dam on the Lique River; and (4) 72 MW 'Muela Hydropower Station. Construction on Phase IA began in 1991 and it was commissioned in 1998.
- (b) **Phase IB:** Provided for the delivery of 11.8 cubic meters per second and consisted of: (1) Mohale Dam (9.6 m³/s) on the Senqunyane River; (2) 15 m Matsoku Weir (2.2 m³/s) on the Matsoku River and 6 km Delivery Tunnel to Katse; and (3) 32 km Delivery Tunnel from Mohale to Katse. Final impoundment took place in July 2003.

Table 2.1. Benefits and Direct Monetary Costs of Phase I of the LHWP

Lesotho	South Africa
<p>Benefits:</p> <ul style="list-style-type: none"> ■ Annual revenues of US\$ 36–38 million (in 1995 prices) from South Africa ■ No financial risk for the water-transfer component ■ Infrastructure such as roads and telecommunications to increase health, education, and trade services ■ Under Phase IB, 20,000 person-years (9,000 jobs) of direct employment for Basotho were provided; 40% of Basotho jobs were sourced in the Lesotho highlands, including a significant number of semi-skilled jobs. ■ At maximum complement, the LHDA hired up to 660 staff with an annual administrative bill of US\$20 million. ■ Additional enhancement of GDP through higher indirect employment, import duties, and tax receipts 	<p>Benefits:</p> <ul style="list-style-type: none"> ■ Secured the cheapest source of high quality water ■ Lower water prices for consumers ■ Augmentation of water supply to newly enfranchised poor ■ Industrial growth in a water-scarce area of high economic importance
<p>Costs:</p> <ul style="list-style-type: none"> ■ Hydropower component ■ 100% of ancillary developments beyond compensation and income restoration 	<p>Costs:</p> <ul style="list-style-type: none"> ■ Full costs of project construction and O&M, except for hydro ■ Associated debt ■ Annual royalty payments to Lesotho of US\$55 million ■ Compensation, income restoration, and mitigation costs

Sources: King and Brown (2003), LHDA (2003), Tromp (2006), World Bank (2007a).

Project Costs. With Phase IA being completed at a cost of US\$ 2.4 billion; and Phase IB completed at a cost of US\$ 624.3 million (World Bank, 2007a), the total cost of Phase I of the LHWP came to US\$ 3.0 billion:

Table 2.1 provides details on the benefits and direct costs of Phase I of the LHWP. Appendix A consists of a map showing all the phases of the LHWP; Appendix B shows Phase I only of the LHWP. A chronology of key LHWP events is shown in Appendix C.

The LHWP treaty is an example of good practice. In a review of the LHWP treaty, Giordano and Woolf (2003) point out those areas where it is an example of good practice:

- The commission and the implementing agencies are legal entities. The commission was created by the Treaty and the two agencies by domestic legislation, as required by the Treaty;
- It has a degree of management flexibility through multiphase design and implementation, with provisions for the possible cancellation of future project phases;

- The treaty has language that protects other, nonsignatory riparians in the Orange/Senqu river basin;
- It has very specific water allocation formulae and provides for possible future modifications to adapt to changing water needs and natural changes in future hydrologic regimes;
- The treaty provides for South Africa sharing the project's benefits through royalty payments; and
- Conflict resolution is provided for through a multilevel arbitration process.

The authors also identified two elements that were lacking in the LHWP treaty: water-use prioritization and public participation. For example, it seems that at the time it was approved, there was little public discussion on the treaty document, particularly by the dam projects' affectees.

Governance

Phase IA of the LHWP was stained by *corruption*, which was addressed largely by the political will of the governments of Lesotho and South Africa. This resulted in the successful prosecution of the former Lesotho Chief Delegate and a serving delegate to the LHWC and the sentencing to jail for 18 years (reduced to 15 years on appeal) of the chief executive (CE) of the LHDA as well as two overseas consulting companies, two international contractors, and two agents on a number of bribery charges.

Overview. Because of the major corruption-linked trials associated with the LHWP, this section focuses on the anticorruption aspects of governance. These include: a discussion of the factors critical to the success of the anticorruption trials in Lesotho; actions taken by project financiers, such as the World Bank and the European Bank for Reconstruction and Development (EBRD) in response to the outcomes of the trials in Lesotho; as well as changes in tendering procedures of TCTA. Finally, this section discusses the anticorruption policies of the Development Bank of Southern Africa (DBSA), one of the LHWP financiers. The findings (see p. 23) also draw some lessons from the SADC Protocol Against Corruption, the first sub-regional anticorruption protocol in Africa, which was adopted by the SADC Heads of State and Government at their August 2001 Summit held in Malawi. Discussions with Government stakeholders in Lesotho and South Africa indicate a determination to apply the lessons learnt from Phase I to minimize the risks of corruption occurring in Phase II of the LHWP.

Three factors were critical to the *success of the anticorruption trials in Lesotho*. One involved financial transparency. In addition, two precedent-setting decisions were made at these trials in relation to bribery and jurisdiction (Earle, Lungu, and Malzbender, 2008):

- (a) **Financial transparency.** The role of the Swiss government was also critical because through changes in its banking secrecy laws in 1997, it was able to hand over relevant bank records to the Government of Lesotho prosecutors, which were critical to securing the six convictions mentioned above;
- (b) **Bribery.** What had to be proven by the prosecution? It was ruled that the crime was committed when the agreement was made. No action on the part of the public official needed to be proven, making the prosecution of the crime much easier; and
- (c) **Jurisdiction.** Where did the crime take place? It was not possible to say where the agreement to bribe took place, but its impacts were felt in Lesotho, thus jurisdiction was ruled to be in that country.

Overall, the Government of Lesotho has secured nine convictions to date, including a former chief delegate and a serving delegate to the LHWC as well as a former Chief Executive of the LHDA. Two other individuals, one Canadian firm, and three European firms were also convicted. Fines and settlements amounted to M 71.8 million—that is, over US\$ 10 million (World Bank, 2007a).

In relation to addressing *project corruption* issues by project financiers, the World Bank took an important role through *debarring* two consulting companies that were convicted

of bribery in the project: Acres International of Canada for 3 years, from July 2004, and Lahmeyer International of Germany for 7 years, from November 2006. However, the debarment process was slow with 11 months intervening between the conclusion of the Acres appeal of its conviction of bribery in Lesotho and its debarment and 32 months in the case of Lahmeyer. In both cases, evidence of bribes paid by these companies had been available since the indictments were handed down by the Attorney General of Lesotho in 1999. The repercussions for Lahmeyer International were magnified, when they were *cross debarred* by the European Bank for Reconstruction and Development (EBRD) in February 2007, which declared that “Lahmeyer International would be ineligible to be awarded EBRD-financed contracts until such time as Lahmeyer had implemented an anti-corruption program, satisfactory to EBRD.”

In *South Africa*, as a direct consequence of the Lesotho anticorruption trials, TCTA made two modifications in its tendering procedures (Earle and Turton, 2005):

- (a) As part of the prequalification process, bidders are required to declare whether they, or their agents, have been accused of bribery anywhere in the world during the previous 10 years. If this is the case, while not being automatically debarred, companies would be subject to being asked “in depth and uncomfortable questions”; and
- (b) As part of the contract documentation, companies will be required to declare that: (I) they have not been convicted of bribery, corruption, or fraud in the previous 10 years; (II) nor have they committed bribery; and (III) nor will they bribe in relation to the current contract. If during the course of contract implementation, it is found that the contractor is found not to have correctly disclosed information or is convicted on charges of bribery, then it would forfeit any profits it would derive from the contract—deemed at five percent of the total contract price.

DBSA’s Anticorruption Policies. The DBSA, located in South Africa and one of the cofinanciers of the LHWP, adopted the King II Report on Corporate Governance recommendations on corporate governance in the public sector in South Africa. DBSA emphasizes anticorruption in its code of ethics, linking integrity to poverty reduction and sustainable development. DBSA notes in its internal audit policies, “We see governance (anti-corruption) and poverty reduction as deeply intertwined and interlinked.” Some aspects of DBSA anticorruption policy are: not to get involved with any entity convicted of illegal activities on public/private projects; “whistle-blowing” safeguards; and declaration of assets and conflicts of interest (particularly for Board members).

Sustainability

This section focuses on sustainability as it affects the physical, institutional, financial, environmental, and social aspects of the LHWP as well as its impacts on poverty alleviation.

Physical Sustainability. From a technical point of view, the LHWP is considered to be “world class”; this is because it was designed by highly capable consultants and implemented by world-class contractors using the latest technologies, including tunnel boring machines (TBMs). Noteworthy achievements included the Katse Dam winning the Project of the [20th] Century award from the South African Institution of Civil Engineers. In addition, the Mohale Dam won the 2005 Fulton awards from the Concrete Society of South Africa for Best Construction Engineering Project and Best Construction Techniques. In relation to maintaining the structural integrity of all its dams, tunnels, and related infrastructure, the LHDA is pursuing a program of activities to be certified under an internationally recognized safety, health, environment, and quality assurance (SHEQ) risk management program. This will enable the LHDA to ensure: (a) optimal transfer/delivery of high quality water to the Republic of South Africa; and (b) efficient, cost-effective electricity production for Lesotho (LHWP, 2008).

In addition, the LHDA is arranging for the transfer of non-core assets to appropriate line ministries.

In relation to *institutional sustainability* of the LHDA, the principal lessons are:

- To expedite decision making for such a high-profile project, it would have been appropriate to locate the authority within the Prime Minister’s Office or under the Council of Ministers, rather than having it report to the line ministry. This could also have enabled the Government of Lesotho to better grasp the development opportunities presented by the project as well as improved coordination and management of the transfer of assets once Phase 1B of the project was completed; and
- There is a need for ongoing oversight to assure that the LHDA continues to act transparently and accountably in meeting its responsibilities, particularly in relation to the environmental and social aspects of the project.

Financial sustainability of the LHWP relates to the water transfer and the hydroelectric components of the project. The main lessons learned were:

- Financial sustainability of the project’s water transfer component is assured by South Africa’s continued economic growth and increasing water demand in the Gauteng region. Revenues are paid from a proportion of the Vaal River water user tariff; and
- Largely due to government inaction on its bulk tariff (which has been pegged at the 2001 level, making it one of the cheapest in the world), the ‘Muela Hydropower Station has been lingering in financial uncertainty for the past 8 years. This has been costly in terms of efficiency, management capacity, and the ability to run the station as a commercial entity, including repaying the loans secured to finance its construction.

Environmental Sustainability. Table 7.1 sets out the major steps that LHWP undertook to address environmental sustainability issues. This section focuses on achieving downstream environmental sustainability. This was achieved through addressing the downstream impacts of the LHWP using a combination of environmental assessments and economic analysis to develop an instream flow requirements (IFR) policy. An auditing and monitoring program, under different contracts, was put in place as part of the management of this policy. An important feature of the EF work was the decision support system that was put in place (Brown and Watson, 2007). Environmental flows assessments (EFA) were undertaken over the period 1996–2001 at an estimated cost of US\$ 2 million. The EF study costs include the assessments for both Phase I (IA and IB) and the proposed Phase II project. Of this amount, approximately US\$ 22,000 correspond to the Phase II assessment. They were driven by the environmental and social requirements of the LHWP treaty (see p. 2) as well the experience that managing dams in ways that mimic natural river flows can help offset some of the worst damages, particularly to some 39,000 people impacted directly or indirectly downstream from the dam (Hirji and Davis, 2009). While the EF study costs are substantial, as shown in Table 4.1, they amount to only 0.7% of the total project costs, while the downstream compensation costs amounted to 0.5% of the total project costs. In comparison, the cost of upstream resettlement was US\$ 68 million.

Economic issues included loss of royalties from the sale of water to South Africa, forgone hydropower revenues, and compensation to downstream communities for predicted losses of riverine resources (primarily shrubs and fish, which together account for approximately 65% of the estimated household losses) (Klasen, 2002).

Based on these studies and detailed discussions involving the LHWC, the the LHDA, and the World Bank, the LHDA developed a comprehensive policy and set of procedures relating to IFRs (LHDA, 2003). This included increasing the minimum flows specified in the Treaty, which corresponded to approximately 3–5 percent of the mean annual runoff (MAR) for the respective river systems (Hirji and Davis, 2009), by 300–400% through changes to the dam outlet valves and operating rules (World Bank, 2007a). According to Tromp (2006), the agreed releases as a percentage of the MAR at the dam sites were as follows: Matsoku (39.7), Katse (12.1), and Mohale (10.3). In particular, the dam outlet works for the Mohale dam were modified to incorporate a large release pipe as well as a multilevel release facility for smaller flows and a larger low-level facility for flood release (King and Brown, 2003). The policy also provides for compensation to be paid to the downstream affectees and the LHDA has reported on the payments made through June 2007 (World Bank, 2007a).

The first systematic audit of the IFR was completed by the LHDA in March 2007 (Institute of Natural Resources—INR, 2007) that is, more than 9 years after the completion of Katse Dam; 4 years after the completion of Mohale Dam, and 3 years after the commencement of the collection of environmental monitoring data (Hirji and Davis, 2009). The audit found that its implementation had been in full or partial compliance with approximately

Table 4.1. Comparison of Environmental Flow Study Costs with LHWP Downstream and Upstream Compensation and Total Phase I Costs (2004 Prices)

Phase IA+IB	US\$ million
EF Study Costs	2
Downstream Compensation	14
Upstream Compensation	68
Total Project Costs	2,900

Source: Brown and Watson (2007).

60% of the IFR's Policies and Procedures (World Bank, 2007a). Specifically, many of the biophysical indicators had changed as predicted (e.g., downstream of Mohale dam 64% of the biophysical indicators had changed as predicted, 25% had shown no change, and 10% had changed in the opposite direction from what was predicted). Significantly, the incidence of woody vegetation, economically the most valuable resource for cooking and heating for highland dwellers, increased rather than declined as predicted. The predicted loss of this vital resource was the basis for more than half of the total compensation payments. According to the LHDA report, this increase in the incidence of woody vegetation was caused by new trees colonizing in the channel islands. This seems to be due to the failure to implement the prescribed flushing flows that would otherwise have removed vegetation as predicted in the EFs studies. However, with the overtopping flood at Katse in 2006 and expected future floods, it is expected that most of the in-channel trees will be removed. This, together with the progressively reduced number of cuttings and seeds to reach these sites (because they will be trapped behind the dam), means that it is likely that, over time, the woody vegetation will decline, as predicted (Brown, 2008). The results of this audit point to the critical need for continuous close monitoring of the implementation of the IFR policies and procedures. IFR policy will be reviewed by the LHDA every 5 years following the audit but the procedures will be amended from time to time (World Bank, 2007a).

Finally, because of the complexity of addressing the downstream impacts of dams, effective development and implementation of an IFR policy needs to be backed up by an adequate decision support system. Based on the work of Brown and Watson (2007), Table 4.2 sets out a six-step decision support system for EFs.

Table 4.2. Six-Step Decision Support System for Environmental Flows

Step No.	Description	Comments
1	Establish a value system and criteria for decision makers to follow.	See sustainability criteria in South Africa's National Water Act (1998).
2	Ensure that engineers understand and value the contributions of environmental and social scientists—and design/operate dams accordingly.	Effective multidisciplinary teams are key to the sustainable management of dam projects.
3	Establish an adequate knowledge base early in project development (even based on limited data), thus underpinning decisions with a sound database.	Baseline environmental data can be collected at a very early stage independent of a specific planned water resources development.
4	Undertake a good—and comprehensive—economic analysis of the project, including financial aspects, when appropriate.	Analysis needs to take into account costs of EF studies; engineering and construction costs of design changes; additional O&M costs; economic and financial impacts on yield of IFR policy; compensation payments; and consultation and communication.
5	Establish a decision framework that allows decision makers to explore tradeoffs in a non-threatening environment at an early stage in the decision process.	Presentations should show tradeoffs between river condition; financial impacts (loss in royalties); and economic impacts.
6	Assessing the institutional context and the presence of effective “control” agents could well be considered as a sixth building block to determining whether or not EF work is likely to be effective.	In cases where “controls” are absent, it would be worthwhile to create them before embarking upon EF work.

Source: Brown and Watson (2007)

One of the challenges in agreeing on environmental releases was the absence of a clear policy and legal framework in Lesotho that recognized the environment as a clear user of water. The World Bank's environmental assessment safeguard policy was the principal driver for the EF assessment (Hirji and Davis, 2009). Without a policy or legal framework, EF initiatives are burdened not only with determining environment flows but also with giving them legitimacy (Hirji and Watson, 2007).

Social Sustainability. In relation to this topic, the LHWP focused on community development, resettlement and compensation, natural environment and heritage, monitoring, and evaluation as well as a separate public health program. (World Bank, 2007a). This write-up draws from the World Bank report on the Lesotho project report as well as from that of Scudder (2005), with a particular focus on resettlement and compensation:

- (a) Table 4.3 sets out the LHWP's social impacts in terms of number of households relocated, number of households losing fields, and number of sharecroppers affected by the reservoirs/weirs constructed under Phases 1A (Katse and 'Muela) and 1B (Matsoku and Mohale) of the project.

Table 4.3. Upstream Social Impacts of the LHWP—Phase I

Phase	Reservoir/ Weir	No. of Households Relocated	No. of Households Losing Fields	No. of Sharecroppers	Overall Favorable Outcome?	Comments
1A	Katse	71	–	–	–	365 families lost all their fields.
1A	'Muela	0	–	–	–	The majority of affected households benefited from improved roads and sanitation services. Households also benefit from tourism.
1B	Mohale	Stage 1: 99	–	–	–	Resettlement carried out in three stages: Stage 1 (pre-dam construction activities); Stage 2 (pre-impoundment); and Stage 3, whose households lost more than 50% of their land (after FSL impoundment).
		Stage 2: 216	–	–	–	
		Stage 3: 103	–	–	–	

Sources: Scudder (2006); World Bank (2007a)

- (b) For the resettlers replacement housing was generally superior over what had previously existed, with resettlers having the option to choose between traditional housing and a “modern” house;
- (c) The compensation program was comprehensive and provided for individual household compensation (for losses in fixed assets, including dwellings, gardens, trees, fields, kraals, and graveyards) and for communal loss of grazing lands, access to common property, brushwood fuel, useful grasses, medicinal plants, wild vegetables, and downstream resources resulting from changes in instream flows. After much discussion, it was broadly accepted that this program would consist of a blend of actual compensation (e.g., the project agreed to pay the value of agricultural production over 50 years) and development programs (such as in agriculture, tourism and small business support);
- (d) Infrastructure, including access and feeder roads, schools, and clinics were successfully provided although with some delays. Particularly notable was the water and sanitation program, which provided piped water systems, ventilation improved pit (VIP) toilets, and other facilities to 126 villages throughout the Phase 1B project area, where no such facilities had previously existed;
- (e) In terms of implementation, the consensus is that the LHDA did a good job in terms of replacement housing, compensation for individual households, and infrastructure provision. However, communal compensation payments have proven to be problematic because of institutional weaknesses. Since the Government of Lesotho indirectly influences LHDA through the LHWC, largely because of the lack of direct government oversight, progress in the development programs has suffered; and
- (f) Overall insufficient data were gathered for an initial benchmark study against which living standards could be measured (Scudder, 2005). In relation to Phase 1B, determining the impacts upon affected households has been undermined by inefficiencies in the design of monitoring and evaluation systems. As a result, data were not collected regularly nor reported in a timely or effective manner. These difficulties have made it extremely difficult to determine whether Articles 7(18) or 15 of the treaty were met. The WB (2007a) reports that “those affected by project are in about the same financial condition as before, with compensation having replaced own production.”

Poverty Alleviation. For Lesotho, one of the primary objectives of the LHWP is to utilize its export revenues toward poverty alleviation and economic stability. This is particularly important, given that since 1995, Lesotho’s rank in the Human Development Index (HDI) has declined and it is now ranked 28th lowest worldwide (World Bank, 2007a). Project revenue was used to alleviate poverty in two ways: (a) through budget support; and (b) through the use of development funds. From very early in the project development (1992), the Government of Lesotho made the decision to use some of the project revenues to explicitly target poverty reduction projects and activities under the Lesotho Highlands Revenue Fund (LHRF), which was managed by the LHDA. Using revenues from Phase 1A of the project, the LHRF was designed to support community-driven projects in Lesotho. Some M 144 million (US\$20.4 million in 2006 dollars) have been spent on infrastructure projects using local labor, such as roads, small dams, footbridges, and forestry and soil conservation projects. In its Project Appraisal Document for Phase 1B of the LHWP (1998), the World Bank pointed out some weaknesses in the management of the LHWP in terms of technical review (thereby raising questions on the sustainability of some of the investments), accountability and sustainability. The selection of some of the projects was not transparent, technical designs were weak (and hence some of the dams and roads were washed away), and management weaknesses in some cases were detected, leading in some

cases to the initiation of legal proceedings for fraud. In addition, the LHRF was highly politicized due to the leading role that members of Parliament played in the identification of projects and beneficiaries in their constituencies and the lack of guidelines in accessing funds (World Bank, 2004).

To address these weaknesses, the Government of Lesotho replaced the LHRF with the Lesotho Fund for Community Development (LFCD). These included new budgetary procedures, annual technical and financial audits, and procedures to make them publicly available. Management of the LFCD was entrusted to a Board (reporting to the Prime Minister), which evolved to a majority of its members being government ministers. The LFCD was supported by a Technical Committee consisting of Technical Staff. The LFCD, supported by a US\$4.7 million Learning and Innovation Credit, was a prerequisite for World Bank support of Phase 1B of the LHWP. However, the LFCD did not perform adequately for a range of reasons and was rated as Highly Unsatisfactory in the Project Completion Report (WB, 2004). The report was very critical of the performance of the Borrower (Government of Lesotho) and the Bank. There were also concerns about the lack of transparency in the use of resources transferred to LFCD over time (WB, 2007a). As part of the decentralization process, the LFCD was transferred to the Ministry of Local Government in 2005/06. Thus on two occasions, Trust Funds, linked to the LHWP, failed to sustainably alleviate poverty in Lesotho.

Through the formal budget framework, the LHWP made significant contributions to economic stability and poverty alleviation through contributions to government revenues. Annual revenues are estimated to be US\$ 36–38 million (in 1995 prices) for the next 50 years, which corresponded to approximately 2.4% of GDP and 5.9% of government revenues in 2004. According to the WB (2007a), government expenditures amount to approximately 50% of GDP and are allocated within a solid framework in accord with the country's Poverty Reduction Strategy, with social sectors (including free primary education and expanded health care) accounting for roughly 40%. Two-thirds of projects funded under the 2004/05 development budget were deemed to be directly poverty related.

Communication

Context. Communication in the LHWP evolved in accord with what was otherwise regarded as the “state of the art” of the development and implementation of large hydraulic infrastructure projects, which includes extensive consultation with project stakeholders and particularly the host community. Other factors influencing the importance of communication are: the increasing complexity of projects including their governance arrangements (partly reflecting the increased emphasis on multistakeholder approaches); as well as the increasing number of public-public and public-private ventures. In fact, consultation and communication account for approximately 35% of the costs of the feasibility study of Phase II of the LHWP (see pp. 19–21). This section, however, concentrates on communication in Phase I of the project.

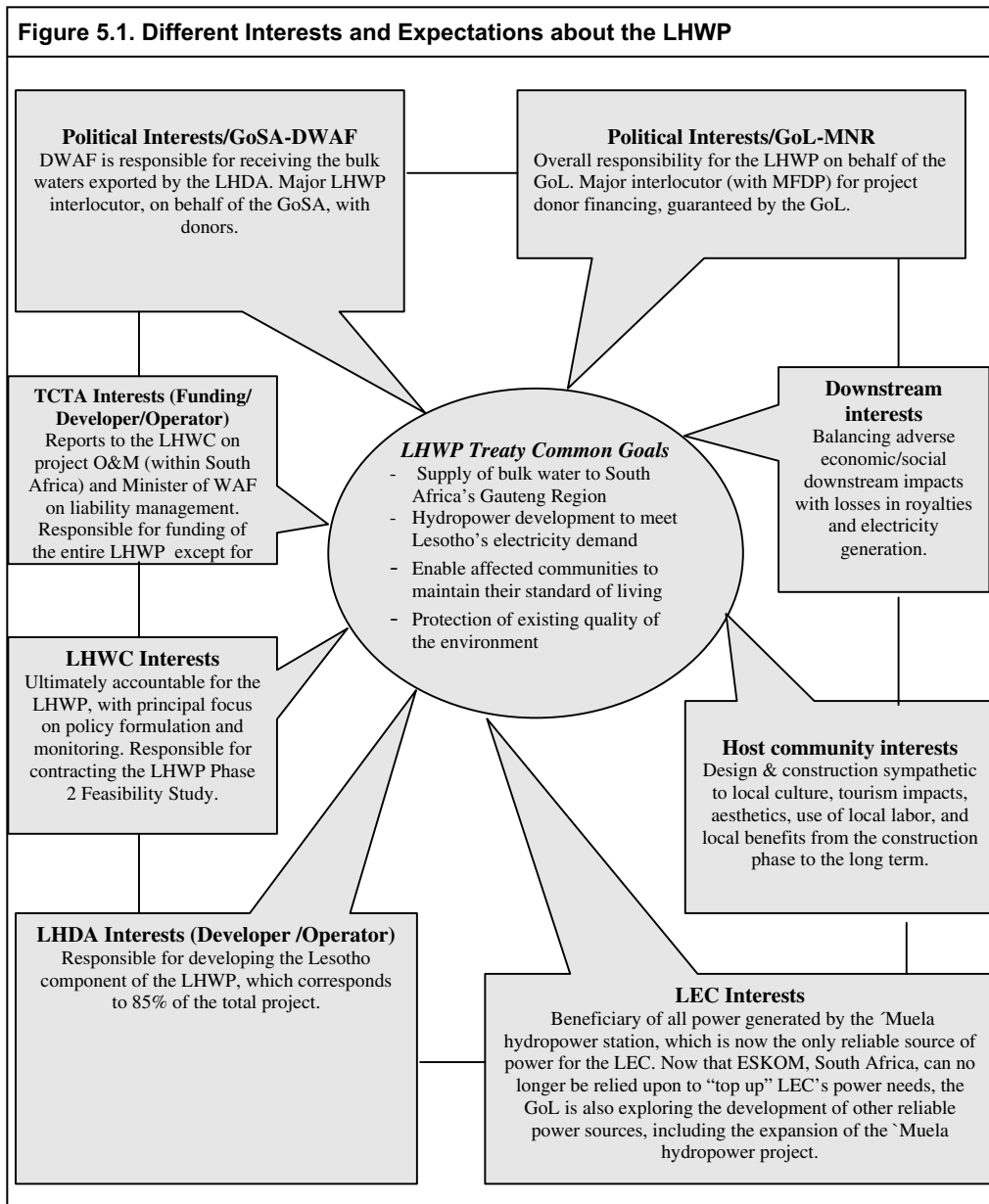
The mix of interests and expectations relating to the LHWP. Figure 5.1 is a simplified illustration of the range of interests involved in the development of the LHWP. While one aim of the communication strategy is to help stakeholders understand and reveal what is needed to balance varied interests; in addition, principles such as “sufficient consensus” come into play to arrive at what are ultimately political tradeoffs.

The project has utilized all the main branches of communication. The LHWP case is also interesting to communication practitioners because it clearly illustrates the practical relevance of the four main branches of communication theory and practice today, namely: development communication, internal communication, corporate communication, and advocacy communication. Table 5.1 briefly summarizes how these branches of communication were relevant to the LHWP and are relevant to water infrastructure projects generally.

Implementation. While in practice, the LHWP communication strategy appears to have been comprehensive and inclusive, it seems to have been developed without undertaking a formal communication based assessment (CBA), which would have systematically identified the project’s interested and affected parties. As a proxy for the CBA, the project’s EIA identified a very important subset of interested and affected parties. The LHWP involved the following communication activities and mechanisms: Media Communication; Internal Communication; Community Liaison Assistants (CLAs); Community Area Liaison Committees (CALCs) and *pitsos*, which were public consultations with the host communities; the LHDA’s grievance procedures; independent third-party adjudication of grievances; annual stakeholder conferences; Public Information Centers at Katse and Mohale dams; the LHDA’s Web site; and government-endorsed, widespread distribution of the World Bank’s LHWP Aide-Mémoires. Further information on these activities is provided in Table 5.2.

Specific Challenges. The LHWP posed a number of challenges in which communications has the potential to make significant impacts:

- (a) **Internal Communication.** It is important to clearly assign internal duties and responsibilities, prior to going outside. This was a problem in the Highlands, where in many instances, consultants approached local stakeholders with conflicting



information and messages. Internal information sharing (through the use of newsletters, for example) is also important in reaching a common understanding on where things stand;

- (b) **Building Capacity.** Information sharing with local stakeholders should be part of a strategy to build local capacity to enable local stakeholders to make informed decisions as well as create awareness of responsibility for undertaking specific tasks. However, no written material was left to the communities as evidence of project-stakeholder communication. There is a sense that this is an area the LHDA needed to focus more on;

Table 5.1. Relevance of the Four Branches of Communication to the LHWP

Development communication	<ul style="list-style-type: none"> ■ Systematic use of analytical tools like surveys and opinion polls to better understand perceptions, behaviors, and political dynamics of complex water projects ■ More comprehensive communication strategies; targeted messages; more creative and broad-based communication implementation and evaluation ■ On the LHWP this aspect supports all streams of communication.
Internal communication	<ul style="list-style-type: none"> ■ Effective communication/communication capacity within organizations and multistakeholder governance structures, efficiently exchange information and views, arrive at understandings for functional partnerships ■ e.g., entities such as LHDA; DWAF; TCTA
Corporate communication	<ul style="list-style-type: none"> ■ Communicating what a public or private sector enterprise or CSO does, its code of ethics, how it will seek to build trust and public confidence to engage in dialogue on projects (or in partnerships that it joins), and how it will respond to relevant public policy/governance reforms ■ LHWC; LHDA; TCTA; DWAF corporate communication
Advocacy communication	<ul style="list-style-type: none"> ■ Communicating key issues effectively to raise awareness and to win support with the public and/or to influence relevant policy-making according to the interest, whether it is a civil society, private sector, or government entity ■ LHWC; LHDA; DWAF, TCTA, in terms of their positions on the LHWP

- (c) **Annual Stakeholders' Conference.** This conference received mixed reviews because many felt that not all the interested and affected parties were properly represented. Although well organized, these conferences should have striven to be as legitimate as possible and not apparently staged for communities supportive of the LHWP. In addition, given the fact that negative feedback was largely disregarded, the conference reports should have included both positive and negative feedback.
- (d) **Addressing the high incidence of HIV/AIDS in the Highlands.** Given the continuing high incidence of HIV/AIDS in Lesotho (including in the Highlands), a consensus seems to exist that projects, such as the LHWP should have a separate component that addresses this disease. This project component would be supported by a holistic communications strategy with special attention to contractor staff; and
- (e) **Developing and implementing an effective EF policy for the LHWP.** Pages 22–24 set out the steps taken by the LHDA and other stakeholders to develop and implement an effective LHWP EF policy. Communications had a limited role in facilitating agreement between the various stakeholders on the EF policy. Effective communications during implementation can be particularly important in: (I) assuring that the dam operators faithfully implement the agreed EF policy, particularly in relation to (short duration) peak flows; and (II) informing the downstream project affectees on the implementation of the EF policy, particularly in relation to the peak water releases.

Table 5.2. List and Categorization of LHWP Communication Activities/Mechanisms

Activity No.	Activity Description	Audience	Category	Responsible Agency	Comments
1	Media Communications	The Media	AC, CC	LHDA	Strong involvement of ministers with constant briefs to the Prime Minister
2	Internal Communication	LHDA Management and Staff	IC	LHDA	Need to assign responsibilities for who communicates what outside; internal information sharing
3	Community Liaison Assistants	Host Communities	DC	LHDA	Lapsed on construction completion
4	Community Area Liaison Committees	Host Communities	DC	LHDA	Still functioning
5	Pitsos	Host Communities	DC	Government of Lesotho, LHDA	These were public meetings to enable Government of Lesotho to consult with affected communities
6	Grievance Procedures	Host Communities/ Downstream Communities	DC	LHDA	Need to be timely and adequately resourced
7	Grievances: Independent Third-Party Adjudication	Host Communities/ Downstream Communities	DC	LHDA	Carried out by the Ombudsman
8	Stakeholder Conferences	LHWP Stakeholders	AC; CC; DC	LHDA	Organized yearly
9	Public Information Centers	General Public	CC	LHDA	Located at Katse, Mohale, and 'Muela dams. The LHDA plans to transfer these centers to the Ministry of Tourism.
10	Web site	LHWP Stakeholders; General Public	AC; CC; DC	LHDA	See www.lhda.org.ls ; and Web sites of DWAF and TCTA.
11	Selective distribution of WB Aide-Mémoires	Civil Society and Other Stakeholders	AC; DC	WB	The LHDA agreed to this activity

Acronyms: AC: Advocacy Communication; CC: Corporate Communication; DC: Development Communication; and IC: Internal Communication

Sources: World Bank (2007a), Mochebelele (1999)

Phase II Feasibility Study

The purpose of this study was to provide the technical background and information required by the governments of the Kingdom of Lesotho and the Republic of South Africa) to enable them to agree on the extent of a further phase of the project, the timing of such a further phase, the institutional framework under which it is to be implemented, and other relevant aspects. The Torso required the consultant to pay particular attention to the following aspects: identification of the “best” development option; public participation process; environmental and social aspects; instream flow requirements; sustainable development opportunities; outputs for the various development options; and schedule. About 35% of the study budget was dedicated to consultation and communication activities (LHWC, 2004).

Identification of the “Best” Development Option. The study was subdivided into two interrelated but discrete study stages. Stage I of the study required the consultant to:

- Investigate, study, and report on all feasible further phases of development required to complete the LHWP (development options).
- Recommend the “best” development option.
- Within the best development option, recommend the “best” solution(s) for Phase II to be taken forward into Stage II of the study.

Following approval by the client of the Stage 1 recommendations, the Stage 2 studies were to develop the recommended Phase II scheme(s) in greater detail.

Public Participation Process. The Torso required this process to be ongoing throughout Stages 1 and 2 of the study. It was envisaged that stakeholders (this includes the public) were to be made aware of the extent of the study with the following objectives:

- To improve decision making by taking stakeholders’ views into consideration.
- To effect sustainable development in partnership with affected communities.

The consultant was also required to draft periodic progress bulletins, in a form suitable for the client to release to the media.

The consultant was also tasked to hold a series of participatory consultation meetings and/or workshops with relevant stakeholders in Lesotho and South Africa to ensure that the general public’s needs were taken into account, and to develop a general awareness and acceptance of the development options. In particular, the consultant was expected to design the consultation processes so that both incorporate to obtain sufficient input for layout and scenario definition, technical requirements and economic viability assessment.

Social and Environmental Impact Studies. The consultant was required to carry out an assessment of the environmental and social impacts of the development options following internationally recognised procedures, such as the World Bank procedures for Environmental Assessment. The consultant was required to review available data and reports, including information regarding socioeconomic conditions and impacts to be expected from the development options in consultation with the affected communities. The

consultant also had to take account of the client's experience and existing LHWP policies and principles for further phases on these matters.

Reflecting the Impacts of Instream Flow Requirements (IFR). Since an IFR study for the LHWP was completed during 2002 and covered the specific impacts of Phase I, and impacts on Phase II based on the assumption that the Mashai dam had been implemented, the consultant was required to review the reports of the above study and the IFR policy and procedures adopted for Phase I of the project.

Sustainable Development Opportunities. Also in consultation with the affected communities, the consultant was required to identify any opportunities for sustainable development, which would offset impacts, and identify any appropriate compensation and mitigation measures.

Outputs for the Various Development Options. The consultant was required to undertake system simulations to determine outputs for the various development options identified in Stage I. The simulations were subjected to sensitivity testing using the upper and lower demand curves provided by the client. The consultant was required to take into account the impacts of IFRs on the phasing and timing of the development options. In carrying out this task the consultant was required to assume an IFR release for each development option equivalent to 15% of the bulk available MAR.

Schedule. After a competitive bidding process, a contract was awarded for C4 SEED Joint Venture consisting of Consult 4 (a consortium of 4 South African companies led by Ninham Shand) and SEED CONSULT (a Lesotho consulting company set up specifically to undertake this study). According to LHDA (2008), the LHWC has indicated that the preferred option for Phase II of the LHWP is the 165-meter high Polihali dam in the Mokhotlong District. The Phase II feasibility study was carried out between October 2005 and May 2008.

Communication. According to the LHWC, the following new communication approaches were adopted in this study:

- (a) NGOs treated as one of the stakeholders;
- (b) Careful drafting of messages so as not to raise false expectations;
- (c) Information briefs provided to consultants before they went in the field;
- (d) Sought highest possible level of endorsement for the key messages and left the day to day communication work to the project unit;
- (e) Established an internal communication strategy as well as an external one;
- (f) More audio visual tools were prepared not only for information but also for education purposes. This is also very important for psychological preparedness for resettlement;
- (g) Increased proximity communication activities near the project site;
- (h) Linked internal information disclosure policies to HR functions to avoid communication gridlocks that can result in controversy and corruption (communication/governance); and
- (i) Local selection of community liaison officer(s) responsible for communicating with the local stakeholders.

Decision-Making on the LHWP Phase II. Under the *Vaal Augmentation Comparison Study*, DWAF determined, on technical grounds, whether the LHWP Phase II or the Tugela/Vaal Transfer Scheme (the feasibility study of which has been updated) should be the next scheme to augment the Vaal River System. The outcome of this study "led to the decision by the Minister of Water Affairs and Forestry and ratified by Cabinet (on December 3, 2008) to proceed with the negotiations of the Government of Lesotho for the implementation of Phase II of the LHWP." In a media release explaining this decision (DWAF, 2008), the following points were underscored: (a) Because the project has low energy requirements

(the water can be transferred to South Africa by gravity), the LHWP Phase II Project was the preferred option, unlike the Tugela/Vaal transfer scheme, which is energy intensive because water must be pumped from the Thukela River over an escarpment; (b) Because the LHWP is embedded in an international river system, the other countries (Botswana and Namibia) have been informed of the intention of South Africa and Lesotho to develop the LHWP Phase II scheme. These countries would be kept abreast of further developments. According to Tanner, Tohlang and Van Niekerk (2009), the latter two authors being respectively the Chief Delegate of the GoL to the LHWC and Head, Delegation Study Management Committee, Department of Water and Environmental Affairs, South Africa (formerly DWAF), the Phase II Implementation Program will be based on a Memorandum of Understanding (MOU) to be signed between the Governments of Lesotho and South Africa, which “will allow for the studies to be reviewed and approved as well as for the parties to agree on the principles of implementation.”

Progressive Learning Approach Used in the LHWP

As set out in Table 7.1, the LHWP is notable for its progressive learning approach as it moved from the implementation of Phase IA to Phase IB to Phase II. It demonstrates one of the advantages of undertaking this large project in stages. It also is indicative of the shifts that are occurring regionally and globally in approaches to dam planning and management as they have become more inclusive and governance has become more important. From the commissioning of Phase IA in 1998, the LHDA focused increasingly on operations to the point where, subsequent to the commissioning of Phase IB in 2004, it was organizationally “right sized” to operate and maintain the existing water resources infrastructure and implement the treaty obligations on compensation, resettlement and environment. The first column of the table shows the principal project focus, in terms of governance, sustainability and communications, under Phase IA. The subsequent columns focus on Phases IB and II and the following questions on how the situations in these phases compared to Phase IA: (I) What emphasis shift there was or what was done differently as a result of learning or events; (II) what was increased or given more emphasis; and (III) what was decreased, given less emphasis, or safeguarded against.

Table 7.1. Progressive Learning in the LHWP

	Phase IA (Implementation): 1990–1998	Phase IB (Implementation)/ Phase IA (Operation): 1998–2004	Phase II (Preparation)/ Phase I (Operation): 2005–
Governance	Assuring that the LHWP’s governance arrangements were effective and implemented in accord with the 1986 treaty. This included establishment and functioning of three new organizations: JPTC, LHDA, and TCTA.	<p>Protocol VI was agreed in 1999, to make the institutional arrangements more speedy and responsive: (I) LHWC (formerly the JPTC) retained ultimate responsibility for the project but with a shift to more of a policy-formulation and monitoring role; and (II) the LHDA’s Board assumed a greater executive role, but its members were to be appointed on the basis of merit by the LHWC, based on a set of proposals of the Government of Lesotho.</p> <p>Corruption. From the decision to dismiss the LHDA’s CE to the present day, the LHWP has been roiled by corruption. Indictments were made against 19 groups and individuals. This resulted in the successful prosecution and sentencing to jail for 18 years (reduced to 15 years on appeal) of the chief executive (CE) of the LHDA on a number of bribery charges as well as two overseas consulting companies, an international contractor, and two agents.</p>	<p>LHDA “right sized” to operate and maintain the existing water infrastructure and implement the treaty obligations on compensation, resettlement and environment.</p> <p>LHWC managing the Phase II Feasibility Study.</p> <p>After comparing on technical grounds the results of the LHWP Phase II Feasibility Study with the Feasibility Study of the Tugela/Vaal Transfer Scheme (entirely within South Africa), DWAF recommended proceeding with the LHWP Phase II project.</p>
Sustainability	Assuring compliance with Articles 7(18) and 15 of the LHWP treaty including maintaining “a standard of living not inferior to that obtaining at the time of first disturbance” and ensuring 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 affected by the Project.”	(I) Preparing a formal EIA, the EAP, implementation plans, and performance indicators prior to the beginning of project implementation (except for the instream flow requirements—IFR—studies). Under Contract 1012, one consultant was contracted to prepare the Resettlement and Development Study (of the EAP), which mapped out lost and remaining household resources and planned for their replacement through an integrated compensation and development program. Budget allocations for the environmental and social components of the EAP	<p>LHWC: (I) Preparing a formal EIA, the EAP, implementation plans, and performance indicators prior to the beginning of project implementation (including instream flow requirements—IFR—studies).</p> <p>LHDA to ensure: (II) optimal transfer/delivery of high quality water to the Republic of South Africa; (III) efficient, cost-effective electricity production for Lesotho, (IV) optimal operation of LHWP facilities, including maintaining the structural integrity of all dams, tunnels and related infrastructure.</p>

Note: No formal EIA was prepared prior to commencement of project implementation. Resettlement of households and communities took place within the reservoir basin (e.g., Katse).

increased from US\$ 67 million in Phase IA (about 5% of capital costs) to US\$ 115.6 million in Phase IB (about 15% of capital costs); (II) households and communities requiring resettlement were given a choice of location within the reservoir (i.e. Mohale) basin or in other locations within Lesotho; (III) an enhanced focus on local contractor participation through specific bidding document provisions. For example, the Basotho population benefited US\$ 25 million in Phase IB consulting work compared to US\$ 18.4 million in Phase IA; (IV) in relation to project construction, setting and (broadly) meeting lower targets on the number of fatalities as well as the disabling injury frequency rate; (V) improved management of seismicity risks, through the establishment of an emergency preparedness plan; improved downstream communication; and the installation of seismicity instrumentation.

Activities to be certified under an internationally recognized safety, health, environment and quality assurance (SHEQ) risk management program; and (V) transfer of non-core assets to appropriate line ministries.

Development communication
(information dissemination)

(I) Appointment of Community Liaison Assistants (CLAs); (II) setting up of Community Area Liaison Committees (CALCs); (III) handling of grievances by host and downstream communities, including independent third party adjudication (by the Lesotho Ombudsman); (IV) organization of annual stakeholder conferences; (V) opening of Public Information Centers (PICs) at Katse and Mohale; (VI) setting up of a LHWP Web site; and (VII) widespread dissemination of WB Aide-Mémoires.

LHWC: (I) 35% of the cost of the Phase II Feasibility Study spent on communication and related consultation activities (Further information in paragraph 45).

LHDA: (II) Because of rightsizing, CLA program was discontinued; (III) continued focus on improving grievance procedures under a monitorable timebound plan; (IV) effectively managing the

LHDA's stakeholders relationships; and (V) because of rightsizing, PICs are being handed over to the Ministry of Tourism.

Communication

Sources: LHWP (2008); Scudder (2005); Tromp (2008); World Bank (2007a)

Comments by Civil Society

Civil society (including national, regional, and international NGOs) has commented on various aspects of the project (see Hoover [2001]; Pottinger [2005]; and World Bank [2007a]), including: lack of transparency in project planning; development benefits for affected communities; national level poverty alleviation, including the operation of the LFCD; social and environmental compliance; handling of grievances; when development brings disease; instream flows; corruption; putting engineering before people; learning from Phase IA; lower than expected ERR; capacity building; the WB's approach to the design and implementation of infrastructure projects; and the WB's lack of political will to learn. Except for quite positive comments on the project's approach toward IFRs, most of these comments have been critical of the project.

Findings

Some *general findings* in relation to this case study include:

- (a) The formulation and institutional arrangements for the LHWP (particularly for Phase I) have been sufficiently robust to adapt to the major political changes in Lesotho and South Africa as well as to changing expectations and the framework for environment and social aspects of large dams over the same period;
- (b) The project is considered “world class” in terms of the design and implementation of its physical infrastructure; its treatment of EFs; as well in meeting its targets in bulk water supply to South Africa as well as electricity generation for sale to LEC. This included the Katse Dam winning the Project of the Century award from the South African Institution of Civil Engineers. In addition, the Mohale Dam won the 2005 Fulton awards from the Concrete Society of South Africa for Best Construction Engineering Project and Best Construction Techniques;
- (c) The LHWP can serve as a model of a “win-win” project through demonstrating the benefits of bilateral government cooperation in the development of an international river that exceed those of individual approaches as well as strengthening political cooperation. This is particularly relevant since approximately 40 percent of the world’s population lives in transboundary river basins and more than 90 percent of the world’s population lives within countries that share these basins. Within Africa, where 61 are shared by two or more countries, well-managed international projects can provide opportunities for poverty alleviation, including though facilitating economic growth; and
- (d) However, because of its uneven record in addressing its social impacts, the project is still struggling to achieve wholehearted support by the host communities, in spite of some very important initiatives to more equitably share benefits in the Highland area. It is vital to understand that development of strong political support for these kinds of projects is predicated on their acceptance as development opportunities, where the host communities feel they are full partners, rather than more traditionally as simply water resources projects developed to meet specific sectoral needs (such as water supply or electricity generation) with environmental and social impacts appropriately ameliorated.

In relation to *governance*, the principal findings of this study are:

- (e) In addressing corruption issues, *government political will* is key. In accord with the SADC Protocol Against Corruption, bribery should be criminalized and vigorously prosecuted. Anecdotal evidence points to the effectiveness of debarment in changing the culture of corruption, particularly in relation to contracts entered into by overseas corporations and developing country agencies, including in the water sector;
- (f) However, the focus should be on *prevention* rather than *prosecution*. The SADC Protocol Against Corruption sets out a number of preventative measures and mechanisms (see p. 4). In part due to experience with the LHWP, good operating

practice now requires that projects include governance improvement plans (GIPs) based on corruption risk assessments at the macro, sectoral, and project levels (Transparency International, 2008). More support is needed at the project level to develop indicators of corruption; for example, the World Bank has identified the top ten indicators relating to project level fraud and corruption (World Bank, undated); and

- (g) Emerging good practice also focuses on the key role that the project developers/proponents can play in combating corruption, through the adoption of accepted practices of *good institutional governance*. A good example is the King II Report on Corporate Governance, which has articulated a code of good corporate governance that is finding regional acceptance in Botswana (by the Water Utilities Corporation) and South Africa and which has been adopted by LHWC/LHDA.

In relation to *sustainability*, the principal findings of this study relate to environmental sustainability; social sustainability; and poverty alleviation.

- (h) There are four findings in relation to *environmental sustainability*:
 - (I) The Environmental Flows Assessment (EFAs) should be conducted in parallel and as inputs to the Environmental Impact Assessment (EIAs) and adequate consultation should be undertaken with other riparians. These activities should be undertaken *prior* to beginning construction work on dams;
 - (II) To enable the results of an EFA to be readily accepted by development-oriented managers, it is recommended to have a policy and legal framework in place to guide the EFA (Hirji and Davis, 2009);
 - (III) Sufficient outlet facilities in dams, to accommodate the agreed EFA recommendations, should be incorporated in the design stage (Tromp, 2006) and in the project financial modeling (WB, 2007b); it is also important to note that flexibility in the operation of the facility is key to ensure the results of impact monitoring are reflected in operating strategies and policies;
 - (IV) Since an agreed IFR policy to meet a “target ecological condition” of a river immediately downstream of a dam will never fully restore a river to its pristine state, in accord with good practice, this policy should also include compensation for the downstream affectees; and
 - (V) Given that the final agreed IFR scenario (the “Fourth”) of the LHWP Phase I was a negotiated outcome that balanced the impacts on downstream users and the losses in royalties and hydropower benefits (which were valued at the wholesale tariff of imports from ESKOM), and given the radically increased nature of the hydropower benefits of the Muela project (due to the inability of ESKOM to supply reliable power to Lesotho and the major increases in fuel costs), these factors could be taken into account whenever the IFR analysis is revisited; and
- (i) In relation to *social sustainability*, in addition to addressing the impacts of dam construction on downstream affectees (see p. 23], the most critical social issue faced by the project was assuring that the treatment of the upstream affectees was in accord with the LHWP treaty. In terms of implementation, the consensus is that the LHDA did a good job in terms of replacement housing, compensation for individual households, and infrastructure provision. However, communal compensation payments have proven to be problematic because of institutional weaknesses. Largely because of the apparent lack of political support by the government of Lesotho, progress in the development programs (such as agriculture, tourism, and small business support) has suffered. However, overall insufficient data were gathered for an initial benchmark study against which living standards could be measured (Scudder, 2005). In relation to Phase IB, determining

the impacts upon affected households has been undermined by inefficiencies in the design of monitoring and evaluation systems. As a result, data were not collected regularly nor reported in a timely or effective manner. These difficulties have made it extremely difficult to determine whether Articles 7(18) or 15 of the treaty were met. While the WB reports that “those affected by project are in about the same financial condition as before, with compensation having replaced own production,” of its very nature, this is not a sustainable solution going forward;

- (j) In relation to poverty alleviation, the principal findings were:
- (VI) Through the formal budget framework, the LHWP made significant contributions to economic stability and poverty alleviation through contributions to government revenues. Of projects funded under the 2004/05 development budget, 2/3 were deemed to be directly poverty related;
 - (VII) Two unsuccessful attempts were made to establish Trust Funds directly linked to the project, the second with the support of the World Bank under a Community Development Support Project. However, in spite of the core importance of addressing poverty issues under the LHWP as well as reputational risk issues, there seems to have been very little effort on the part of the Bank or the Borrower to link the performance reviews of the Trust Funds and the LHWP. The Bank’s Project Completion Report (PCR) was unusually critical of the Borrower’s and the Bank’s performance; and
 - (VIII) Given the critical linkages between large infrastructure development and income restoration/poverty alleviation, there is a need to closely coordinate both these activities throughout the project cycle. Perhaps the most fundamental lessons is the need to ensure a multistakeholder governance for community development funds with transparent, accountable processes to engage beneficiaries in decisions on the use of funds and the need for a community-driven development approach in deciding the priorities for use of these funds within a framework that is agreed to and facilitated by government.
- (k) In line with international experience, and because of its unique responsibilities, it would have been appropriate to institutionally locate the LHDA within the office of the Prime Minister or reporting directly to the Chair of the Council of Ministers rather than reporting to the Ministry of Natural Resources. With this change, the LHWP would have had more clout in addressing some of the key problems that have dogged the project including:
- (IX) Improving interagency cooperation and reducing interagency tensions (such as between the Ministry of Agriculture and the LHDA);
 - (X) Improving handing over of assets (such as to the Ministry of Health); and
 - (XI) Improving operation of the LFCD (formerly known as the LHRF).

In relation to *communication*, the principal findings of this study are:

- (l) *Effective communication in all stages of the project cycle (including identification, preparation, implementation and operation)* is critical to the success of complex hydraulic infrastructure projects involving many stakeholders, such as the LHWP;
- (m) Key actors in any communication strategy are *the contractors*, particularly in relation to the interactions of their employees with the host community. As part of the communication strategy, it is critical to: (I) identify the possible risk of negative interactions between the contractors’ staff and the local community (such as increasing the incidence of communicable diseases, such as HIV/AIDS); and (II) put in place a program to minimize the risk;
- (n) *Effective responsive complaints management* is a critical ingredient in establishing productive relationships between the project developer/sponsor and the host and

downstream communities. While the Ombudsman, as an accepted source of appeal, has a critical role to play, the project sponsor continues to have the responsibility to address complaints expeditiously. Complaints management needs to involve not only the project sponsor but also relevant contractors and their staff. Good practice points to adequately resourcing this activity as well as publicly recording complaints and the timeframe for their resolution;

- (o) Effective communication are a key ingredient in building support for *a sustainable EF policy*. Communication is perhaps even more critical in the successful implementation of an EF policy involving an organization's management, dam operators, and downstream affectees, particularly when high dam flow releases are involved. Radio has been demonstrated to be an effective communication medium, particularly for isolated, poorer communities; and
- (p) *Reactive communication interventions* are ineffective and costly.

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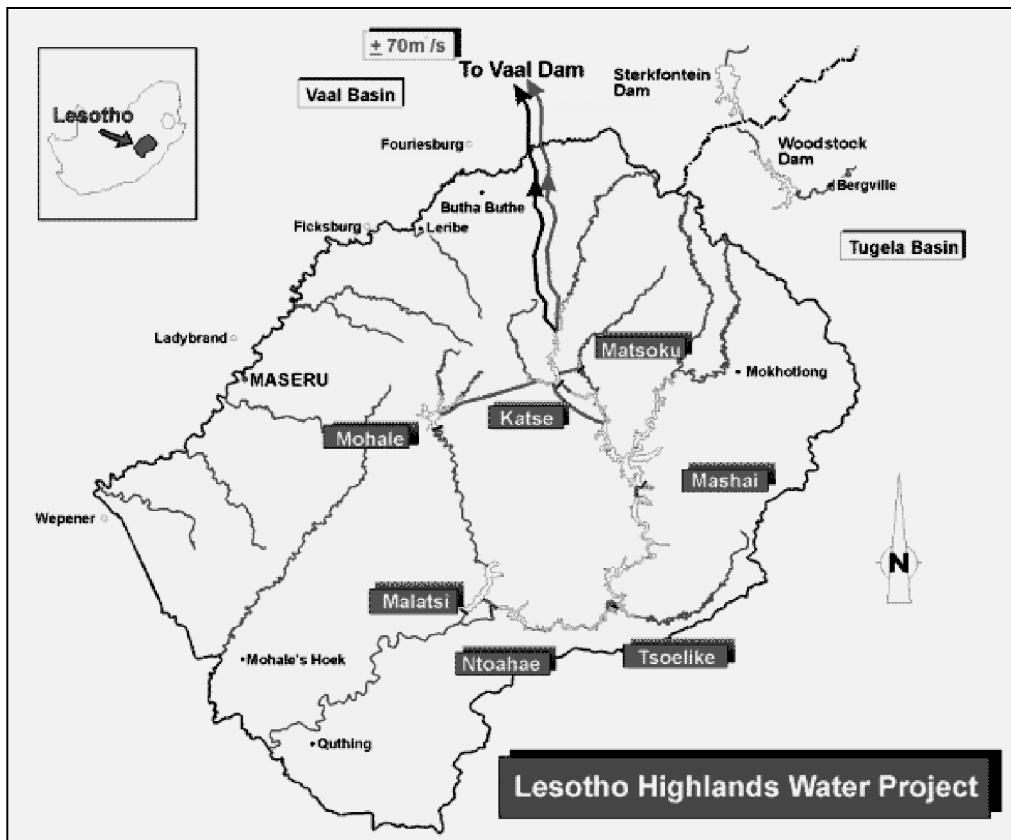
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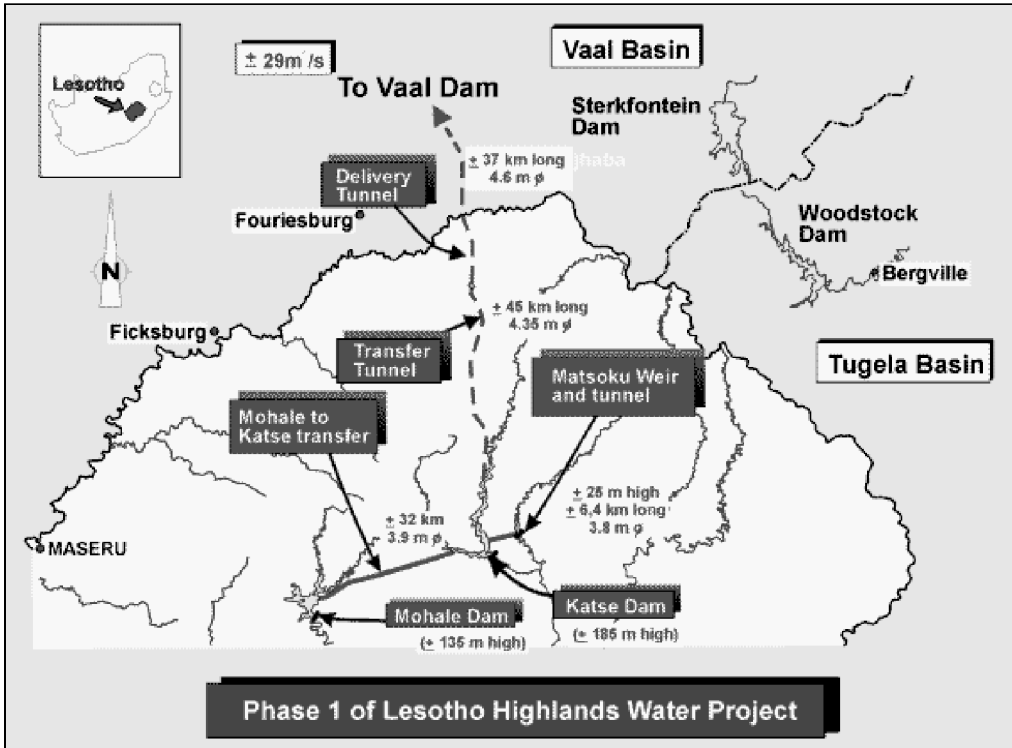
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Map Showing the Complete LHWP



Map Showing Phase 1 of the LHWP



Chronology of the LHWP—Key Events

- 1956 Report on the Regional Development of the Water Resources of Basutoland. Report looked at the feasibility of developing the waters of the Orange/Senqu River to supply the gold mines of the then Orange Free State (now known as the Free State). An element of the study was called the Oxbow Scheme, a multipurpose (hydropower and water supply) project, the dam of which was located near an oxbow on the river channel. The study found that water supply from the Vaal river was the cheaper scheme.
- 1967–1976 Discussions, ultimately unsuccessful, took place between Lesotho and South Africa on a water export project called the Oxbow Scheme Consolidated Proposal, aimed at augmenting the Vaal dam.
- 1978–1986 Formation of the Joint Technical Commission to conduct a joint prefeasibility study for the Lesotho Highlands Water Project—LHWP (published in 1979). Work undertaken during 1983–1986 on a feasibility study, which produced a new multiphase layout for the LHWP (based on maximum transferable water volume of 70 cubic meters per second), this having been found to be more economical than the alternative Orange-Vaal transfer scheme (OVTs).
- 1986 Treaty on the Lesotho Highlands Water Project (LHWP) was signed by Colonel T. Letsie on behalf of the government of Lesotho and R. F. Botha, South African Minister of Foreign Affairs, which specified a time-line of water transfers from Lesotho to South Africa. The project objectives were to meet the increasing water demands in the Vaal sub-basin and to generate hydropower for Lesotho. Under the treaty, three new organizations were established: the Joint Permanent Technical Commission (JPTC) and two organizations reporting to the JPTC: the Lesotho Highlands Development Authority (LHDA), which is responsible for handling the project components within Lesotho, and the Trans-Caledon Tunnel Authority (TCTA), which is responsible for the project components within South Africa.
- 1991–1998 Phase 1A provided for the delivery of 18.0 cubic meters per second and consisted of : (a) 185-m-high Katse Dam on the Malibamats’o River; (b) 82 km of Delivery Tunnels to South Africa; (c) ‘Muela Dam on the Lique River; and (d) ‘Muela Hydropower Station. Construction on Phase 1A began in 1991 and it was commissioned in 1998 at a cost of US\$ 2.4 billion; it was inaugurated by King Letsie III of Lesotho and Nelson Mandela, President of South Africa on January 22, 1998.

- 1996 Project workers protest at Buthe-Buthe; several killed and many wounded.
- 1998 At the written request of the elected government of Lesotho, an armed intervention took place under the banner of a SADC peacekeeping force (consisting of troops from Botswana and South Africa) that saw action near Katse dam. Since the Government of Lesotho feared a military coup, the rationale of the intervention was to prevent the coup and restore security. "The operation was a failure, however, with undisciplined South African forces acting in an aggressive fashion that was not commensurate with the peaceful role of the mission" (Turton, 2003).
- 1998–2004 Phase 1B provided for the delivery of 11.8 cubic meters per second and consisted of: (a) Mohale Dam (9.6 m³/s) on the Senqunyane River; (b) 15m Matsoku Weir (2.2 m³/s) on the Matsoku River and 6 km Delivery Tunnel to Katse; and (c) 32 km Delivery Tunnel from Mohale to Katse. Final impoundment took place in July 2003. On March 16, 2004, Phase 1B (which cost US\$ 1.5 billion) was inaugurated by King Letsie III of Lesotho and Thabo Mbeki, President of South Africa.
- 1996–2001 Instream flow requirements (IFR) study was commissioned in 1996, the agreed recommendations of which were implemented beginning in 2003, based on a policy document issued by the LHDA.
- 1999 Protocol VI ("Supplementary Arrangements Regarding the System of Governance for the Project") signed by representatives of both governments on June 4
- 2005–2008 Feasibility study for Phase 2 commissioned by the LHWC, with 50/50 sharing of inputs and costs by Basotho and South Africans, has been completed but its results are not yet publicly available.

Sources: Ninham Shand (2007), Turton (2003), World Bank (2007b)

Chronology of Corruption in the LHWP—Key Events

November 1986	Appointment of Masupha Ephraim Sole as the first Chief Executive (CE) of the Lesotho Highlands Authority (LHDA)
1993	Election of a civil government in Lesotho.
1993	Internal audit of the LHDA uncovered mismanagement on the part of Sole (including the way he charged private expenses to the project, abused the project housing scheme and nepotism).
1995	Dismissal of Sole from the LHDA, subsequent to a disciplinary enquiry. During Sole's subsequent appeal of dismissal, it was revealed that he had mismanaged parts of the contracting process, causing financial losses to the LHDA
1996–1999	Civil proceedings, which the LHDA brought against Sole to recover the funds, unearthed a complex web of South African and Swiss bank accounts, with a range of payments into them (amounting to millions of dollars equivalent) that enabled Sole to receive moneys from various project companies (consultants and contractors), through agents/intermediaries. Proceedings concluded in October 1999, with a judgment given against Sole of M 8.9 million, which was confirmed on appeal (April 2001)
1997?	Changes in Swiss banking laws allowing for a greater degree of transparency.
January 1999	Subsequent to challenges in the Swiss Court of Appeals by various project MNCs, the Swiss Authorities handed over the relevant bank records to Lesotho
1999	The Lesotho Attorney General issued indictments against 19 groups or individuals, charged variously with bribery, fraud and perjury
2002	After deciding that the trials should be split, Sole was tried and convicted of 11 counts of bribery and 2 counts of fraud and then sentenced to 18 years imprisonment, which was reduced to 15 years on appeal (April 2003).
February, 2006– December 2009	Reatile Mochebelele, former Chief Delegate of Lesotho to the Lesotho Highlands Water Commission (formerly the Joint Permanent Technical Commission) and his deputy, Letlafua Molapo, were charged, convicted, and sentenced to prison terms on charges of bribery.

- February 2007 In accord with its cross-debarment policy, on February 8, 2007, the European Bank for Reconstruction and Development (EBRD) determined that 'Lahmeyer International would be ineligible to be awarded EBRD-financed contracts until such time as Lahmeyer had implemented an anti-corruption program, satisfactory to EBRD'
- March 2008 As of March 28, 2008, EBRD reported that Lahmeyer had introduced an enhanced compliance management system (CMS), which represents a comprehensive anticorruption program, satisfactory to EBRD, the implementation of which is ongoing. In order to recognize Lahmeyer International's efforts to date, EBRD has decided that, effective 3 March, 2008 Lahmeyer's eligibility to be awarded EBRD-financed contracts be reinstated.

Sources: Darroch (2005, 2007), Earle (2007), <http://www.ebrd.com/oppo/procure/guide/fraud.htm>, Courts of Appeal of Lesotho, 2008, Rickard (2009).

List of People Met

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Mr. Leon Tromp, RSA Alternate Delegate

Mr. Charles Mwakalumbwa, Secretary

Lesotho Highlands Development Authority

Mr. Masilo Phakoe, Chief Executive a.i.

Mr. Motulatsi Nkhasi, Sr. Public Relations Officer

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Mr. Sekara Mafisa, Ombudsman

Mr. Emmanuel Lesoma, Commissioner of Water

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Mr. Wille S. Croucamp, National Water Resources Infrastructure

Mr. Reggie Tsekaseka, Specialist Adviser, International Relations, former RSA Permanent Delegate to the LHWC

Trans-Caledon Tunnel Authority

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Mr. David Keyser, Head, Project Engineering

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World Bank

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Mr. Marcus Wishart, Water Resources Specialist

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