

Challenges of managing communal compensation downstream of the LHWP dams as part of the Instream Flow Requirements' (IFR) Policy and Procedures

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Abstract

Lesotho Highlands Water Project (LHWP) is a multi-million dollar project designed to impound headwaters of Senqu Catchment to divert and transfer water from highlands of Lesotho to industrialised water-thirsty area in Gauteng, situated north of the Republic of South Africa while generating hydropower in Lesotho as a spin off. First Phase of the four proposed phases is now complete and it involves inter-catchment water transfers; thus affecting the downstream flow regimes. As a result, LHWP developed IFR Policy and Procedures in consultations with downstream communities to provide guidelines for water allocation and compensation to communities for presumed impacts due to reduced river flows downstream. The first tranche of communal compensation was paid to affected communities through their instituted representative committees generally known as local legal entities (LLEs). Compensation is based on pre-determined resource losses computed from the baseline environmental flows studies. Second and last tranche will be paid only when losses have been proved through a ten-year monitoring data. LLEs are vehicles to administer, plan and manage communal compensation on behalf of communities and invest funds in communal development projects as per requirements stipulated in memorandum of understanding (MOU) between the Project and communities. MOU mandates LLEs to use funds for development projects in order to replace lost resources, whilst LHWP's role is advisory. Implementation of development projects using compensation funds presented major challenges and benefits for communities. Challenges include



mismanagement of funds, dependency to LHWP and unaccountable monitoring. Purpose of this paper is to highlight key challenges facing LHWP in managing communal compensation for communities downstream of dams.

Keywords: IFR Policy, communities, downstream, dams, communal, compensation funds, resource losses, Local legal entities, MOUs, challenges, mismanagement, compensation funds, tranche, development projects, LHWP.

1 Introduction

1.1 Overview of the Lesotho Highlands Water Project

The Lesotho Highlands Water Project (LHWP) is implemented pursuant to the Treaty signed in October 1986 between the Government of Lesotho (GOL) and the Republic of South Africa (RSA), as shown in Figure 1 below. The LHWP is one of the most significant and ambitious multi-purpose construction projects presently under implementation in the southern hemisphere. The project involves the design and construction of dams, tunnels, hydropower station and other infrastructure such as roads, telecommunications and power lines. The environmental and social development programmes are also implemented as part of the project to mitigate against the negative construction impacts.

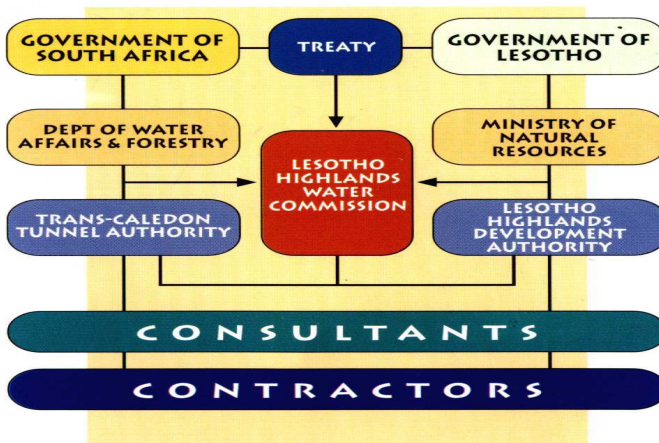


Figure 1: Institutional arrangement for LHWP.

This LHWP was originally designed to be implemented in four (4) phases. The first phase, completed in 2004, was implemented in two phases (Phase 1A and 1B). Lessons learned from Phase 1A were used to improve the implementation of Phase 1B. Currently, the delayed Phase 2 is at its planning stage.

1.2 Major catchments

The key catchments under Phase 1 of the LHWP are the Katse and the Mohale catchments (Figure 2 below). The Katse catchment houses the Katse Dam which is situated on the Malibamats' o River with a storage capacity of 1,950 million m³. The LHDA [1] indicates that the total Katse Catchment area is approximately 1866 km² with an estimated population of 11,218 households of which 4849 households reside downstream of the dam. The Mohale Dam is situated on the Senqunyane River with a storage capacity of 946 million m³. The total Mohale catchment area is approximately 938 km² with an estimated population of 8211 households, of which 5666 households reside below the Mohale Dam (see Table 1 below).

Table 1: Dam and catchment characteristics.

Dam	River	Catchment Area km ²	Mean Annual Runoff MCM	No. of h/hs in catchment
Katse	Malibamats' o	1 860	656	11218
Mohale	Senqunyane	938	367	8211

Though these catchments are located at two different places, their characteristics are almost identical. Boucher [2] characterised the catchments by a series of sub-horizontally bedded basalt lava flows laid down during the Jurassic age. The valley sides are fairly steep and narrowly u- to v-shaped. The vegetation is described by Boucher as largely alpine with shrubs, grasslands and some wood-lands in varying degrees of prevalence. Due to the steepness of their slopes, the soils are generally shallow and poorly suited for commercial agricultural.

There are no major arable lands along the Maliba-mats' o and Senqunyane rivers downstream of the dams, but subsistent cropping and stock grazing are the prime farming activities. Activities such as collection of firewood, thatching grass and fishing are described as sporadic.

1.3 Rationale for communal compensation

During inception of the LHWP, it was recognised that impoundment of rivers creates both biophysical and social impacts. Then, the magnitude of impacts could not yet be quantified. However, the Treaty recognizes the value of maintaining environmental flows downstream of existing dams, and this provision had to be reviewed to confirm that adequate releases are implemented. The Instream Flow Requirements' (Environmental Flows) detailed study was commissioned in 1999 and completed in 2002. The study findings confirmed that reduction in flow regime leads to reduction in riverine resources though the extent of loss could not be quantified. Communities living close to the dam structures were therefore paid compensation based on presumed losses.



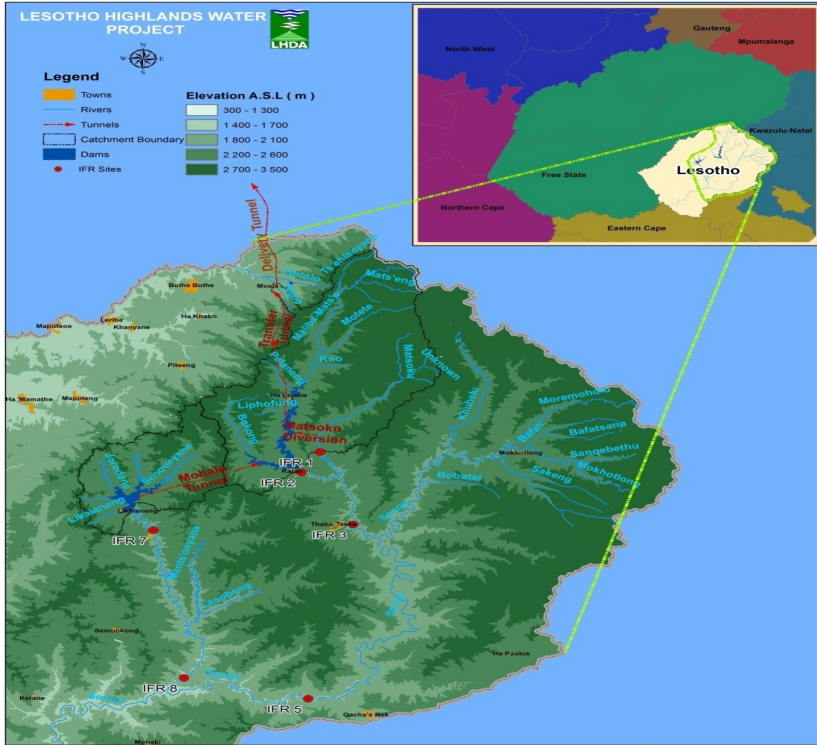


Figure 2: LHWP Catchment showing IFR sites.

2 Methodology

The Instream flow Requirements (IFR) study commissioned in 1999, categorizes communities who would be liable for compensation as those residing within the 10km corridor of the dammed rivers downstream from the structures. This study determined that communities who depend on riparian resources would be those residing between this river corridor. Any household living outside the corridor would find it unsustainable to use river resources.

Metsi Consultants [3] categorized and characterized rivers affected by the LHWP downstream into reaches (stretch of a river with similar characteristics) in order to determine resource loss likely to be incurred. Reaches proximal to the dam sites were expected to experience higher impacts of reduced flows, as the degree of impacts turns to decrease with distance from the dam sites.

Two batches or tranches of payment were proposed for implementation. First tranche was for ten (10) years based purely on presumed loss. However, the presumed losses were to be confirmed during this 10-year period through monitoring of key resources. When actual losses are confirmed, that allows the second tranche to be paid for the remaining period of the projected project lifespan.

2.1 Biophysical resource losses

The study was conducted by a number of specialists covering vegetation, geomorphology, water quality, fishery, hydrology, and hydraulics, animal and public health. The findings revealed that significant losses would be on tangible resources such as firewood, construction timber, fish resources, wild vegetables and medicinal plant resources, animal forage and water supply. These losses were then quantified and given a monetary value. The computed value was then divided by the number of households living within the reach and the predefined corridor of 10km with the river as the middle point.

2.2 Intangible resource losses

Turpie and Brown [4] found out that reduced flows do not only affect tangible resources, but also the intangible resources, especially those that are connected to aquatic system. In 2006, LHDA commissioned a different study that focuses on the intangible gains and losses downstream of the dam sites. The study involved identification and classification of intangible resources, which were then quantified to determine value in terms gains and/or losses.

An attempt to attach monetary value on the intangible losses and gains presented a major challenge that compromised the establishment of total economic value (TEV) of impacts downstream of project dam sites.

2.3 Compensation payment downstream

The first tranche of communal compensation was paid to communities residing within the proximal reaches 1, 2, 3, 7 and 8 downstream of the existing dams (see figure 3 below).

LHDA [1] states that communities were mobilized to form representative bodies referred to as local legal entities (LLEs) through which compensation would get delivered to the deserving communities. Apart from receiving compensation, the LLEs are responsible for the day to day planning, implementation and maintenance of programmes/projects identified by the communities themselves. According to the memoranda of understanding (MOU) signed between the project and the community representatives, compensation funds were to be used for resource replacement and/or other economic or community development programs.

LHDA [1] asserted that there was provision of technical assistance to serve as an advisory to communities in developing resource replacement programmes, in business management skills, proper bookkeeping, project management and conflict resolutions. The technical assistance also provides guidance to communities to make informed choices to come up with options that would be most beneficial depending on the community needs. Communities are required through their LLEs to account on how funds have been used by providing audited financial statements to the Project.



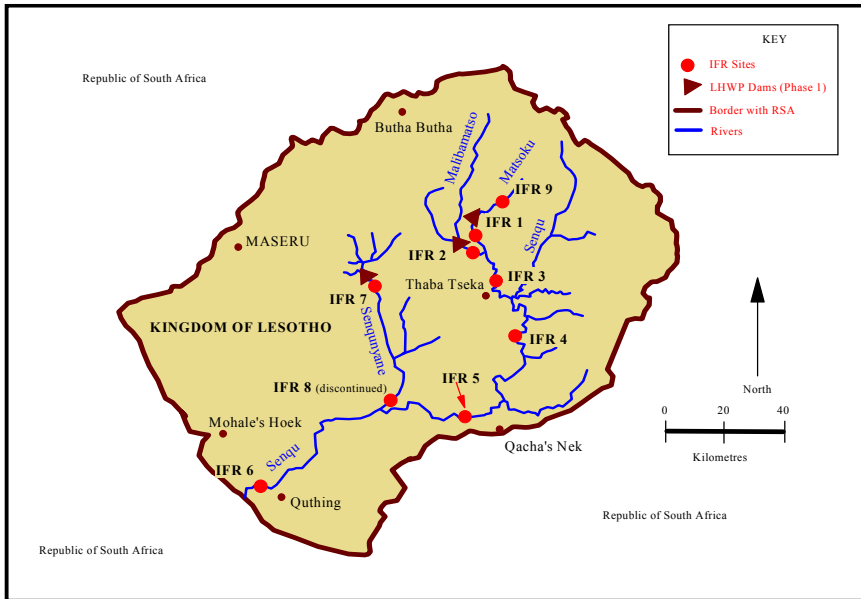


Figure 3: Location of IFR reaches.

3 Challenges of downstream communal compensation

a) Determination of actual resource losses and total economic value of LHWP

The studies of 2002 and 2006 could not conclusively determine the resource losses as a result of the reduced flows from the LHWP dams. It was also difficult to calculate the monetary value of the intangible resource losses and gains. To quantify loss of natural resources is a complex process and more so when those resources are communal and degree of usage is different for individual households. A number of assumptions were used in this process and accuracy is difficult to ascertain. Moreover, the total economic value of the project could not be accurately calculated without providing monetary values on the intangible gains and losses in the downstream reaches.

b) Long-term Sustainability of LLEs

- As communities (LLEs) have mobilized themselves into cooperatives, they are legally responsible to the Department of Cooperatives and they are governed by the cooperative laws of Lesotho, hence the LLEs management as committees has to be elected annually following due processes. Removing a committee after one year period when it starts to understand how things are operated threatens the sustainability of the LLEs and puts projects into risks due to the apparent lack of continuity based on new management and personalities.

- The Cooperative Laws require the LLEs to conduct annual financial audits. However, this issue has to be driven by the committees themselves. Because of poor records-keeping and allegations of mismanagement and embezzlement, the LLEs are reluctant to undertake or subject themselves to annual audits. Inadequate follow up by Department of Cooperatives on the LLEs, due to limited resources and capacity has consequently led to a number of LLEs defaulting.
- LHDA [1] declared that the MOUs signed between the LLEs and LHDA give the communities exclusive rights on the planning and utilization of compensation funds whilst the LHDA provides technical assistance only when required. The MOUs do not provide any safeguard measures for LHDA to intervene in cases where there are problems and/or suspicions of embezzlement of community funds. This means that, LHDA has no control over how the money is used, despite the Treaty obligation of ensuring that the standard of living of these people should not be compromised.
- The high level of illiteracy within the downstream affected communities has potential to affect the operations of the LLEs. More LHDA resources are spent on training the LLEs more than on actual provision of technical assistance and backstopping as required by the Policy. This has led to delays in implementing projects that are aimed at improving the community livelihood: and thus the Treaty obligation will not be met.
- The Project has to provide Technical Assistance Units (TAUs) indefinitely to maintain LLEs due to annual re-election of LLEs committees: the mandate of LHWP – where does it end?

c) Role of Local Government

The role of the LLEs to implement development programmes/projects is identical to the role of local councils within specific areas. It is difficult to have two entities within the communities with the same mandate. Currently, the roles of the LLEs have come into question because the local councils (funded by Government) have little resources to implement their mandates, while LLEs are seen to have substantial funds. The government is of the view that the LLEs funds should be made available for use by councils.

d) Safeguard Measures

Communal compensation has been paid to these communities by the LHDA; any controls that would be implemented by the LHDA to influence how the funds are used would be frowned upon by both the communities and NGOs. The LHDA would be seen as both a player and a referee.



e) Payment of Annual Subscription fees

For buy-in and ownership, affected households have to pay an annual subscription fees to be considered members of the LLEs. This means that those who cannot afford the annual fees are not able to benefit from the LHDA communal compensation. This is in contrast with the IFR Policy, because compensation for downstream was calculated based on the number of households for each LLE. So, automatically all downstream households are members by their locality.

4 Conclusions

Compensation of the LHWP-affected communities is legally binding as stated in the Treaty and the IFR Policy. Determination of the exact value of compensation to the downstream communities was based on extensive biophysical and social studies and widespread consultations with the affected communities. Though it was difficult to determine the monetary value of the intangible losses, the tangible losses were valued using the best available practices worldwide.

Communal compensation downstream has provided a number of challenges to the LHDA. The main challenges range from uncertainties in the actual valuation of the resource losses, to the lack of management oversight by communities on their compensation funds. Though attachment of the TAUs provides some safeguard measures in terms of training LLEs on record keeping, basic accounting and conflict management, high embezzlement of funds is still a cause for concern. The MOUs do not provide sufficient controls for mismanagement and embezzlement of compensation funds.

5 Lessons learned

- Large dam infrastructure development should incorporate environmental flows during inception, design and implementation to ensure that there are minimum resource losses downstream as a result of reduced river flows;
- During conceptualization of the downstream impacts and compensation thereof, there is a need for involvement of all relevant stakeholders, including communities, NGOs and government departments for ownership and by-in in order to reduce the burden to the project implementing organization; and
- Existing community structures should be capacitated and used to manage communal compensation and conflicts within the communities based on the existing community governance principles without forming new structures.



6 Future work

- Review of the MOUs to tighten controls to prevent mismanagement and misuse of communal funds by LLEs;
- Review of the legal standing of LLEs and their roles within the larger communities in the presence of local councils;
- Review of the role and capacity of the Department of Cooperatives in handling LLEs activities;
- Review of the mandates of the LLEs and the local councils to ensure that there is no duplication of efforts;

References

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