

Report prepared for Lesotho Highlands Development Authority



LESOTHO HIGHLANDS WATER PROJECT



REPORT 47

Report prepared by Panel of Environmental Experts

Dr. A Inambao with contributions from Prof. R Hitchcock

Revision 0 June 2007

OVERVIEW

1. The Public Health Panel member of Environmental Experts (PoE) for the Lesotho Highlands Water Project (LHWP) undertook a special mission from 27th to 30th June 2007.
2. The purpose of the mission was to provide technical inputs and assistance to the finalization and presentations of the final draft reports on the Socioeconomic and Epidemiologic Study (Contract 1204) undertaken by the Human Sciences Research Council (HSRC) of South Africa.
3. The technical inputs and issues undertaken and addressed during the mission, and the way forward on each, are addressed in this mission report.

LHDA Preparation for the presentation of the final Epidemiology and social economic study (Contract 1204)

Copies of the draft final reports on socio economic and epidemiology study were distributed beforehand to the POEs and members of the LHDA project management team. A meeting was held in the afternoon of the 28th June to discuss and make comments on the reports as well as to determine the structure and format of presentation of the final reports by HSRC the following day.

Given the feelings of team members regarding the quality of the reports, a decision was undertaken to develop a framework to guide the team's contributions to the presentations that were intended to enrich the findings by focusing on issues that would best describe the impact of the Lesotho Highlands Water Project on the communities directly or indirectly affected.

A draft analysis and indicator framework was developed that provided what was thought to be the best descriptors for the impact of the LHWP on the highlands communities.

HSRC Team Presentations of Findings From the Socio economic and Epidemiology Study

Overview of the Presentation

The HSRC team consisted of the Project Manager and four sector consultants. The Project manager made a global presentation on the goals and objectives of the study, the methodology and overview of the findings and each of the sector consultants made presentations in their areas of involvement – nutrition, socio economic, perceptions finding and the Down stream

assessment. The project manager made presentations on the epidemiological findings in the absence of the appropriate consultant.

The findings were deliberated on and decisions for the way forward were agreed upon. A decision was made that LHDA team should compile comments and recommendations from the team and forward them to HSRC within a week upon which the HSRC team will finalise the reports within a course of two weeks and make their final presentation thereafter.

The LHDA team including the POE members were of the opinion that the draft reports on the findings of the study did not fully answer the question of whether the LHWP had impacted on the quality of life of the communities and individuals living in the LHWP areas. LHDA team in general felt that the draft reports did not categorical in their assertions were judged not to have clearly described and quantified the impact of the LHWP on the highlands population due to their ambiguity in their statements on the observed changes in the quality of life of the directly and indirectly affected communities.

The LHDA team strongly suggested that the reports be reformatted in such a way as to be concise about the observed changes in the quality of life of the affected communities as a direct or indirect result of the dam project.

Format of the Report

The report consist of the introductions of the purpose of the mission, the processes and procedures that were undertaken during the course of the mission, the summation of the findings of the reviews of the documents, the presentations of findings and discussions on the findings and recommendations for completion of the final reports.

Introduction

The Panel of Environmental Experts (PoE) for the Lesotho Highlands Water Project (LHWP) undertook a mission from 27th to 30th 2007. Although the mission was supposed to be attended by Professor Bob Hitchcock and Dr Amusaa Inambao, Prof. Hitchcock could not make it due to other prior commitments but did manage to send his comments and recommendations by email to the LHDA Project Management Team. The comments that he sent on the socio economic aspects of the survey are annexed to this report.

Terms of reference (ToRs) for the Mission was to review the various draft volumes of the study findings and comment on the findings, the format and quality of the reports and advise LHDA on the way forward; as well as participate at the presentation of the draft reports and provide inputs to the finalization of the study reports.

Background to the Socio economic and epidemiological study Contract 1204.

The Socio economic and epidemiological impact study known as Contract 1204 was commissioned by the LHWP authorities with the main objectives of:

- To make a comparative assessment of the impacts of the LHWP implementation:
- To examine the mitigation and enhancement measures as defined in the environmental Action Plan on the economy and living conditions of the population and communities affected by the LHWP, including their public health and nutritional status and;
- To compare data collected against baseline and subsequent surveys in the project areas, including national data.

The methodology that HSRC opted for in collecting the relevant data for the survey involved a multi modal data collection processes that employed both qualitative and quantitative methods. Relevant precautions were undertaken to ensure data quality and the analysis undertaken according to the data collection methodology used.

Preliminary reports were written and circulated for discussion and comments. The slowness in the completion of the study and the writing of the reports led to LHDA calling for a deadline on the submission and presentation of the final drafts of the reports.

CRITICAL PROJECT REPORTS

Report Volume	Present Situation (Main Findings)	POE Recommended action	Finish date
Volumes I Socio Economic and Related Findings, Phase 1B	<p>Draft Report completed. Data indicate that The severely affected communities are socio economically doing better than those not affected with better levels of incomes per households but are more vulnerable if the compensation elements are controlled for. This group has a higher dependency on compensation payment than those in the Phase 1A areas.</p> <p>Access to goods and services has increased but this does not seem to have positively impacted on the community perceptions about the project.</p> <p>The reports are not conclusive and categorical about the impact of the LHWP on the observed changes in the quality of life of the communities directly or indirectly affected by the project.</p>	<p>The style of the report is ambiguous and ambivalent. The report is not incisive as to the differences in the quality of life between those directly, moderately and non affected communities even where there is evidence to say so.</p> <p>The reports should be made more concise by focusing on the findings rather than give a disproportionate amounts on philosophical discussions on merits and demerits of data collection methodologies</p> <p>There is little comparison made with the national situation and this needs to be strengthened</p>	<p>The reviews should be completed by and the final Reports submitted before the 20th of July 2007</p>
Volumes II Socio Economic and Related Findings, Phase 1A	<p>The reports noted that communities in the phase 1A are similarly affected as in phase 1B except that they seem to have developed less dependency on LHDA compensations. The quality of life of the affected communities seem to be significantly better than those who were not affected in several respects.</p> <p>The adverse general socio economic factors seem to have equally affected all the populations equally irrespective of the degree of affection by the construction of the dams</p>	<p>Similar to the comments on phase 1B, the reports are not concise and conclusive. They need to be categorical about the impacts of the project on the population. The reports also do not clearly identify the impact of several mitigation interventions that LHDA has put in place over the years.</p> <p>Both reports have been hampered by the lack of comparative data to make conclusive statements.</p> <p>Attempts should be made to quantify the level impact of the project on the socio economic development of the highlands population.</p>	

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<p>Volume III Findings from the Nutrition and Epidemiology Component of the Study – Phase 1A</p>	<p>The reports have indicated that nutritional status of the communities has generally deteriorated over the years as a result of declining economic situation of the country as a whole. There was a mild but significant nutritional differences among the households that are severely and non affected. The report suffers from the lack of comparative analysis and it is difficult to determine whether the levels of poor nutrition seen in the study areas are as a result of altered access to food sources or is a general phenomena that has affected the whole country.</p>	<p>The nutrition element of the report need to also be categorical as to the nutritional impact of LHWP on the population of the highlands. It need to be concise and clearly indicate whether there has been impact that could be attributed to the LHWP. The only impact attributed to LHWP is the possibility that the higher than average level of obesity observed among female respondents in the severely affected households were due to their increased access to high energy foods.</p>	
	<p>The epidemiological analysis has not conclusively indicated impacts that may be associated with the construction of the dam. However, the analysis was limited to determining the prevalence of HIV/AIDS and STIs and did not address other public health issues.</p> <p>A significant finding in the study was that HIV/AIDS among the young adults was surprisingly low especially among young men. However, HIV prevalence among young women was still higher than that of their male peers indicating a significant level of intergeneration sexual contacts with older males.</p>	<p>This section of the report is extremely weak and will need to be strengthened by examining other public health indices such as water born and related diseases, access to water and sanitation services as well as access to health care service delivery services and facilities.</p> <p>Need to compare health indices over time to determine whether the LHWP has impacted on the health of the population in the highlands</p>	
<p>Volume III Findings from the Nutrition and Epidemiology Component of the Study – Phase 1B</p>	<p>Similar findings as in phase 1A were reported. However, the level of appreciation for the public health amenities in the area was higher. The absence of comparative health status analysis has made these reports much weaker and less useful to inform LHDA how it has fared in its attempts to improve the health status of the communities in the project area.</p>	<p>The reports need to be strengthened by using comparative analysis with data from national sources.,</p> <p>The reports should also attempt to establish the impact of the various public health interventions carried out by LHDA overt the years.</p> <p>More sensitive data to determine the health status of communities such as</p>	

		Infant mortality rates, episodes of diarrhoea, immunization rates, ante natal attendances compared to other areas in the country will provide an indication of the impact of the LHWP on the health status of the affected communities.	
Down Stream Monitoring Survey Report on the River Usage and Socio Economic and Related Findings in IFR Reaches 1,2,3,7 and 9	<p>The methodology used in the study failed to provide quantitative information on the river resource utilization. The report therefore has failed to indicate whether there has been impact of the LHWP on the quality of the river and the availability and access to riverine resources.</p> <p>The report has also not provided the monitoring protocols that were supposed to be one of the key deliverables of the study.</p>	The report is basically weak and requires extensive strengthening to quantify resources, access and availability as well as utilization. A base line needs to be established as to the pattern of utilization of resources, the nature and quantity of resources as well as availability and contrasting these with historical patterns.	

Discussion on Findings and Quality of Draft Reports

The Nutrition and Epidemiological findings reported in the draft final reports are inconclusive due to a number of factors pertaining to the unguided analysis framework. The purpose of the study was to determine whether the LHWP has impacted on the nutritional and epidemiological aspects of the lives and existence of the communities living in or moved from the LHWP affected area. The study was supposed to quantify and or qualify the magnitude of impact on the communities by contrasting with national figures and attribute the observed changes as mainly due to the LHWP. In both cases the reports have not been able to provide a clear picture on the magnitude of the nutritional and epidemiological impact of LHWP.

Nutrition Assessment

The nutrition reports on both phases 1 A & B have indicated a problem of chronic food shortages as well as restricted diets in the severely affected and not affected households. Both reports have found that nutritional insufficiency was highest in the 2 to 3 year groups and that adult under nutrition was quite common especially in Katse and Matsoku areas. And that Muela area appears to have better nutritional resources than the rest of the areas.

In order for the report to be meaningful to the requirements of LHDA, it needs to provide information that would compare the nutritional indices of these areas with that of the country at large. The report should undertake a multi variate analysis of the key factors likely to have contributed to the nutritional performance of the communities surveyed while controlling for natural factors. The report needs to examine the effect of the various LHDA mitigations interventions especially in agriculture as well as health education and nutrition training.

The report should also attempt to make qualitative comparisons with situations in the past bearing in mind that even though the methods that were used to measure nutritional indices were different from the ones used in the study, qualitative comparisons will give indication of the changes that may have occurred in the nutritional status of the communities and households over time.

The reports need to be concise and categorically in terms of any differences that may be observable in the analysis so as to provide instruction to LHDA on how best to proceed.

Epidemiological Assessment

This section was underplayed in the analysis and it has tended to focus on elements such as HIV/AIDS and Sexually Transmitted Infections that are not good indicators of the general health status of a community. The two variables of HIV and STIs are only good indicators of the behaviour change status of the community, where as the study did not include the analysis of episodes of diarrhoea especially among children, episodes of respiratory tract infections among children and the elderly as well as the general level of morbidity among the community.

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The absence of these key indicators has made the report quite weak in determining whether the health of the highlands communities has been impacted upon by the construction of the dams. The report also has not attempted to elicit the effect of the various health intervention programs on overall health of the community.

Furthermore, the report has not fully demonstrated the impact of the project on the facilitation of the spread of HIV in the previously isolated highlands.

Conclusions

The reports have not been comprehensive in the analysis of the environment. It appears that certain pertinent data pertaining to health and nutritional indices may not have been collected as the analysis plan was not fully developed before data was collected. If data on the current health status of these communities was not collected it will be difficult for the study to determine the level of impact of the LHWP on the general health of the population in the project area.

The reports need to fully address the terms of reference for deliverables, and need to be categorical in their assertions on the association of observations to the existence of the LHWP. The current reports are ambivalent and have failed to clearly identify and quantify impact of the LHWP on the nutritional and health status of the highland communities.

Recommendations

POEs' recommend the following as a way forward:

1. In addition to the comments that were made during the presentation meeting on the 29th of June, additional comments from all stakeholders who may have identified other issues as a result of the discussions need to be sent to the research team as soon as possible for incorporation in the final report.
2. The research team need to review the reports on the basis of the comments made in the presentation meeting, improving on the quality of the format, reducing the size of the document and making the documents reader friendly.
3. Need to write the reports using the standard research formats and reduce on unnecessary philosophical arguments on methodology, reduction on background information that does not add value to the study and concentrating on answering the research question of "has the LHWP impact negatively or positively on the lives of the affected communities in terms of socio economic, health and nutritional development?"
4. The analysis should attempt to use compounded multi variate analysis to fully appreciate the compounded effect of the various interventions on the community. The separate analysis of the different aspects of the study has not lent itself to the realization of the full impact LHWP may have had on the population.
 - A compound report should be prepared and should verifiably indicate the impact the LHWP may have exerted on the population affected.

- Individual reports should be more technical than they are at the moment and should be user friendly
5. LHDA should make arrangements to prepare a short corporate version of the report that will be easier to read by the general stakeholders who may not necessarily need the technical reports and workshop the presentation of the findings to all stakeholders.
 6. A time line of 20th July is proposed as the last submission and presentation of the final reports.
 - All data collection instruments should be submitted by the consultant to LHDA for safe keeping
 - All databases created for the study should be submitted to LHDA including appropriate source codes and instructions for data retrieval and manipulation where applicable.
 - All project management reports and documentation should be submitted with the final reports.

Review of Human Sciences Research Council (2007b) *Volume II: Socio-Economic and Related Findings, Phase 1A Katse, Matsoku, and 'Muela Survey (2006)*. Contract 1204, Lesotho Highlands Development Authority. Maseru, Lesotho: Lesotho Highlands Development Authority.

And

Human Sciences Research Council (2007c) *Downstream Monitoring Survey: Report on River Usage and Socio-economic and Related Findings in IFR Reaches: IFR 1, IFR 2, IFR 3, IFR 7, and IFR 9*. Contract 1204, Lesotho Highlands Development Authority. Maseru, Lesotho: Lesotho Highlands Development Authority.

R. Hitchcock

1. Introduction

1.1. As part of the effort to assess the impacts of the Lesotho Highlands Water Project, a contract was let for a study, Contract 1204, 'Consultancy and management services to conduct a socio-economic and epidemiological survey upstream of Phase 1 dams, develop socioeconomic and epidemiological impact survey downstream of Phase 1 dams.' This study was carried out by the Human Sciences Research Council of Pretoria, South Africa in the 2005-2006 period, and the report on the Katse, Matsoku, and 'Muela areas (Phase 1A) was completed in June, 2007. The main objectives of the project were (2) to make a comparative assessment of impacts of the LHWP implementation, (2) to examine the mitigation and enhancement measures as defined in the Environmental Action Plan on the economy and living conditions of the population and communities affected by the LHWP, including their public health and nutrition status, and (3) to compare data collected against baseline and subsequent surveys in the project areas, including national data (HSRC 2007b:xiii, 5-6).

1.2. The methodology of the assessment involved a 'large-scale quantitative survey' in the Katse, Matsoku, and 'Muela areas that were affected by the Katse and 'Muela dams, the power station, and the Matsoku Weir (the latter is part of Phase 1B except for the major road built into the mountains to provide access to the Katse Dam site). A total of 3,112 households were visited by the 1204 teams (HSRC 2007b:81). Some households that had been surveyed in Katse had to be removed from the data set because of problems with interviewers (HSRC 2007b:xiv). Data collection was done by field teams using a number of questionnaires (one for households, a second for females, a third for males, and a fourth for caregivers) (HSRC 2007b:16). Data capture was done in Maseru. Some of the questionnaires from the Katse survey were sent to an outside company. It should be noted that the data capture and analysis took longer than anticipated, hence the fact that the contract had to be extended so that the report could be produced.

2. Findings

2.1. Based on the quantitative and qualitative studies done, key findings of the Contract 1204 1A study are as follows.

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- (1) As was the case with the Mohale (1B) study (HSRC 2007a), the monitoring and evaluation survey showed that the current cash income of households varied by the degree to which the households were affected by the project. The households were divided into three categories: (a) severely affected, (b) moderately affected, and (c) not directly affected by the project. Those households that were severely affected had the highest average annual cash incomes: M8454; those households that were moderately affected had an average income of M8067; and the households that were not directly affected had the lowest incomes: M7057. According to the study, the difference in income levels among the various categories of households is a consequence of compensation payments by LHDA. As the 1A study concludes, income differentials in the Katse and 'Muela areas are less stark than in the Mohale area (HSRC 2007:xiv). It is also interesting to note that the households that were not directly affected in the 1A area have substantially higher incomes than those in Mohale. The average annual income of severely affected households without taking into account compensation payments is M6868. The HSRC 1A study compares this amount to the average annual income of 'not directly affected' households and notes that the severely affected households without compensation is M189 lower and concludes that compensation 'places beneficiaries in a better financial situation compared to those households that do not receive compensation' (HSRC 2007:xiv). A major conclusion of the HSRC study is that LHDA has fulfilled the treaty obligation by ensuring that income levels of severely affected households are higher than those of households that were not directly affected (HSRC 2007:xv). At the same time, the HSRC study points out that in spite of this, 'the unequal distribution of income among households is a cause for concern' (HSRC 2007:xv).
- (2) Mitigation measures ensured that both affected and non-affected households benefited from the project, including amenities such as improved roads and access to markets. It should be stressed, however, that the feeder roads and the water and sanitation program initiation in Katse were severely delayed, so the local population was concerned about the lack of drinking water, for example.
- (3) There were a number of socioeconomic changes that occurred in the Katse-Matsoku-'Muela area, including (1) feminization of household heads and of migration, (2) a decline in household sizes, (3) a reduction in income from mine labor remittances, and (4) the aging of the population, along with a significant percentage of the population (46%) who are below the age of 15, meaning that the number of producers (e.g. in agriculture) is lower overall than it used to be. As is the case in Mohale, orphans have become a significant social problem in the project area. Remittances as a share of overall household income vary, depending on the kind of household (i.e. severely affected vs unaffected), with unaffected households' income deriving from remittances to a much greater degree than is the case for severely affected households. Overall, household income has declined in real terms in

Lesotho, due in part to macroeconomic factors (e.g. a decline in Basotho mine labor involvement in South Africa). Other factors that have affected the study area include an increase in HIV/AIDS rates, which clearly is at least partially project-related.

2.2. In Chapter 2, it is noted that the study, 'should determine whether or not the communities in the project areas have actually suffered deterioration in their standard of living and whether the compensation payments have succeeded in redressing their standard of living' (HSRC 2007b:5). One problem with the HSRC study is that while it addresses livelihoods in general terms, it actually compares only income levels when drawing the conclusion that compensation has ensured that households are better off now than they were previously. To conclude, as the study does, that LHDA has met its treaty obligations primarily through provision of compensation is somewhat problematic. Household well-being is not just based on income levels; it is based on a combination of factors, including access to employment, social services, development, and training opportunities. The HSRC study of the 1A area does point out that compensation may have a down side, especially in terms of increased dependency of households on LHDA (HSRC 2007b:9). It should also be noted that compensation in the form of cash has its drawbacks. There is evidence to suggest that households expend cash income quickly. In some cases, household cash assets tend to be monopolized by one member of the household, usually the household head. What this means, in effect, is that the other spouse, children, and other household residents are at some disadvantage of the household head opts to spend cash income on luxury goods or some other product such as beer.

2.3. It should be kept in mind that there are some major differences between the Phase 1A and Phase 1B (Mohale areas). In Phase 1A, the Katse Dam displaced 75 families, most of whom moved upslope and remained in the vicinity. In the terminology of the project, they were 'relocated'. 'Resettlement' was applied to families moving out of the area to establish themselves elsewhere. The affected families were not in fact given the option to 'resettle' elsewhere with project support and compensation. If they did so, they were 'on their own'. The relocated families were compensated for their land losses with annual deliveries of grain, equivalent to the crop they would have had from their inundated land. These deliveries would continue for 15 years, after which recipients were expected to have found new income-earning opportunities through LHDA's rural development programme which was charged with the promotion of agricultural, pastoral and other income-generating enterprises. This program, however, achieved relatively little in the way of development and in 1995, as in previous years, it was able to spend only some 3% of its annual budget due to an acute lack of implementation capacity. Some projects that had long been planned, such as water and sanitation (WATSAN) and feeder roads) did not begin to be implemented until recently.

2.4. One of the points made repeatedly in the HSRC study of both Phase 1A and 1B is that because of the LHWP, the residents of the project area now have easier access to other parts of Lesotho, and 'are also in closer contact with a monetary economy and modern life in general' (HSRC 2007b:xvii). It is clear that a basic assumption of the HSRC study is that moving into a cash economy is seen as a good thing. It should be

pointed out, however, that not all of the people affected by the project feel that way. Some of those who are now getting cash compensation (e.g. in the form of lump sums for those people directly affected by the project in the Phase 1A area) are not all that impressed with the cash. Some of them have opted to return to annual compensation in the form of grain. Others have said that they would prefer to have the option to have land instead of cash or annual grain compensation. Those people who are getting cash who now live close to major villages in the Katse area say that they have to pay greater percentages of their cash income for goods than they did in the past. Modernization and the move into a cash economy clearly has both costs and benefits. The move into a cash economy in itself is a mixed bag and cannot necessarily be seen as satisfying the full array of household needs that exist.

2.5. There was mounting dissatisfaction among project-affected families both with the compensation package and with the rural development program in the Katse, Ha Lejone-‘Muela areas. Several major problems confronted the relocated families: First, most of their best land and natural resources had been inundated; second, there were few new and permanent jobs and other economic opportunities in the area; third, the rural development programme had not yielded significant practical benefits, and fourth, the relocated people were not allowed under Phase 1A rules to move away in search of better opportunities.

2.6. The HSRC study points out that levels of satisfaction of people affected by the project, as well as those not affected, were relatively high. Part of the reason for the responses that they HSRC obtained from the severely affected households had to do with people’s satisfaction with the new houses that they received. It must be remembered, however, that although LHDA had almost a decade in which to prepare for resettlement a few months before Katse dam was to be closed in October, 1995 and the water would begin to rise no new houses had been built and no households had been relocated. A crash program had to be instituted and contracts for the new houses were drawn up relatively hastily. Some houses were to be built in places without roads, where the cost of building to modern specifications in a hurry was very high. Some of these houses, which replaced traditional circular huts with stone walls and thatched roofs, cost as much to build as the current price of a large modern house in one of the opulent suburbs of Johannesburg/Gauteng. The new houses were, however, were, in generally, well received by their occupants and went some way to offset their complaints about LHDA's attempts to revive their damaged economy and pay what they felt to be adequate compensation for their losses.

2.7. It would be useful if in a final overview report of the HSRC efforts are made to compare the various situations that exist in Phase 1A (Katse-‘Muela) and Phase 1B. There is some attempt to do this (see, for example, a statement about average family incomes in the Phase 1A and 1B areas, HSRC 2007b:53). One difference between the two areas relates to the timing of the project impacts. Phase 1A was initiated in 1987 and wrapped up (except for important water, sanitation, community development, and road construction activities) by 2000, whereas construction activities in the Mohale area began 7 to 8 years before the 2006 HSRC study. People in Phase 1A thus have had more time to adapt to the new circumstances brought about by the project.

2.8. LHDA's major dam, at Ha Mohale (Phase 1B) on the Senqunyane River, has already displaced some 321 households in the first two stages of resettlement. The situations facing resettled people in Phase 1B are different from the relocated households in Phase 1A. For one thing, many of the Phase 1B households that were 'severely affected' opted to resettle rather than relocate. The Mohale Dam was designed to inundate a large and ancient oxbow, which included 760 hectares of deep and fertile soils, a rare and valuable resource in the mountains. It was mainly the agricultural possibilities that had attracted a relatively large population - for the mountains - to settle in this area. Unfortunately for the villagers the same oxbow provided valuable storage for the planned reservoir. Households that moved from villages such as Ha Tsapane and were resettled in the foothills are in situations now where the agricultural land is not as rich as it was in the mountains. At the same time, their ability to generate income (e.g. through the production of high value crops) is lower. There is also more livestock theft in the mountains now than was the case in the past.

2.9. The HSRC Phase 1A study draws the conclusion that relocated households in the Katse area have higher income levels than is the case for non-relocated households. It should be remembered that the relocated households were living closer to the river and many of them had fields that were of greater fertility than those people upslope who did not have to move. Thus, if one is to consider the fact that they now have higher incomes than non-relocated people, their base income before disturbance was higher in many cases than was the case for households not directly affected by the dam. The HSRC study places great emphasis on the differences in income between 'severely affected' households and those who were moderately affected or not affected by the project. While this difference is important, it is less significant than the difference between the project-affected households prior to the time of first disturbance and 2006 when the study was done. If a proper assessment of household well-being is to be done, the comparison should be done of the same households over time, something that the HSRC study does not do, presumably because of lack of good baseline data on specific households.

2.10. The Katse Dam was the first to be built in the LHWP. It began filling in October, 1996 and, as noted previously, displaced some 75 families, most of whom moved up slope and remained in the vicinity. These families were compensated for their land losses with annual deliveries of grain, equivalent to the crop they would have had from their inundated land. One of the problems that some of the people in the Senqu Basin faced was earthquake damage to their homes (e.g. at Mapaleng in the Katse area). As those who work on dams know, reservoir-induced seismicity (RIS) is something that sometimes occurs as impoundment of water occurs in dam projects. This was a project-related impact that has affected the attitudes of people in the Katse area, some of whom have said that they should have been warned ahead of time about the possibility of earthquakes. In the case of Mohale, local villagers stressed to HSRC researchers that they have concerns about the crack in the Mohale Dam that appeared when the dam reached full supply level. These environmental impacts are important, and they have significant impacts on the attitudes of local people towards the LHWP. It is clear that, as the HSRC study maintains, the project authorities should remain in close communication with people in the project areas, continuously providing them

with information. This is true also for those in the downstream areas (see the downstream monitoring survey report on the IFR reaches (In-stream Flow Requirements) (HSRC 2007c), where people are concerned about the possibility of floods that could affect them and thus want a flood early warning system put in place.

2.11. The approach to the formulation of the compensation policy for Phase 1B of the Lesotho Highlands Water Project went several steps further than the original compensation plan in Phase 1A in doing the following: First, it required that the Scope of Services for each new construction contract should show in detail how they intended to address environmental and social impacts associated with the contract and how they would reinstate any surface works for the benefit and in accordance with the wishes of the local communities. Second, it stipulated that the Lesotho Highlands Development Authority had to manage land taken for project purposes in a beneficial manner and then returning leftover land to its previous users and required that land not being used was made available for re-allocation, This is something that is occurring only now in Mohale. Third, it adjusted the level of replacement income periodically to ensure that the standard of living of each affected family was maintained. Fourth, it provided for equitable compensation to people who held 'secondary rights' (i.e. those people who have sharecropping, rental, or borrowing arrangements with land holders). Finally, the Phase 1B compensation policy sought to ensure that people who received compensation would also gain access to training and credit. The differences in the compensation policies and the degree to which development projects were initiated in a timely fashion has had impacts on the socioeconomic statuses, attitudes, and perceptions of people in the Phase 1A and 1B project areas.

2.12. It is interesting to note that concerted efforts were made to provide training to people in Katse and 'Muela (e.g. by contractors working at the Thaba Tseka Rural Training Center). In Mohale, training and extension assistance was provided by LHDA personnel from the Field Operations Branch. These efforts with individuals affected by the project have largely wound down in Mohale and 'Muela, replaced to some extent by personnel working with the Ministry of Agriculture. Efforts to promote development and provide training to community groups (co-operatives and local legal entities) are being carried out by members of the Field Operations Branch teams in Katse, 'Muela, Mohale, and Matsoku and in the downstream areas by the Technical Assistance Unit. The HSRC study addresses these activities only tangentially, but the Contract 1204 team has acknowledged in discussions that they are part of the package of benefits provided to people in the LHWP area. Much more attention is paid in the study to the issue of compensation (see, for example, HSRC 2007b:101-103). It would be useful to have a bit better balance between compensation and development in the HSRC reports, especially given the fact that the conclusion is drawn that compensation alone has been responsible for ensuring that the LHDA has met its treaty obligations. Having income derived from compensation is insufficient to ensure that a household's well-being has been restored to the point where it was before first disturbance.

2.13. It is difficult to make concrete statements as to the degree to which the resettled households have been able to have their incomes and living standards restored

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through project-related compensation and development programs. Based on a focus group discussions held by the HSRC teams in a number of severely affected, moderately affected, and unaffected communities, some of the household members said that they thought they were better off now than they were before they were resettled or relocated; some said that they felt that their living standards were about the same; and a few said that they definitely were worse off after they moved than they were originally. These kinds of impressionistic statements, however, are insufficient to base a judgment on as to whether or not the LHWP Treaty and Order obligations have been met with respect to the maintenance of the living standards of project-affected households.

2.14. Admittedly some of the development projects of LHDA were behind in terms of implementation, there have been a number of project-affected people that have been able to benefit from these projects. Looking at agriculture, for example, farmers in the lowlands ('Muela) and highlands of Katse were engaged in field crop production. The same was true for the foothills and highlands of Phase 1B. Particular progress was made in 2003 in seed potato production, thanks in part to a seed potato store with cooling facilities at Mohale. There was also some success in promoting maize production, in spite of the drought. In the foothills near Ha Ratau in 2003, for example, the yields were substantial, and people planted crops early enough in 2004 to get sufficient soil moisture to ensure at least some returns. Many people have gardens and are growing a wide range of vegetables. Commercial agricultural crops such as paprika, garlic, and asparagus were being grown in 'Muela and some other areas. While the asparagus canning factory at the turnoff to Roma and the foothills has yet to be resuscitated, there were companies and individuals in South Africa who purchased the asparagus grown by some 48-50 farmers in 'Muela. While garlic did well in the first few years of its being grown, there was a definite downturn in production in 2004 due to drought, something that has to be taken into consideration when analyzing the short-term and long-term impacts of agricultural development projects.

2.15. One of the issues that people faced in the early phases of relocation in the Phase 1A area (Katse) and in Phase 1B Stage 1 and 2 resettlement was difficulty in getting access to new land on which to plant crops. In the case of Katse, it was found that at least some of the relocated households had opened new fields and were planting crops. In the case of the foothills (e.g. at Mokotoko), resettles had difficulties getting access to land for planting at first, in part because host populations wanted to charge high prices for the land or were reluctant to allow resettles to sharecrop. These kinds of things are useful to know, as the HSRC study, which is a large-scale quantitative and qualitative study of thousands of households, has only touched on them. This argues for a more detailed set of case studies on households and communities done using participatory anthropological techniques, something that the Contract 1204 personnel would definitely support.

2.16. In the HSRC study of the downstream impacts of the project (HSRC 2007c), it is noted that people report that riparian resources have declined, but that the Contract 1204 team drew the conclusion that these reports are exaggerated. It would have been useful if the Contract 1204 team had collaborated more closely with the team carrying

out the downstream biological monitoring. LHDA is still in a position where it is difficult if not impossible to tell whether or not there have, in fact, been quantitative declines in such resources as riverine vegetation, fish, and sand used for construction. Without this information, no decisions will be taken on whether or not additional compensation should be paid to downstream populations.

3. Recommendations

3.1. LHDA should press the HSRC to come up with a summary volume that discusses, in a comparative way, the conclusions drawn from the various analyses of the upstream areas (Phase 1A and 1B) (HSRC 2007a and HSRC 2007b), and the downstream areas (the IFR reaches) (HSRC 2007c). The summary volume should also seek to compare the project areas to national-level data in a more comprehensive way. The HSRC study does show, for example, that HIV/AIDS rates are higher in the project area than they are in other rural parts of Lesotho and are comparable to national levels. It would also be useful if the HSRC attempted to compare project-affected households over time rather than relying so heavily on a comparison between severely affected households and unaffected households at the time of the study. Without a detailed assessment of what happened to households and communities that were directly affected by the LHWP over time, it is not possible to determine whether the LHWP Treaty obligations have been met. It is evident from the HSRC study and other reports, including those provided by LHDA itself, that there are still some project-affected households whose livelihoods have not been re-established at the levels where they were prior to the beginning of the project. The question remains whether or not project affected people in Lesotho will indeed be enabled to maintain a standard of living that, in the words of the LHWP Treaty (Article 7, Sub-Section 18) is 'not inferior to that obtaining at the time of first disturbance.'

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