HEALTH AND DEVELOPMENT IN LARGE PROJECTS

SA Kaul[1], M Kumalo[1] and E Barendse[1].

1. Project Management Unit. Lesotho Highland Water Project Phase II. Lesotho Highlands Water Authority. Maseru 100. Lesotho.

PRESENTER: SURINDER KAUL

ABSTRACT

Improvement in health services is an integral part of development. Corporate social responsibility demands that project owners provide mitigation measures for any likely adverse effects of projects on affected populations to ensure that the health of the people improves during and after the life of a project. Traditional methods of mitigating adverse effects on health in most projects are to provide additional health facilities and selective medical care to the impacted populations. Sustainability, after completion of the project, remains a challenge, however.

An alternative approach for government and private enterprises is to strengthen the existing public health sector in the project area. Such an approach has been tried and tested at a large hydroelectric project in Laos where a joint venture between the government health services and the project owners implemented primary health care and strengthened other national health programmes in the project area over a period of eight years. It resulted in significant improvements. Such an approach has the additional advantage of sustainability after the construction of the project.

The paper will describe the approach and its advantages and go on to elaborate on the plans for this approach to be implemented in the Lesotho Highlands Water Project Phase II.

1. INTRODUCTION

The Lesotho Highlands Water Project (LHWP) is a multi-billion Maloti/Rand bi-national project which was established by the treaty of 1986 signed between the governments of the Kingdom of Lesotho and the Republic of South Africa. The LHWP includes large scale civil engineering and socio-economic components including health and environmental elements. The LHWP will harness the water resources of the highlands of Lesotho through the construction of a series of dams and tunnels for the mutual benefit of Lesotho and the Republic of South Africa. The first phase (Phase I) of the four-phased project was completed in 2003, and the second phase (Phase II) is currently underway.

The Water Transfer component of Phase II will comprise a Concrete-Faced Rockfill Dam at Polihali, downstream of the confluence of the Khubelu and Senqu (Orange) Rivers, and a gravity tunnel that will connect Polihali Reservoir to the Katse Reservoir. Other Phase II activities include the establishment of advance infrastructure (roads, camps, power line, telecommunication system, etc.), feeder roads and the implementation of environmental and social impact, including health, mitigation measures. The second Phase of the LHWP also includes the construction of a hydroelectric power generation scheme. Final feasibility studies are currently underway.

Phase II will require permanent acquisition of land. Most of this will be caused by the creation of the Polihali Dam and Reservoir (located in the Mokhotlong District) which will inundate some 5 000 ha of land in the valleys and tributary catchments of the Senqu and Khubelu Rivers[1].

[1] The proposed Polihali Dam is a 163.5 m high, Concrete Face Rockfill Dam with a side channel spillway, as well as 49.5 m high, Concrete Face Rock Fill Saddle Dam.

Permanent land acquisition will also occur for advance infrastructure developments such as the access roads, power lines and permanent office/residential facilities. Temporary occupation of land will also occur during the construction period for accommodation, works areas, etc.

2. PUBLIC HEALTH IMPACTS

To meet its commitments to affected communities, LHDA is engaged in procuring the services of a consultancy to conduct a Health Impact Assessment (HIA), prepare a Public Health Action Plan (PHAP), and implement the PHAP in the defined areas impacted by the Project. The HIA will be based on the findings and further analysis of data available from Socio-economic, Environmental and Public Health Baseline Studies, which were completed in 2015. The consultant will also use information from the national Demographic Health Surveys and other major health surveys conducted in the past. The potential health impacts of the Project identified in the HIA will be the basis for the preparation of the PHAP. This process will be carried out in close collaboration with the Ministry of Health (MOH) and the responsible local health authorities. This will allow ownership of health service delivery to remain in the hands of the service providers and will facilitate the seamless continuation of the health services after completion of the construction activities.

Implementation of Phase II will lead to involuntary resettlement (physical and economic displacement), with potentially significant impacts on the livelihoods, socio-economic and health status of the local population. Projections from the 2006 census data put the population of Mokhotlong district, where the project is located, just over 100 000. Apart from involuntary resettlement of some 900 people, at least half of the district population is likely to be affected directly or indirectly by the project. LHDA is mandated to ensure that the risks associated with the project are addressed and that the livelihoods of affected people are restored. As with other large projects, health impacts are likely to be caused by a loss of agricultural land leading to scarcity of food crops grown in the area, the influx of large number of work force leading to likely spread of sexually transmitted infections including HIV/AIDS, use of recreational drugs, road traffic accidents and other social disruption associated with temporary incumbents. In addition, the construction work will also attract followers looking for economic opportunities adding to the burden on local health and social services.

3. CONVENTIONAL APPROACHES

Conventional approaches to health care in large projects are generally through company run health clinics for illness care for the workers and their families with minimal concern for primary health care and/or preventive services in the affected areas. These projects are generally located in remote areas and the project owners may build one or two health facilities in the area if requested by the government and equip them with required medical and office equipment. In some cases companies provide health staff for these facilities. Generally, free services are provided to the impacted populations. An ambulance at construction site for any emergencies is also made available for local communities and at the end of the project the ambulance is left with the local government health authorities. However, at the end of these projects, it is seen that these services and the support often disappear, leaving these remote communities even more deprived as they are aware at this stage of some benefits of modern medicine. The general tendency is for developers to provide a service that appeases the immediate health needs of the communities with no thought to the sustainability of such services. A piecemeal approach of providing a clinic or two and some free services is seldom sustained after project completion.

4. AN ALTERNATIVE AND PREFERRED APPROACH

An alternative and preferred approach for government and private enterprise is to strengthen the existing public health sector in the project area. Such an approach has been tried and tested at a large hydroelectric project in Laos. Eight years of collaboration between the project owner and the government health sector implementing primary health care and strengthening other national health programmes in the project area demonstrated significant improvements in the health status of the affected communities. Such an approach has an additional advantage of sustainability after the construction work ends. LHDA plans to adopt this approach in LHWP Phase II.

The approach takes the view that health service provision is the responsibility of the national health care system under the Ministry of Health (MOH) and project developers could become a part of it. Project developers can assist governments with the difficult tasks they face given constraints on budget,

manpower, access to health facilities in the remote areas and trying to implement national health programmes such as Tuberculosis (TB) and HIV/AIDS evenly in the countries.

Health aspects that large development projects rarely associate with are maternal and child health. It is argued that women and children are not directly affected by such projects. This is fallacious, as women and children are the first to be affected by such projects. When agricultural land is lost and food becomes scarce, women and children are the first to suffer, especially pregnant women and children under five years of age. Men in the communities often find construction jobs and this may affect the cropping. Men may also earn cash and spend elsewhere, rather than sending it to their families.

Outreach programmes in rural areas are weak in providing basic preventive services, particularly in remote communities. Immunisation rates, care during and after pregnancy (antenatal and postnatal care), supervised child birth, growth monitoring among under-5s, uninterrupted treatment of chronic diseases (HIV/AIDS and TB) are the most neglected aspects of primary health care. General lack of these services is the reason behind unacceptably high infant and maternal morbidity and mortality in rural and remote areas, and rural health indicators that differ significantly from urban areas.

It is not the responsibility of projects to organise and provide these services. However, by using resources available for health programmes, it is possible to have a small team of dedicated health experts to assist local health authorities in implementing the existing national health programmes in project areas. Our experience of strengthening existing health service provision of curative and preventive services in a project area demonstrates that this approach not only mitigates the adverse effects of projects, but also helps the local health authorities to be better organised so that the positive impacts are sustained after the completion of the project.

5. **THE APPROACH**

The intention of applying this approach in Phase II of the LHWP is stated in the LHDA Public Health Policy (LHDA 2015) and is also reflected in the request for proposal (RFP) for HIA and PHAP. The objectives of the approach are twofold:

- Mitigation of any adverse impacts of the project; and
- Strengthening the existing health care delivery system in the project impacted areas.

These objectives covers all that is required of a large project but do more for health of the impacted communities and eventually have a better chance of sustainability.

The project intends to procure a small public health team to develop the HIA and the PHAP and assist local government health workers to implement the plan in such a way that by the time project comes to a close, local health authorities are able to sustain the reforms. The team will consist of a team leader, an experienced public health specialist, assisted by an experienced public health nurse in maternal and child health. In addition, the team is expected to have an assistant public health nurse, a health educator and information officer. Collectively the team is expected to collaborate with the MOH and the local health authorities in the impacted districts to develop the HIA and PHAP. To ensure PHAP success, RFP identifies the need for inclusion of a memorandum of understanding (MOU) between LHDA and MOH, which will be signed soon after the development of the PHAP. After its approval by MOH and LHDA, will be implemented in the project area by local health authorities facilitated by the PHAP team. It is also emphasised in the RFP that the service provision is not restricted strictly to the project impacted populations but that it will cover the population in the catchment area of the health centres in the project area so that whole population benefits from any improvements in services.

Specific focus areas in the PHAP will be:

1. Strengthening the existing health facilities in the project area, including the district hospital;
2. Capacity building – training of all level of health workers;
3. Assisting local health authorities to strengthen the outreach health programme through the health centres in the project area, concentrating on maternal and child health and the major national health programmes, e.g. HIV/AIDS and TB;
4. Strengthening the existing Health Management Information System (HMIS) using and developing a model electronic data collection system; and

5. Conducting periodic studies/surveys to monitor continuously the health of the impacted populations.

5.1 Strengthening the Existing Health Facilities

District health services in Lesotho are decentralised and the district hospital and the District Health Management Team (DHMT) manage and supervise the health services in the district. The District Hospital is the main referral point for all patients from health centres in the district. Both inpatient and outpatient care is provided but the services vary widely depending on the availability of financial resources, equipment and the staffing of these health facilities. The district hospital provides major and minor surgical services, ophthalmic care, counselling and radiology, dental services, mental health services, blood transfusions and preventive care. Some specialized care may also be available for TB, HIV and some non-communicable diseases.

The DHMT through its focal officer, a public health nurse, supervises the curative and preventive work in health centres and the communities served by them. A typical health centre in Lesotho is staffed by nurse clinicians with comprehensive skills in preventive and curative care and in the dispensing of common medications. Both curative and preventative services are provided and include immunizations, family planning, postnatal and antenatal care on an outpatient basis, although only some health centres provide supervised child birth. Their mandate also extends to supervising the community public health efforts and the training of volunteer community health workers (CHWs). Health posts provide community outreach services and are typically managed by volunteers (Mwase et al 2010). In practice, due to various constraints, the delivery of the essential health services from the health centres are highly variable in rural and remote areas. The only way to be served is to get to a health centre which is a challenge most of the times for these communities.

The PHAP team will concentrate on strengthening the health centres. The team will continuously provide support to the DHMT responsible for all preventative work in the district. The priority area will be the outreach programme in the villages, which will included preventive services and follow up of all chronic diseases.

At district level, the PHAP will address possible areas of strengthening of the district hospital services, especially the accident and emergency services along with the required support services for emergency care, such as laboratory and radiological services. This will provide first level of emergency care to the construction workers and the local communities.

Under the RFP, the PHAP team is also required to strengthen the national HMIS data collection and collation system through an improved electronic data collection system to support monitoring and evaluation.

5.2 Capacity Building

The PHAP health team will have a special mandate to organise and liaise with all health training programmes for the health centre staff including the CHWs. These training programmes will concentrate on prevention and health promotion.

5.3 Outreach Health Programme

According to the national health plan, the health centres are to provide outreach preventive services to the villages in the health centre catchment area. This has not been possible because of the shortage of funds and human resources. The PHAP team, in collaboration with the DHMT, will outline areas of needs and resources to include in the PHAP to enable the outreach programme to function. The team will continue to ensure that the monthly outreach programme from health centres is operational on a regular basis. This outreach programme will take health services into the villages, enabling communities to have regular antenatal and postnatal care, family planning, growth monitoring among under-5s and immunisations, for example. Outreach programmes will also improve the problem of compliance in the treatment of HIV/AIDS, TB and other chronic diseases in the communities.

Strengthening of reproductive, maternal, neonatal and child health services has resulted in a reduction of unacceptably high maternal and infant morbidity and mortality in many countries (PMNCH 2011). Although substantial progress has been made towards achieving the Millennium Development Goals (MDGs) 4 and 5, the rates of decline in maternal, newborn and under-five mortality remain insufficient and have failed to achieve expected goals by 2015.

5.4 Health Information Management System

Building an effective health information management system (HIMS) is essential (WHO 2014) for health service provision and for strengthening the primary health care (PHC) system, including reproductive, maternal, neonatal and child health (RMNCH). Currently, collection of PHC information is mandatory in Lesotho, but it is seldom complete and up-to-date. Paper collection of data for service delivery points is open to errors, is incomplete and raises problems with data accumulation. Data entry on computers at the district headquarters has many months' backlog. The answer to this problem is in capturing the data electronically at site and transmitting it to the district information centre. The technology is available and it is both cost effective and efficient. The PHAP team will develop this system and create a model for possible use outside the project area as well.

5.5 Conducting Periodic Studies/Surveys

The PHAP team supervised by LHDA will conduct periodic surveys to monitor the health of the impacted populations. The baseline studies commissioned earlier by LHDA and these surveys will be used as the basis of determining positive or negative changes taking place over time. The LHDA under the PHAP also plans to conduct the mid-term and the final survey before the end of the operation phase.

6. FEASIBILITY OF THE APPROACH

A similar approach has been tried and tested by Nam Theun 2 Hydroelectric project (NTPC) at its 1000 MW hydroelectric project in Laos and is detailed in the NTPC's Social Development Plan (NTPC 2005). The NTPC health team collaborated in strengthening the local health authorities, especially the health centres and their outreach programme in the project area, implementing the primary health care and mitigating any adverse effects of the project. Eight years of applying this approach to strengthen the existing health care delivery system has proven beyond doubt that the methodology works and is feasible. Moreover, the strategy stands the best chance of sustainability.

Table 1 lists the selected indicators that demonstrate improvements over time. This information was possible only because of the importance given to routine data collection under the health programme. The project strengthened the national HMIS, computerising it and keeping it updated to have live information on health status of the affected population in real time.

Table 1. Achievements of Nam Then 2 Hydroelectric Project, Laos

No	Selected Indicators Among Resettled Population	Before the start of the Project	Latest 2013	MDG Target 2015
1	Universal Primary Education	31% (2006)	90%	98%
2	Environmental Sustainability 1. Safe Water 2. Sanitation Facility (Toilets for each household)	 NA NA	 98% 89%	 80% 60%
3	Infant Mortality Rate/1000 LBs Under-5 Mortality Rate/1000 LBs Under 2 Year Old: Immunisation Schedule complete under 2 Yrs.	105 121 (2008) NA	46 50 97%	70 45 90%
4	Stunting among Under-5s	43% (2008)	34%	34%
5	Maternal Health 15-49 received ANC by skilled worker Skilled supervision during childbirth Modern Contraceptive Use (F15-49)	 NA NA 43% (2008)	 74% 57% 57%	 60% 50% 43%

Source: NTPC 2013. www.ntpc.com

7. DISCUSSION AND CONCLUSIONS

Corporate Social Responsibility (CSR) implies behaving in a socially responsible manner. It is not a short-cut to business success but an investment that may pay off in the longer term. For project owners,

CSR is an opportunity to prove to the world that private enterprises are not all selfish and have a special interest in communities benefiting significantly from large projects.

EDF Group, the major shareholder of the NTPC, in their Corporate Social Responsibility Agreement 2009 (EDF 2009), endorses various UN declarations, especially the declarations of the rights of children and the elimination of all forms of discrimination against women. The agreement also expresses concern for their social environment and becomes involved and participate in awareness actions in favour of major public health issues.

The NTPC health programme adopted an approach of strengthening the existing health care delivery system with special interest in women and children and their health needs, in addition to mitigation of any other adverse effects of the project. The result was that the strengthening process automatically addressed negative impacts of the project and improved the health status of the population.

The dual burden of infectious and non-infectious morbidity and mortality, awareness and health education on causes of these burdens and how communities could help themselves to reduce this burden, made NTPC give importance to health education and awareness programmes. This was carried out through the assistance and guidance provided to local health service providers in community outreach programmes to promote preventive measures such as antenatal and postnatal care, skilled supervision during childbirth, family planning and the nutritional needs of women and the under-5s, and hygiene and sanitation to prevent infectious diseases.

The implementation of the health plan needs to be reviewed periodically to ensure that the plan is working. One can learn from the NTPC health programme that accurate data collection and analysis are key to demonstrating the successes and failures of a programme. Complete information on births and deaths, especially of the vulnerable groups such as children and women during childbirth, immunisations, family planning etc. are essential. Hence, effective programmes must have built-in information systems so that the effects of interventions can be monitored regularly.

LHDA endeavours to replicate Laos' experience in the Lesotho Highlands and hopes that the people in the project area will benefit from this approach. If successful, this could also serve as a model for replication in other parts of the country.

8. REFERENCES

Chopra et al 2015. Quality healthcare for all children – where are we in achieving the MDGs for maternal and child health? UNICEF 2015.
EDF 2009. Agreement on EDF group corporate social responsibility. 2009.
Grove J et al 2015. Maternal, newborn, and child health and the Sustainable Development Goals—a call for sustained and improved measurement. Lancet Vol. 386 p1512 October 17, 2015.
LHDA 2015. LHDA Public Health Policy February 2015. Lesotho Highlands Development Authority.
Mwase et al (2010). Ministry of Health. Lesotho health systems assessment 2010. Health systems 20/20. Abt Associates Inc.
NTPC 2005. Nam Theun 2 project. Social development plan. Volume 1 – Chapter 5: Health Impact Assessment and Public Health Action Plan. www.namtheun2.com (accessed on 10 Nov 2015).
NTPC 2013. Nam Theun 2 public health support programme handover to the government of Laos. Press release December 11, 2013. www.namtheun2.com (accessed on 10 Nov 2015)
PMNCH 2011. The partnership for maternal, newborn & child health. A global review of the key interventions related to reproductive, maternal, newborn and child health (RMNCH). Geneva, Switzerland.
WHO 2014. Civil registration: Why counting births and deaths is important. Fact Sheet n°324.

ACKNOWLEDGEMENTS

S Kaul was the project manager and technical adviser to the NTPC Health Programme. Any materials used in the paper are already published information in the public domain. The paper has also been approved by Lesotho Highland Development Authority before submission to the ICOLD.