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Nepal Health Sector Support Programme III

(NHSSP – III)

Joint Hospital Assessment Report – Karnali Province

Dailekh Hospital

Final Draft

26 August 2019

Options

Oxford Policy Management

HERD International

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2 Introduction

2.1 Background

The Nepal Health Sector Support Programme 3 (NHSSP) is a four-year programme designed to support the Government of Nepal (GoN) in implementing the Nepal Health Sector Strategy (2015-2020). The NHSSP is funded by UK Aid / UK Department for International Development (DFID) and aims to enhance the capacity of the Ministry of Health and Population (MoHP) and Department of Urban Development and Building Construction (DUDBC) to build a resilient health system providing quality health services for all.

The health systems component of NHSSP provides support to the MoHP to improve health policy-making and planning, procurement and financial management, health services, and the use of evidence for planning and management. The NHSSP's infrastructure component focuses on strengthening the capacity of government to develop resilient health infrastructure able to withstand natural disasters and climate change-induced hazard. The NHSSP Health Infrastructure team comprises architects, engineers, and Geographical Information System (GIS) experts, operating in the following work areas:

- development/improvement of national and provincial health infrastructure policy
- promoting the use of a planned integrated approach to health infrastructure development
- development of appropriate standards and codes, including the national standards for health infrastructure, and codes for seismic retrofitting of health infrastructure
- building the capacity of MoHP in evidence-based health infrastructure policy-making and managing an integrated, resilient health service
- building the capacity of the DUDBC to develop, manage and maintain health infrastructure works more effectively and efficiently, and to build technical skills in specialist aspects of health infrastructure development including utility services, healthcare waste management, seismic retrofitting and procurement procedures
- providing technical support for the seismic and functional retrofitting of two major hospitals at Bhaktapur and Pokhara

In the context of the Nepal federal administrative structure, the NHSSP Health Infrastructure team is providing technical assistance to sub-national governments. It is assisting municipalities to develop short-, medium- and long-term interventions to improve health facilities.

Currently, the NHSSP health infrastructure team working with five Provincial Ministries of Social Development, primarily providing technical, design and planning support for improving health facilities. In Karnali Province, the team is working jointly with USAID's Strengthening Systems for Better Health and Saving Newborn Lives (SSBHSNL). The SSBHSNL programme is supporting the assessment of human resources and service delivery in selected hospitals across the province, the NHSSP team is carrying out assessments on health infrastructure, connectivity and utilities.

2.2 Assessment Methodology and Process

The NHSSP team is guided by the following key principles in making assessments and recommendations for development of health infrastructure:

- Promoting integrated and efficient use of health infrastructure to provide better services to users
- Maximizing the use of existing facilities, and extending their operational life span where feasible and economic
- Improving operational efficiency and connectivity within the health facilities network, and promoting referrals to relevant facilities
- Promoting the use of and compliance with the Nepal Health Infrastructure Development standards 2017 (NHIDS) and the Standard Guidelines for the Development of Health Infrastructure 2017

A technical team from the Nepal Health Sector Support Programme 3 (NHSSP) have visited Dailekh Hospital in January and June 2019, at the request of the Provincial Ministry of Social Development (MoSD).

The general methodology can be summarised as:

2.2.1 Collection of data and information: Collection of secondary data on the hospital from sources including DoHS, MoSD information, Department of Urban Development & Building Construction (DUDBC) records – Divisional Offices and Provincial Project Implementation Units, hospital records, reports from previous project consultants.

2.2.2 Field assessment tools: The NHSSP team used its standard checklist and needs assessment tool to gather information on buildings on the site.

2.2.3 Field assessment exercise: The NHSSP technical experts carried out a field assessment on 19 June 2019, facilitated by the hospital management.

2.2.4 Consultation meetings: The NHSSP team have engaged closely with the Provincial Minister, representatives of the MoSD, hospital management, staff, the local authority and other relevant

stakeholders to secure information on proposed developments, operational requirements, catchment areas, road networks, and future plans.

2.2.5 Analysis of data and information: The NHSSP team analysed the primary and secondary data against a range of factors, including Health Infrastructure Information System (HIIS) data, Geographical Information System (GIS) maps, existing drawings, health facility standards and categories drawn from Nepal Health Infrastructure Development Standards (NHIDS). This analysis identified infrastructure and service delivery gaps, problems and key issues.

4 Infrastructure (NHSSP)

4.1 Site, buildings and existing situation

Dailekh Hospital is located on the ridge land at Dailekh Bazaar, Narayan Nagarpalika, Dailekh. It is designed as a 15 bed hospital but currently is running 45 beds. The Hospital has been categorized as a Primary A3 Level hospital under the Nepal Health Infrastructure Development Standards (NHIDS). According to the Health Infrastructure Information System (HIIS), the immediate hospital catchment within 7 km radius (between 2-3 hours walk) is 38 341 people. The dependent population – the total number of people in the District who could be referred to Dailekh Hospital – is over 179,000 (see Table 1 and Figure 1).

Hospital	Dependent Population	Catchment Population (within 7kms radius)	Categorized Status
Dailekh Hospital	179,539	38,341	Primary Hospital Type A 3

Table 1: Dailekh Hospital Dependent Population

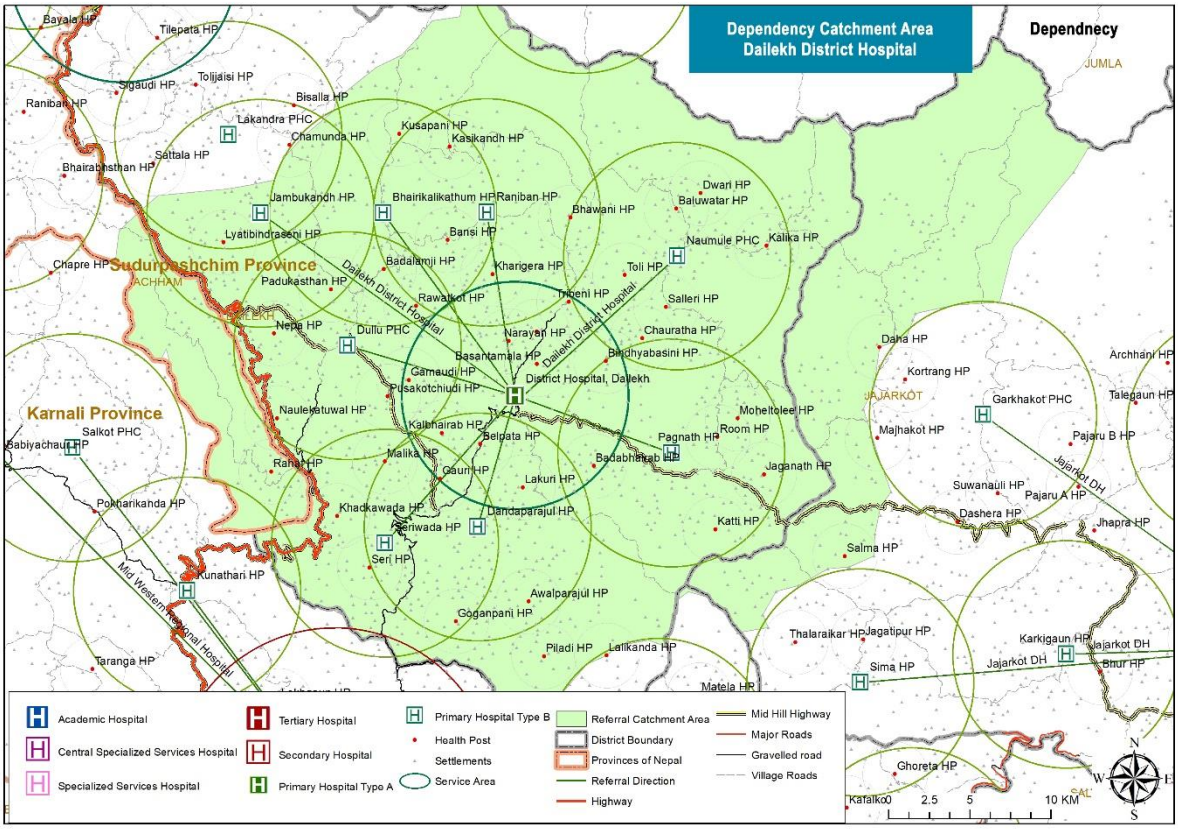

Figure 1: Dailekh Hospital Dependency Catchment Area

The introduction of sub-national government in 2074/75 B.S. (2017/18) under the new federal arrangements meant that the hospital fell under the jurisdiction of the new Karnali province.

The NHSSP Health Infrastructure team carried out a field inspection at Dailekh Hospital in January 2018, at the request of the Provincial Ministry of Social Development (MoSD).

4.2 Assessment Findings and Gap Analysis

4.2.1 New Hospital Block – Detailed Engineering and Architectural designs

The Federal MoHP proposed the construction of a new hospital block at Dailekh to house health service functions, located on adjacent open land. Detailed architectural and engineering designs for this structure were produced with technical assistance from KfW, the German Reconstruction Bank, but required considerable amendment and were not finalized.

4.2.2 Seismic Hazard

Examining the buildings in the hospital precinct, the NHSSP team found that the Comprehensive Emergency Obstetric and Neo-natal Care block (CEONC) and Nutrition service block are relatively new and are in good condition. However, a number of other buildings have been built with a combination of stone masonry in mud mortar and consequently are vulnerable to seismic hazards.

4.2.3 Integrated Planning

The hospital management lacks an up-to-date Master Plan for upgrading the hospital in an integrated fashion, taking account of infrastructure, human resources and equipment. Particular attention must be paid to compliance with the NHIDS as well as integrating with the existing structures on site in a rational fashion. Identifying a sequence of improvements is essential, taking account of current technical and financial resources at provincial level, so the Master Plan should set out interventions alongside a short-, medium- and long-term timeframe.

4.2.4 Electricity supply

Hospital management and staff reported various difficulties and faults with the electricity supply, including power surges damaging equipment. Electrical fittings in a number of buildings also need repair (see Figure 2)

Figure 2: Broken electrical fittings and makeshift repairs

4.2.5 Water supply

Hospital management and staff reported shortages of water on a regular basis.

4.2.6 Defects to the built fabric

There are cracks and deterioration to the roof, floors and glass windows in various building blocks, most noticeably in the Out-patients Department (OPD) and antenatal Care Block (see Figure 3)

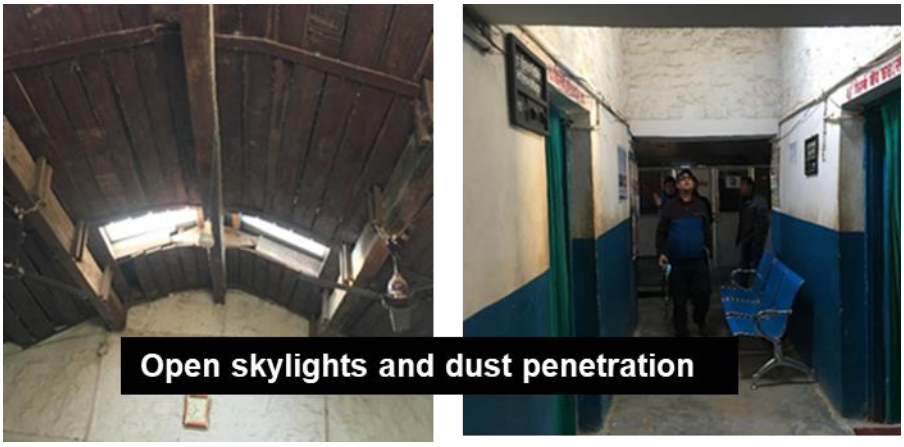

Figure 3: Dust, dirt and insects access through roof cracks

4.2.7 X-ray room

The hospital operates a 300ma X-ray machine. During the field visit, it was observed that shielding of the X-ray room was inadequate, exposing staff and patients to radiation risk.

4.2.8 Accessibility and linkages

There are various buildings where access for people with disabilities is difficult (see Figure 4). The site needs to surveyed and works to improve mobility access implemented.

Figure 4: Improve access for people with disabilities

4.3 Interventions

4.3.1 New Hospital Block - Detailed Architectural and Engineering Designs

The NHSSP Health Infrastructure will review these proposals generated with technical assistance from KfW and re-examine the development context and rationale. If considered practical, the team will adjust the designs as necessary, and produce viable final designs and estimates.

4.3.2 Seismic Hazard

A detailed condition assessment (including non-destructive testing) should be carried out to determine seismic safety requirements. This should be followed by production of design solutions and drawings for retrofitting works (structural and non-structural).

4.3.3 Integrated Planning and Master Plan

An integrated Master Plan should be drawn up for the hospital, identifying a coherent and rational process of physical development and service improvement. The plan should identify short-, medium- and long-term interventions:

- Short-term – from immediate to 2 years
- Medium – 2 to 5 years
- Long – post 5 years

4.3.4 Electricity supply

The electrical supply and distribution system should be surveyed, faults identified and repaired. Electricity demand, particularly given the requirements of the upgraded facilities, should be assessed and the system capacity checked.

4.3.5 Water supply

The water supply and distribution network should be surveyed, and capacity and demand checked. A rainwater capture and storage system should be introduced on site.

4.3.6 Defects to the built fabric

A detailed defects survey should be carried out, and repairs made to building blocks, particularly the Out-patients Department (OPD) and Antenatal Care Block.

4.3.7 X-ray room

The X-ray room should be assessed and anti-radiation shielding improved, using lead sheets.

4.3.8 Accessibility and mobility assessment

An accessibility and mobility assessment should be conducted to identify improvements to access to services for people with disabilities.

4.4 Development timeframe

The Master Plan will be the guiding document for upgrading the hospital, and its development is an important activity in the coming months. This should also be accompanied by short-term interventions identified above, as well as subsequent works arising from surveys and investigations

4.4.1 Short-term plan

The activities proposed for the short-term plan are required for immediate improvements and smooth running of the hospital. These can be implemented and constructed within a period of 2 years.

- Production of integrated Master Plan to guide future development of the hospital in line with Multi-hazard resilience perspective.
- Construction of new hospital building accommodating standard Operation Theater, wards with additional inpatient Beds, ICU, CSSD, x-ray room, emergency department, pathology department.
- Landscaping works (access road and pathways improvement and open space improvements etc.)
- Development and implementation of maintenance plan for hospital infrastructure and equipment
- Detailed condition assessment, including defects and seismic safety assessment, and production of programme of works in the area with existing building structures.
- Electricity supply survey, and production of programme of works
- Water supply survey, and production of programme of works
- Accessibility and mobility assessment, and production of programme of improvements
- X-ray room improvements to radiation shielding
- Development and adoption of Disaster Preparedness Plan and drill

Medium- and long-term activities will be confirmed after the findings of surveys and development of Master Plan, but could include:

- Seismic retrofitting of buildings where required
- Demolition of the most vulnerable buildings and decanting space construction to support retrofitting process

4.4 Conclusion

Dailekh Hospital is a very significant facility in the SW corner of Karnali province, and will become a key facility for the dependent population. Preliminary work has already begun, and needs to continue leading to the production of an integrated Master Plan for the current and future development of the precinct.