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Government of Balochistan

Environmental and Social Management Framework

Balochistan Human Capital Investment Project (BHCIP)

Health Department and Secondary Education Department
February 2019

Executive Summary

Introduction: The Government of Balochistan (GoB) intends to implement "Balochistan Human Capital Investment Project (BHCIP)" with proposed assistance from the World Bank (WB). The project will be implemented by provincial Planning and Development Department through Health and Secondary Education Departments. In line with the national/provincial laws as well as WB safeguard requirements; and to address potentially negative environmental and social impacts of the Project, the GoB has conducted an environmental and social assessment of the proposed activities. As an outcome of this assessment, this Environmental and Social Management Framework (ESMF) has been prepared.

Context and Rationale: Pakistan is facing economic challenges amid long-standing policy and structural weaknesses. While Pakistan has reduced poverty substantially over the last two decades, however, the poverty varies considerably from 7.4 percent in Islamabad to 67.3 percent in Dera Bugti, Balochistan, where in 2014, 21 out of 33 districts have poverty rates of 50 percent and above.[1] Balochistan stands at the lowest amongst many dimensions of human capital, including health and education outcomes, while the country is already performing worse than its regional peers on average. Balochistan has a Human Capital Index (HCI) of 34 percent, the lowest in Pakistan, and presents gender disparities with a HCI that is lower for females (32 percent) compared to males (35 percent).[2] The low score in human capital is partially linked to Balochistan's alarming 42 percent poverty rate[3] and socio-cultural norms that makes it difficult to utilize health and education services in the province. Balochistan performs worse than the national average across all health outcomes and health service utilization indicators. Infant mortality and under-5 mortality rates are 66 and 78 per 1,000 live births in Balochistan compared to 62 and 74 per 1,000 live births at the national level. The total fertility rate is 4.0 in Balochistan and 3.6 nationally, and almost half of the children under five are stunted in the province compared to about one in three at the national level. Children in Balochistan do not only suffer from poor health outcomes, but they also have restricted access to schools and suboptimal learning outcomes and continue to suffer from stark gender disparities. In Balochistan 64 percent of boys and 78 percent of girls between the age of 5 and 16 were out of primary and secondary school in FY2016-17. The overall girls' net enrollment is 35 percent compared to 56 percent among boys at the primary level, which further drops to an abysmally low 13 percent for girls and 20 percent for boys at the secondary level, indicating very low retention rates. The presence of large numbers of refugees without commensurate increase in resources has put extra pressure on the already stretched social sectors, severely affecting access to and utilization of quality health and education services for both host communities and refugees.[4]

The Project: Against the above described backdrop, the BHCIP aims to improve utilization of quality health and education services in selected refugee hosting districts of Balochistan. The project aims to achieve this by directly investing to fill supply- and demand- side gaps and strengthening service delivery systems through improved management and governance.

[1] WB. Data4Pakistan-District Development Portal. Retrieved from: https://geosdndev.worldbank.org/Data4Pakistan/. Accessed on September 28, 2019.
[2] Geven, K. Forthcoming. A Proposal for a Provincial Level Human Capital Index for Pakistan. WB: Washington DC.
[3] Pakistan Bureau of Statistics. 2017. Household Integrated Economic Survey (HIES) 2015/16 [Data from 2014/15]; WB. Data4Pakistan-District Development Portal. https://geosdndev.worldbank.org/Data4Pakistan/. Accessed on August 28, 2019.
[4] UNHCR, GoP, and United Nations Development Programme (UNDP). 2018.Needs Assessment for Refugee Affected Areas – Phase II. April 2008.

Project Development Objective: The project development objective is to improve utilization of quality health and education services in selected refugee hosting districts of Balochistan.

Project Area and Beneficiaries: The project will be implemented in 4 districts of Balochistan namely Chagai, Pishin, Quetta, and Killa Abdullah. The direct project beneficiaries will be children, adolescents, and women of reproductive age with a focus on refugees and host communities living in Refugee Affected Areas (RAAs) in these districts, as well as health and education departments which will achieve stronger and more effective governance and management capacities.

Project Components: The project focuses on improving utilization of quality health and education services to ensure children survive and stay healthy, so that they are ready to attend school and maximize learning opportunities, and become productive members of the society, thus contributing to its economic development. The Project has two components: **Component 1** aims to increase utilization of quality preventive and curative essential services delivered at the select existing primary and secondary level facilities in selected RAAs of Balochistan, with a focus on Reproductive Maternal Newborn, and Child Health and Nutrition (RMNCHN). **Component 2** aims at providing greater opportunities to children, especially girls, from RAAs of Balochistan to gain education that has the potential to transform their lives. These components are likely to contribute to the development of human capital in Balochistan.

Regulatory Review: Balochistan Environmental Protection Act 2012 being principle legislation of environmental protection in the Province envisages protection, improvement, conservation and rehabilitation with the help of legal action against polluters and ensure green awakening of communities. The discharge or emission of any effluent, waste, air pollutant or noise in an amount, concentration or level in excess of the Environmental Quality Standards specified by the Balochistan Environmental Protection Agency (BEPA) has been prohibited under the Act. According to OP 4.01, the World Bank requires environmental assessment (EA) of projects proposed for Bank financing to help ensure that they are environmentally sound and sustainable, and thus to improve decision making. Depending on the project, a range of EA instruments is available to fulfil their requirements.

For BHCIP, specific construction sites, and level of development has not been finalised; therefore, a framework approach has been adopted to prepare the environmental and social management tools. ESMF outlines the prerequisite environmental and social screening and, assessments of proposed project activities. As the project is not proposing major infrastructure and industrial development, it has been **assigned Category B** due to its low scale, localized, and reversible environmental and social impacts. This ESMF identifies the potential negative environmental and social impacts, proposes generic mitigation measures, provides basic screening criteria, list the type of safeguard instruments to be developed, and formulates institutional, monitoring, reporting and documentation measures for environmental and social safeguards compliance. Based on available information, World Bank Policies on **Environmental Assessment OP/BP 4.01 and Involuntary Resettlement OP/BP 4.12 have been triggered**.

Baseline: Balochistan is the largest province of Pakistan, which spreads over an area of 347,190 square kilometres, forming 43.6 per cent of the total area of Pakistan.[5] The project area includes four bordering districts Killa Abdullah, Chagai, Pishin, and Quetta covering an area of 59,209 square kilometres. Climatic conditions vary with topography, in the plains and lower highlands, summers are very hot and winters are mild. In the upper highlands, winters are chilly and summer temperatures are relatively low.[6] The focus of the groundwater exploitation in the

[5] http://www.balochistan.gov.pk/index.php?option=com_content&view=article&id=37&Itemid=783. Accessed on September 18 2019.

[6] 1998 Provincial Census Report of Balochistan, Nov 2001, Population Census Organization, Statistics Division, GoP.

province had been in the three hydrological basins being densely populated and having greater potential for development. These are Pishin Lora Basin, Nari River Basin, and Zhob River Basin out of which two fall in project districts. Due to unplanned tube-wells installation and subsequent indiscriminate pumping of water for the last two and a half decades, the area is now facing problem of depleting groundwater table at the rate of more than four to five meters annually in many of its aquifers and hence, tube-well drying is a common phenomenon. Water table fluctuates between 130 and 600 feet in project districts. According to the water quality study conducted by the World Bank, approximately 80 % of the drinking water samples revealed microbial contamination and high level of total dissolved solids making it unsafe for human consumption. Changing climatic conditions and the drought prevailing over the past several decades has created acute water shortage and endangered the sustainability of this precious resource. The project area is also prone to natural disasters like earthquakes, droughts and flash floods.

There are 8 protected sites in project districts which include one national park, 4 wildlife sanctuaries and 3 game reserves covering an area of 457,176 ha. The project interventions are not likely to be carried out in protected areas of Balochistan. The total area under the Balochistan Forest Department in 2016-17 was 2,783,554 acres[7], out of which 1,263,904 acres fall in the project districts.[8]

The total population of four project districts is 3,995,766 with 2,685,758 people residing in rural areas and 1,310,008 in urban areas. Balochistan hosts around 325,000 registered Afghan refugees, 47 percent of them are female and more than half of them (53 percent) are less than 18 years of age. In the project districts, there are approximately 280,799 registered Afghan refugees. The project districts have 10 government hospitals, 45 private hospitals, 23 rural health centers, 30 government and 19 private dispensaries, 116 basic health units, and 3 tuberculosis clinics. There are 2,591 schools in total in the four project districts with only 11 degree colleges. The total enrolment in primary schools of project districts is 177,536. The total number of students' enrolment from primary school to college is 26,859.

Stakeholder Consultation: Stakeholder consultations have been carried out with local communities who are the direct beneficiaries of the project interventions and institutions who have an important role in implementation of the project interventions. These consultations have revealed that the proposed project is considered to have a positive social impact by improving access to education and health facilities. Eighty percent of institutional stakeholders expressed the concerns regarding water shortage and accessibility to the area. Security situation of the districts was also discussed, thus proposing to hire locals for the employment. Respondents were of opinion that any activity that has potential to harm the natural environment shall be managed through proper mitigation measures.

Impact Assessment: As a part of this study an impact assessment has been carried out to provide guidance on anticipated environmental and social impacts to suggest generic mitigation measures. The overall environmental and social impacts of each can be mitigated with the implementation arrangement focusing on measures that reduce the impact to as low as possible. *The associated environmental and social impacts include air and water pollution, noise generation, drainage and safety hazards, and water contamination especially surface water*. Generic mitigation and management measures are proposed in the ESMF for construction sites. Potential environmental impacts to be generated during the construction include dust and air emissions, water quality impacts due to discharge of untreated sewage, solid waste management impacts related to the construction materials and noise impacts due to the

[7] Development Statistics of Balochistan 2016-17, Planning & Development Department, Bureau of Statistics, GoP.
[8] 1998 Provincial Census Report of Balochistan, Nov 2001, Population Census Organization, Statistics Division, GoP.

construction activities. *The social impacts include community and workers health and safety, social conflicts, Gender Based Voilence (GBV) and nuisance.* However***, the potential negative impacts of the construction are localized and short-term and only for the duration of construction activities. Similarly some negative impacts expected during the operation stage of the project are localized and of low impact scale.*** Specific Environmental and Social impacts and mitigation measures are proposed for education and health care facilities. The healthcare waste included infectious and toxic waste that requires special procedures, are provided in Environmental and Healthcare Waste Management Framework.

Construction activities of both components 1 and 2 will have moderate environmental and social impacts. Component 1 is expected to have medium scale negative environmental impact due to generation of hospital waste, whereas, ***high scale positive socioeconomic impact is expected due to improvement in health care***. As a part of this ESMF, a separate Environmental and Health Care Waste Management Plan (EHCWMP) is prepared to address those impacts at operational stage of health facilities. Component 2 is expected to have low scale negative environmental impact due to increase in liquid and solid waste, whereas, ***high scale positive socioeconomic impact is expected through improving access to education for children especially girls***.

The cumulative impact of both components is moderate. If the environmental impact of Component 1 is not addressed through proposed mitigation measures then the operation of Component 1 is likely to cause adverse environmental and social impact by polluting water ways, soil, air and impacting residing human population. Therefore, EHCWMP is prepared along with this document to address adverse environmental and social impacts. Similarly, Component 2 will also have minor environmental impact, however, if not mitigated according to ESMF, it can cause temporary damage to the environment and social lives.

Institutional Arrangements: The Project will be implemented by two departments in line with the government mandates through the existing governance structures. At the provincial level, Health Department and SED will implement and manage activities under Component 1-health and Component 2-education, respectively. Each department will have a project management unit (PMU) to a) plan and manage the implementation of project activities, b) monitor and report periodically the progress including fiduciary and safeguards requirements, and c) liaise with the WB and other Development Partners supporting the GoB. ***The overall responsibility for ESMF implementation will be with two PMUs in Health and Secondary Education Departments***.

Environmental and Social Safeguard Officers will be deployed in both PMUs to plan, implement, manage, monitor and supervise all ESS related activities and measures. Monitoring and reporting system will be established with continuous process of collecting, collating and analysing information about the progress of ESMF implementation. The internal and external monitoring system will act as a tool for identifying strengths and weaknesses of the process. Periodic evaluation of the process and the outcomes will enable the two PMUs to identify deficiencies and implement corrective measures to achieve the desired goals and objectives of ESMF.

Resettlement Policy Framework (RPF): The project includes rehabilitation, refurbishment and in some instances extension of infrastructure at a small scale. All possible efforts will be taken by the project to construct and rehabilitate existing facilities. In case there is a need to obtain small parcels of private land for minor extensions, priority will be given to Voluntary Land Donation (VLD). The VLD process is described in the RPF for the project.

Grievance Redressal Mechanism: BHCIP will have two separate complaints mechanisms; a grievance procedure each for health care component and education to ensure that the people

affected by project activities are able to lodge complaints or share their concerns without cost, with the assurance of a timely and satisfactory resolution of the issue. BHCIP will leverage the use of an existing Grievance Redress Mechanism (GRM) established for Balochistan Education Project for complaints management of the Education interventions by the BHCIP. Under the PMU-Education, the Project Director (PD) will be made responsible for the compliance of GRM, assisted by the M&E section of PMU and the field level staff. The GRM complaints management will be done through 3 separate Grievance Redressal Committees (GRCs). The GRCs will assess the grievance/complaint by for declaring its qualification to be proceeded or rejected. The complaints redressal mechanism for health component of BHCIP will build on strengthening the existing complaints redress system of the Provincial Health Department. The BHCIP will use the existing Provincial "Complaint Cell" of Health Department for receiving of complaints which will be entered in a centralized database/Management Information System. Records of all complaints will be maintained at the Provincial Health Department and at PMU. For the resolution of grievances, a three-tiered mechanism will be used where the complaints regarding concerned departments/facilities will be forwarded to and resolved by respective: Health care facilities, District Health Departments and Provincial Health Department.

Budget and Disclosure: A total amount of PKR 22,742,240 has been allocated for the implementation of ESMF. Additionally, some budget will be covered in the construction, third party monitoring contracts and the supplies budget. The budget will be spent on mitigation, trainings, awareness and communication material, staffing, third party validation and monitoring and, ESMPs and RAPs formulation, implementation and monitoring. Once finalized, the safeguard documents including ESMF, RPF and EHCWMP, along with Urdu translation of Executive Summaries, will be disclosed on the official websites of Health Department and SED Department; and on the World Bank external website. Hard copies of the safeguards documents will also be shared with the BEPA, project stakeholders, contractors and civil society organizations. A copy of each safeguards document will be placed in the PMUs, and Planning and Development Department for public access. The Urdu translation of the Executive Summary of the safeguards documents will also be distributed to all relevant stakeholders, especially to the beneficiary communities in the project areas. The purpose will be to inform them about the project activities, negative environmental and social impacts expected from the project and proposed mitigation measures.

ایکزیکٹو خلاصہ

تعارف: حکومت بلوچستان (جی او بی) عالمی بینک (ڈ بلیو بی) کی تجویز کردہ امداد کے ساتھ "بلوچستان ہیومن کیپٹل انویسٹمنٹ پروجیکٹ (بی ایچ سی آئی پی)" پر عمل درآمد کا ارادہ رکھتی ہے۔ اس منصوبے کا اطلاق صحت اور ثانوی تعلیم کے محکموں کے توسط سے صوبائی منصوبہ بندی اور ترقیاتی محکمہ کرے گا۔ قومی / صوبائی قوانین کے ساتھ ساتھ عالمی بینک کے تحفظ کی ضروریات کے مطابق۔ اور اس منصوبے کے ممکنہ منفی ماحولیاتی اور معاشرتی اثرات کو دور کرنے کے لئے ، حکومت نے مجوزہ سرگرمیوں کا ماحولیاتی اور معاشرتی کا فریم ورک جائزہ لیا ہے۔ اس تشخیص کے نتیجے کے طور پر ، یہ ماحولیاتی اور سماجی انتظام تیار کیا گیا ہے۔ (ESMF)

سیاق و سباق: دیرینہ پالیسی اور ساختی کمزوریوں کے درمیان پاکستان کو معاشی چیلنجز کا سامنا ہے۔ اگرچہ پاکستان نے گذشتہ دو دہائیوں کے دوران غربت میں کافی حد تک کمی کی ہے ، تاہم ، غربت جو کہ اسلام آباد میں 7.4 فیصد اور بلوچستان کے ڈیرہ بگٹی میں 67.3 فیصد تک ہے میں کافی حد تک فرق ہے ، جبکہ 2014 میں ، 33 اضلاع میں سے 21 میں غربت کی شرح 50 فیصد اور اس سے زیادہ ہے۔ بلوچستان صحت اور تعلیم کے نتائج سمیت انسانی سرمائے کی متعدد جہتوں میں کم ترین مقام پر ہے ، جبکہ ملک پہلے ہی اوسطا اپنےعلاقائی ملکوں سے بھی بدتر کارکردگی کا مظاہرہ کر رہا ہے۔ بلوچستان میں انسانی سرمائے کی سرمایہ کاری 34 فیصد ہے ، جو پاکستان میں سب سے کم ہے ، اور انسانی سرمائے میں سرمایہ کاری کے ساتھ صنفی امتیازات پیش کیے گئے ہیں جو مردوں (35 فیصد) کے مقابلے خواتین (32 فیصد) کے لئے کم ہیں۔ انسانی سرمائے (ہیومن کیپیٹل) میں کم تعداد جزوی طور پر بلوچستان کے خطرناک 42 فیصد غربت کی شرح اور سماجی و ثقافتی اصولوں سے جڑا ہوا ہے، جس کی وجہ سے اس صوبے میں صحت اور تعلیم کی خدمات کو بروئے کار لانا مشکل ہوجاتا ہے۔ بلوچستان صحت کے تمام نتائج اور صحت کی خدمت کے استعمال کے اشاروں میں قومی اوسط سے بدتر کارکردگی کا مظاہرہ کرتا ہے۔ بلوچستن میں ایک ہزار (1000) زندہ بیدا ہونے والوں میں نوزائیدہ اور 5 سال سے کم عمر کی اموات کی شرح قومی سطح کی 62 اور 74 فیصد کے مقابلہ میں 66 اور 78 فیصد ہے۔ بلوچستان میں پیدائش کی کل شرح 4.0 اور قومی سطح پر 3.6 ہے' اور قومی سطح پر تقریبا تین میں سے ایک کے مقابلے میں صوبے پانچ سال سے کم عمر بچوں میں سے نصف (اسٹنٹ) کم نشونما والے ہیں۔ بلوچستان میں بچے نہ صرف صحت کے خراب نتائج کا شکار ہیں ، بلکہ اسکولوں تک ان کی رسائی بھی محدود تک ہے' اور کم سیکھنے کےنتائج اور سخت صنفی امتیاز کا شکار ہیں۔ بلوچستان میں مالی سال17-2016ء میں 64 فیصد لڑکے اور 5 فیصد سے 16 سال کی عمر کی 78 فیصد لڑکیاں پرائمری اور سیکنڈری اسکول سے باہر ہیں۔ بلوچستان میں مالی سال15-2016ء میں 64 فیصد لڑکے اور 5 سے 16 سال کی عمر کی 78 فیصد لڑکیاں پرائمری اور سیکنڈری اسکول سے باہر ہیں۔ مجموعی طور پر پرائمری سطح پر لڑکوں کے 56 فیصد کے مقابلے میں لڑکیوں کا اصل اندراج 35 فیصد ہے ، جو لڑکیوں کے لئے غیر معمولی طور پر 13 فیصد کم اور ثانوی سطح پر لڑکوں کے لئے 20 فیصد تک کم ہو جاتا ہے، جس سے برقرار رکھنے کی بہت کم شرح ظاہر ہوتی ہے۔ وسائل میں یکساں اضافے کے بغیر مہاجرین کی بڑی تعداد کی موجودگی نے پہلے سے پھیلے ہوئے معاشرتی شعبوں پر اضافی دباؤ ڈالا ہے ، جس سے میزبان حلقوں اور مہاجرین دونوں کے لئے معیاری صحت اور تعلیم کی خدمات تک رسائی اور ان کا استعمال سخت متاثر ہوا ہے۔

پراجکٹ: مذکورہ بالا پس منظر کے برعکس، بی ایچ سی آئی پی کا مقصد بلوچستان کے مہاجرین کی میزبانی کرنے والے منتخب اضلاع میں معیاری صحت اور تعلیم کی خدمات کے استعمال کو بہتر بنانا ہے۔ اس منصوبے کا مقصد سپلائی اور طلب کے فرق کو پورا کرنے کے لئے براہ راست سرمایہ کاری کرکے اور بہتر انتظامیہ اور حکمرانی کے ذریعہ خدمت کی فراہمی کے نظام کو مضبوط بنانے کے ذریعے سرمایہ کاری کرنا ہے۔

پروجیکٹ ڈویلپمنٹ کا مقصد: منصوبے کی ترقی کا مقصد بلوچستان کے منتخب مہاجرین کی میزبانی کرنے والے اضلاع میں صحت اور تعلیم کی معیاری خدمات کے استعمال کو بہتر بنانا ہے۔

پراجیکٹ ایریا اور فائدہ اٹھانے والے: اس منصوبے کو بلوچستان کے چار اضلاع چاغی ، پشین ، کوئٹہ اور قلعہ عبد اللہ میں نافذ کیا جائے گا۔ براہ راست منصوبے سے فائدہ اٹھانے والے افراد بچے ، نو عمر ، اور ان اضلاع میں پناہ گزینوں سے متاثرہ علاقوں میں رہنے والے مہاجرین اور میزبان برادریوں کے ساتھ ساتھ صحت و تعلیم کے شعبوں پر توجہ دینے کے ساتھ تولیدی عمر کی خواتین ہوں گے ، جس سے مضبوط اور مؤثر حکمرانی اور انتظامی قابلیت حاصل ہوگی۔

پروجیکٹ کے اجزاء: اس پروجیکٹ میں صحت اورتعلیم کی معیاری خدمات کے استعمال کو بہتر بنانے پر توجہ دی گئی ہے تاکہ بچوں کی بقاء اور صحتمند رہنے کو یقینی بنایا جاسکے ، وہ اسکول میں تعلیم حاصل کرنے کے لئے تیار ہوں اور سیکھنے کے مواقع کو بڑھا ئیں ، اور معاشرے کے نتیجہ خیز افراد بنتے ہوئے اس کی معاشی ترقی میں اپنا حصہ ڈالیں۔ پروجیکٹ دو حصوں میں ہے جیسا کہ ذیل میں مختصرا بیان کیا گیا ہے۔ جز نمبر 1 کا مقصد نوزائیدہ تولیدی زچگی، اور بچوں کی صحت اور غذائیت (آر ایم این سی ایچ این) پر توجہ مرکوز کرتے ہوئے ، بلوچستان کے منتخب آر اے اے میں منتخب موجودہ بنیادی اور ثانوی سطح کی سہولیات پر فراہم کی جانے والی معیاری روک تھام اور علاج معالجہ کی ضروری خدمات کے استعمال میں اضافہ کرنا ہے۔ جز 2 کا مقصد بلوچستان کے آر اے اے سے تعلق رکھنے والے بچے خصوصا لڑکیاں، جو اپنی زند گیوں میں تبدیلی کانے کی صلاحیت رکھتے ہیں، کو زیادہ سے زیادہ تعلیم حاصل کرنے کے مواقع فراہم کرنا ہے۔ امکان ہے کہ یہ اجزاء بلوچستان میں انسانی سرمائے کی ترقی میں معاون ثابت ہوں گے۔

انضباطی (ریگولیٹری) جائزہ: بلوچستان ماحولیاتی تحفظ ایکٹ 2012 صوبہ میں ماحولیاتی تحفظ کی اصولی قانون سازی ہے جس کے تحت آلودگیوں کے خلاف قانونی کارروائی کی مدد سے حفاظت، بہتری ، تحفظ اور بحالی کے منصوبوں پر غور کیا جاتا ہے اور کمیونٹیز میں ہریالی کے بارے میں بیداری کو یقینی بنانا ہے۔

بلوچستان ماحولیاتی تحفظ کی ایجنسی (بی ای پی اے) کے ذریعہ مخصوص ماحولیاتی معیارات (ای کیو ایس) سے زیادہ مقدار، حراستی یا سطح میں کسی بھی طرح کے آلودہ ، فضلہ ، ہوا آلودگی یا شور کے خارج ہونے یا اخراج پر ایکٹ کے تحت پابندی عائد کردی گئی ہے۔ او پی 4.01 کے مطابق ، عالمی بینک کو بینک فنانسنگ کے لئے تشخیص (ای اے) درکار ہوتی ہے تاکہ یہ یقینی بنایا جاسکے کہ وہ تجویز کردہ منصوبوں کے ماحولیاتی ماحولیاتی لحاظ سے مستحکم اور پائیدار ہوں ، اور اس طرح فیصلہ سازی میں بہتری لائی جائے۔ منصوبے کے پیش نظر ، ان کی ضروریات کو پورا کرنے کے لئے آلات کی کئی ماحولیاتی تشخیص دستیاب ہیں۔

بی ایچ سی آئی پی کے لئے ، مخصوص تعمیراتی مقامات اور ترقی کی سطح کو حتمی شکل نہیں دی گئی ہے۔ لہذا ، ماحولیاتی اور سماجی انتظامی طریقہ کار وضع کرنے کے لئے ایک فریم ورک نقطہ نظر اپنایا گیا ہے۔ ماحولیاتی اور سوشل مینجمنٹ فریم ورک (ای ایس ایم ایف) طے شدہ ماحولیانی اور معاشرتی جائزہ، اور منصوبے کی مجوزہ سرگرمیوں کے جائزہ کا خاکہ پیش کرتا ہے۔ معاشرتی ترقیاتی منصوبے کی حیثیت سے بڑے بنیادی ڈھانچے اور صنعتی ترقی کی تجویز پیش نہیں کرنے پر ، اس کو نچلے درجے، مقامی طور پر بنائے جانے، اور ماحولیاتی اور معاشرتی اثرات کو کم کرنے کی وجہ سے کیٹگری-بی تفویض کی گئی ہے۔ یہ ای ایس ایم ایف ممکنہ منفی ماحولیاتی اور معاشرتی اثرات کی نشاندہی کرتا ہے ، عام تخفیف کے اقدامات تجویز کرتا ہے اسکریننگ کا بنیادی معیار مہیا کرتا ہے ، تیار کیے جانے والے حفاظتی آلات کی فہرست بناتا ہے اور ماحولیاتی اور سماجی تحفظات کی تعمیل کے لئے ادارہ جاتی ، نگرانی ، رپورٹنگ اور دستاویزاتی اقدامات کی تشکیل کرتا ہے۔

دستیاب معلومات کی بنیاد پر، <u>(ماحولیاتی جانچ) انوائرمینٹل ایسسمنٹ او پی/ بی پی 4.01</u> اور <u>(غیر رضاکارانہ) انوالنٹیری ریسیٹلمنٹ اوپی/ بی پی 4.12</u> پر عالمی بینک کی پالیسیوں کو متحرک کر دیا گیا ہے۔

بیس لائن: بلوچستان پاکستان کا سب سے بڑا صوبہ ہے ، جو 347,190 مربع کلومیٹر کے رقبے میں پھیلا ہوا ہے ، جو پاکستان کے کل رقبے کا 43.6 فیصد بنتا ہے۔ پروجیکٹ کے علاقے میں چار سرحدی اضلاع قلعہ عبد اللہ ، چاغئی ، پشین ، اور کوئٹہ شامل ہیں جس کا رقب59,209 مربع کلومیٹر ہے۔ آب و ہوا کے حالات جغرافیا کےساتھ تبدیل ہوتے ہیں، میدانی علاقوں اور نچلے حصوں میں گرمیاں بہت گرم ہوتی ہیں اور سردیاں ہلکی ہوتی ہیں۔ بالائی پہاڑی علاقوں میں سردیوں میں ٹھنڈ اور موسم گرما کا درجہ حرارت نسبتا کم ہوتا ہے۔ صوبے میں زمینی پانی کے استحصال کی توجہ کا مرکز تین ہائیڈرووولوجیکل بیسن تھے جو گنجان آباد ہیں اور ترقی کی زیادہ صلاحیت رکھتے ہیں۔ یہ پشین لورا بیسن (پی ایل بی) ، دریائے ناری بیسن (این آر بی) ، اور ژوب دریائے بیسن (زیڈ آر بی) ہیں جن میں سے دو منصوبے میں شامل اضلاع میں گرتے ہیں۔ بغیر منصوبہ بندی کے ٹیوب ویلوں کی تنصیب اور اس کے نتیجے میں پچھلے ڈھائی دہائیوں سے پانی کی بلااشتعال پمپنگ کی وجہ سے ، اس علاقے کو اب اس کے کئی پائیوں میں سالانہ چار سے پانچ میٹر سے زیادہ کی سطح پر زیر زمین پانی کی سطح ختم ہونے کا مسئلہ درپیش ہے۔ ، ٹیوب ویل خشک ہونا ایک عام رجحان ہے۔ منصوبےمیں شامل اضلاع میں پانی کی سطح میں 130 سے 600 فٹ کے درمیان اتار چڑھاؤ آتا ہے۔ عالمی بینک کے ذریعہ کئے گئے پانی کے معیار کے مطالعے کے مطابق ، پینے کے پانی کے تقریبا 80 فیصد نمونوں میں مائکرو بائیل اور ٹی ڈی ایس کی اعلی سطح کا انکشاف ہوا ہے ہیں جس سے اسے انسانی استعمال کے لئے غیر محفوظ قرار دیا گیا ہے۔ بدلتے موسمیاتی حالات اور پچھلی کئی دہائیوں سے جاری خشک سالی نے پانی کی شدید قلت پیدا کردی ہے اور اس قیمتی وسائل کی پائیداری کو خطرے میں ڈال دیا ہے۔ اس منصوبے میں شامل علاقہ بھی قدرتی آفات کا شکار ہے۔

پروجیکٹ اضلاع میں 8 محفوظ مقامات ہیں جن میں ایک قومی پارک ، 4 جنگلی حیات کی محفوظ پناہ گاہیں اور 3 کھیلوں کے لئے 457176 ہیکٹر رقبے پر محیط ہیں۔ اس منصوبے کی مداخلت کا عمل کا بلوچستان کے محفوظ علاقوں میں کئے جانے کا امکان نہیں ہے۔ محکمہ جنگلات بلوچستان کے تحت سال17-2016 میں مجموعی رقبہ 2,783,554 ایکڑ تھا جس میں سے 1,263,904 ایکڑ پراجیکٹ اضلاع میں آتا ہے۔

منصوبے میں شامل چاروں اضلاع کی مجموعی آبادی 3,995,766 ہے اور دیہی علاقوں میں 2,685,758 افراد اور شہری علاقوں میں 1,310,008 مقیم ہیں۔ اس صوبے میں 300,000 سے زیادہ افغان مہاجرین مقیم ہیں، جو 'مہاجر گاؤں' یا کیمپوں کے علاوہ دیہی اور شہری علاقوں میں پھیل چکے ہیں۔ یہاں تک کہ اگرچہ شہری اور دیہی علاقوں میں رہنے والے مہاجرین کو مقامی معیشت میں اچھی طرح سے مربوط کیا گیا ہے ، ان کے پاس اثاثوں کے مالک ہونے کے قانونی حقوق نہیں ہیں، لہذا ان کی کاروباری سرگرمیوں میں ملوث ہونے کی صلاحیت بنیادی طور پر تعمیرات اور زراعت کے شعبے میں روزمرہ کی مزدوری اور آمدنی کے لئے موسمی ہجرت تک محدود ہے۔ ہنر مند مہاجرین حلقوں کی سطح پر اچھی طرح سے متحد ہیں۔ منصوبے کے کے تحت اضلاع میں 10 سرکاری اسپتال ، 45 نجی اسپتال ، 23 آر ایچ سی ، 30 سرکاری اور 19 نجی ڈسپنسری ، 116 بی ایچ یو اور 3 ٹی بی کلینک ہیں۔ چاروں پروجیکٹ اضلاع میں صرف 11 ڈگری کالجوں کے ساتھ کل 2,591 اسکول ہیں۔ پروجیکٹ اضلاع کے پرائمری اسکولوں میں کل اندراج 177,536 ہے۔ پرائمری اسکول سے کالج تک طلباء کے داخلے کی کل تعداد 26,859 ہے جو کہ اندراج میں کمی کے رجحان کو ظاہر کرتے ہیں۔ اندراج کے اعدادوشمار سے یہ بھی معلوم ہوتا ہے کہ پروجیکٹ اضلاع میں اعلی ثانوی تعلیم میں ،خصوصا خواتین طالب علموں میں رجحان میں کمی آرہی ہے۔

اسٹیک ہولڈر سے مشاورت: اسٹیک ہولڈرز سے مقامی کمیونٹیز کے ساتھ مشاورت کی گئی جو پروجیکٹ کی مداخلت اور اداروں کے براہ راست مستفید کنندہ ہیں جو اس منصوبے کی مداخلت پر عمل درآمد میں اہم کردار رکھتے ہیں۔ ان مشاورتوں سے انکشاف ہوا ہے کہ اس مجوزہ منصوبے پر تعلیم اور صحت کی سہولیات تک رسائی کو بہتر بنا کر مثبت معاشرتی اثرات مرتب کیے جانے کا خیال کیا جاتا ہے۔ پانی کی قلت اور علاقے تک رسائ کے متعلق 80 فیصد ادارہ جاتی اسٹیک ہولڈرز نے خدشات کا اظہار کیا۔ اضلاع کی سیکیورٹی صورتحال پر بھی تبادلہ خیال کیا گیا ، اس طرح مقامی لوگوں کو ملازمت کے لئے ملازمت دینے کی تجویز دی گئی۔ جواب دہندگان کی رائے تھی کہ کسی بھی ایسی سرگرمی کا جو قدرتی ماحول کو نقصان پہنچانے کی صلاحیت رکھتی ہو اس کا انتظام مناسب تخفیف اقدامات کے ذریعے کیا جائے۔

اثرات کی تشخیص: اس مطالعے کے ایک حصے کے طور پر، اثرات کا اندازہ لگایا گیا تاکہ تخفیفی اقدامات تجویز کرنے کے لئے متوقع ماحولیاتی اور معاشرتی اثرات کے بارے میں رہنمائی فراہم کی جاسکے۔ عملی انتظامات کے ساتھ ایسے اقدامات جواثرات کو ممکنہ حد تک کم کرسکیں پر توجہ مرکوز کرکے ہر ایک کے مجموعی ماحولیاتی اور معاشرتی اثرات کم کیا جاسکتا ہے۔ اس سے وابستہ ماحولیاتی اور معاشرتی اثرات میں ہوا اور پانی کی آلودگی ، شور کی پیداوار ، نکاسی آب اور حفاظت کے خطرات اور پانی میں ملاوٹ (پانی کی آلودگی) خاص طور پر سطحی پانی شامل ہیں۔ منصوبے کے ڈیزائن ، تعمیر اور بعد میں عمل درآمد کے مراحل کے لئے ماحولیاتی اور سماجی تخفیف اور انتظام کے فریم ورک میں تخفیف اور انتظامی اقدامات تجویز کیے گئے ہیں۔ تعمیراتی کام کے دوران پیدا ہونے والے ممکنہ ماحولیاتی اثرات میں دھول اور ہوائی اخراج ، زیر علاج نکاسی آب کے خارج ہونے سے پانی کے معیار کے اثرات ، تعمیراتی سرگرمیوں کی وجہ سے تعمیراتی مواد سے متعلق ٹھوس فضلہ کے انتظامات اور تعمیراتی سرگرمیوں کے وجہ سے شور کے اثرات شامل ہیں۔ سماجی اثرات میں کمیونٹی اور کارکنوں کی صحت اور حفاظت ، معاشرتی تنازعات اور پریشانیاں شامل ہیں۔ تاہم ، تعمیر کے ممکنہ منفی اثرات مقامی اور قلیل مدتی ہیں اور صرف تعمیر کے دورانیے کے لئے ہوتے ہیں۔ تعلیم اور صحت کی دیکھ بھال کی سہولیات کے لئے مخصوص ماحولیاتی اور سماجی اثرات اور تخفیف اقدامات تجویز کیے گئے ہیں۔

صحت کی دیکھ بھال کے کچرے میں متعدی اور زہریلا کچرہ شامل ہے جس کے لئے خاص طریقہ کار کی ضرورت ہے جوکہ ہیلتھ کیئر ویسٹ مینجمنٹ فریم ورک میں فراہم کی گئی ہے۔ جزو 1 اور 2 کی تعمیراتی سرگرمیوں کے معتدل ماحولیاتی اور معاشرتی اثرات مرتب ہوں گے۔ کئے گئ اندازہ کے مطابق ، توقع کی جارہی ہے کہ اسپتال میں پیدا شدہ کچرہ کی وجہ سے جز1 پر درمیانے درجے کے منفی ماحولیاتی اثرات مرتب ہوں گے ، جبکہ صحت کی دیکھ بھال میں بہتری کی وجہ سے اعلی پیمانے پر مثبت معاشرتی اثر متوقع ہے۔ اس ای ایس ایم ایف کے ایک حصے کے طور پر ، صحت کی سہولیات کے آپریشنل مرحلے میں ان اثرات کو دور کرنے کے لئے ایک علیحدہ ای ایچ سی ڈبلیو ایم پی تیار کیا گیا ہے۔ توقع کی جارہی ہے کہ مائع اور ٹھوس فضلہ میں اضافے کی وجہ سے اجزاء 2 پر کم پیمانے پر منفی ماحولیاتی اثر پڑے گا۔ اس سے بچوں خاص طور پر لڑکیوں کی تعلیم تک رسائی کو بہتر بنانے کے ذریعہ اعلی سطح پر مثبت معاشرتی اقتصادی اثرات مرتب ہوں گے۔ دونوں اجزاء کا مجموعی اثر اعتدال پسند ہے۔ اگر تجویز کردہ تخفیفی اقدامات کے ذریعہ جزو 1 کے ماحولیاتی اثرات کو دور نہیں کیا گیا ہے تو پھر جزء 1 کی کارروائیوں سے پانی کی گزر گاہوں کی آلودگی ، مٹی ، ہوا اور رہائشی انسانی آبادی کو متاثر کرکے ماحولیاتی اور معاشرتی اثرات مرتب کرنے کی وجہ بننے کا امکان ہے۔ لہذا ، منفی ماحولیاتی اور معاشرتی اثرات کو دور کرنے کے لئے اس دستاویز کے ساتھ ای ایچ سی ڈبلیو ایم پی بھی تیار جاتا ہے۔ اسی طرح جزو 2 پر معملی ماحولیاتی اثرات بھی مرتب ہوں گے ، تاہم اگر ای ایس ایم ایف کے مطابق کم نہ کیا گیا، تو یہ ماحولیات اور معاشرتی زندگیوں کو عارضی نقصان پہنچا سکتا ہے۔

ادارہ جاتی انتظامات: ای ایس ایم ایف پر عمل درآمد صحت اور تعلیم کی پی ایم یوز کی مجموعی نگرانی میں نافذ کیا جائے گا۔ اگرچہ نامزد پروجیکٹ ڈائریکٹرز ان کے متعلقہ اجزاء کا مجموعی انچارج ہوں گے ، تاہم ای ایس ایس افسروں کو دونوں پی ایم یوز میں منصوبہ بندی ، عمل درآمد ، انتظام ،نگرانی اور ای ایس ایس سے متعلق تمام سرگرمیوں کی نگرانی کے لئے تعینات کیا جائے گا۔ ای ایس ایم ایف اور آر پی ایف کے نفاذ کی پیشرفت کے بارے میں معلومات اکٹھا کرنے، ملانے اور تجزیہ کرنے کے کے مستقل عمل کے ساتھ نگرانی اور رپورٹنگ کا نظام (ایم اینڈ آر) قائم کیا جائے گا۔ یہ نظام، اندرونی اور بیرونی نگرانی کے ذریعہ، عمل کی مضبوطیوں اور کمزوریوں کی نشاندہی کرنے کے لئے ایک آلے کا کام کرے گا۔ عمل اور نتائج کی متواتر جانچ پڑتال سے دونوں پی ایم یوز کو ای ایس ایم ایف کے مطلوبہ اہداف اور مقاصد کے حصول کے لئے کمیوں کی نشاند ہی کرنے اور اصلاحی اقدامات پر عمل درآمد کرنے کا اہل بنائیں گے۔

شہریوں کی مشغولیا ت: شہریوں کی مشغولیت کی ایک جامع حکمت عملی تیار کی جائے گی جو شہریوں اور حکومت کے مابین ایک دو طرفہ مواصلاتی چینل ثابت ہوگی۔ بی ایچ سی آئی پی کے اندر شہریوں کی شمولیت کے کلیدی عناصر میں برادری کی متحرک کاری ، آگاہی مہم ، اسٹیک ہولڈرز سے مشورے اور آراء اور شکایات کے ازالے کے طریقہ کار کا موثر نفاذ شامل ہیں۔ حکمت عملی کے موثر نفاذ کے لئے دونوں پی ایم یو ذمہ دار ہوں

گے۔ دونوں پی ایم یوز میں موجود دو سیف گارڈ آفیسران کمیونٹی اور دیگر اسٹیک ہولڈرز کی مواصلات کے ذرائع تک رسائی ، اور استعمال کا جائزہ لیں گے اور دریافت کریں گے کہ پروجیکٹ کے بارے میں شعور اجاگر کرنے کے لئے کس طرح مناسب ذرائع اور چینلز کا استعمال کیا جاسکتا ہے۔

شکایات کے ازالہ کا طریقہ کار: بی ایچ سی آئی پی کے پاس شکایات کے دو الگ الگ نظام ہوں گے؛ایک صحت کی دیکھ بھال کے جزو کے لئے شکایت کا طریقہ کار اور ایک تعلیم کے لئے اس یقین کے ساتھ کہ منصوبے کی سرگرمیوں سے متاثرہ افراد اس مسئلے کے بروقت اور اطمینان بخش حل کی یقین دہانی کے ساتھ ، بغیر کسی قیمت کے شکایات درج کر سکتے ہیں یا اپنے خدشات کو بانٹ سکتے ہیں۔ بی ایچ سی آئی پی بی ایچ سی آئی پی کے ذریعہ تعلیمی مداخلت کی شکایات کے نظم و نسق کے لئے بی ای پی کے لئے قائم کردہ موجودہ شکایات کے ازالے کا طریقہ کار (جی آر ایم) استعمال کرے گا۔ پی ایم یو۔ایجوکیشن بی ایچ سی آئی پی کے تحت ، پروجیکٹ ڈائریکٹر (پی ڈی) اس منصوبے کے تحت جی آر ایم کی تعمیل کے لئے ذمہ دار ہو گا ، جس کی مدد ایم اینڈ ای سیکشن (پی ایم یو) اور فیلڈ لیول کا عملہ کرے گا۔ جی آر ایم شکایات کا انتظام 3 علیحدہ جی آر سی کمیٹیوں کے ذریعے کیا جائے گا۔ شکایات کا ازالہ کرنے والی کمیٹیانا (جی آر سیز) شکایات کی اہلیت یا مسترد کرنے کے اعلان کا جائزہ لیں گی۔ بی ایچ سی آئی پی کے صحت کے جزو کے لئے شکایات کے ازالے کا طریقہ محکمہ صحت کے شکایات کے ازالے کے موجودہ نظام کو مزید مضبوط بنائے گا۔ بی ایچ سی آئی پی شکایات کی وصولی کے لئے محکمہ صحت کے موجودہ صوبائی "شکایات سیل" کا استعمال کرے گی جو مرکزی ڈیٹا بیس / ایم آئی ایس سسٹم میں درج کی جائیگی۔ تمام شکایات کا ریکارڈ صوبائی محکمہ صحت اور پی ایم یو میں رکھا ، ایک تین درجہ نظام استعمال کیا جائے گا جہاں متعلقہ محکموں / اداروں سے جائے گا۔ فشکایات کے حل کے ل متعلق شکایات متعلقہ محکموں کو حل کرنے کے لئے بھجوائی جائیں گی۔ 1) صحت کی دیکھ بھال کا ادارہ/یونٹ، 2) ضلعی محکمہ صحت اور 3) صوبائی محکمہ صحت۔

بجٹ اور اس سے متعلق انکشافات: منصوبے کے دو اجزاء کے لئے کل 22,742,240کی رقم مختص کی گئی ہے۔ اسکے علاوہ، تعمیراتی کام ، فریق سوم کے ذریعہ نگرانی کے معاہدوں اور سامان کی فراہمی کے اخراجات کے لیئے بجٹ میں سے کچھ مختص کیا جاتا ہے۔ بجٹ کو تخفیف ، تربیت ، آگاہی اور مواصلاتی مواد ، عملہ ، فریق سوم کی توثیق اور' نگرانی اور ای ایس ایم پی اور ریپ کی تشکیل ، پر خرچ کیا جائے گا۔ ایک بار حتمی شکل دیے جانے کے بعد ، ایگزیکٹو سمری کا اردو ترجمہ کے ساتھ ،ای ایس ایم ایف، آر پی ایف اور ای ایچ سی ڈبلیو ایم پی سمیت حفاظتی دستاویزات کی تشہیر محکمہ منصوبہ بندی و ترقیات، حکومت بلوچستان، صحت اور ثانوی تعلیم کے محکموں کی سرکاری ویب سائٹوں پر اور ورلڈ بینک انفارمیشن شاپ پر کی جائے گی۔ اس ایس جی دستاویزات کی کاپیاں صوبائی ای پی اے ، پروجیکٹ اسٹیک ہولڈرز ، ٹھیکیداروں اور سول سوسائٹی کی تنظیموں کو بھی بانٹی جائیں گی۔ ہر ایس جی دستاویز کی ایک کاپی پراجیکٹ مینجمنٹ یونٹ ، اور عوامی رسائی کے لئے پی اینڈ ڈی ڈی میں رکھی جائے گی۔ ایس جی دستاویزات کے ایگزیکٹو سمری کا اردو ترجمہ تمام متعلقہ اسٹیک ہولڈرز خصوصا منصوبے کے علاقوں میں مستفید طبقات کو بھی تقسیم کیا جائے گا۔ اس کا مقصد انہیں منصوبے کی سرگرمیوں ، منصوبے سے متوقع منفی ماحولیاتی اور معاشرتی اثرات اور تخفیف کے تجویز کردہ اقدامات سے آگاہ کرنا ہوگا۔

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Acronyms

APDIM	Air Pollution Deterministic Index Modelling
ACS	Additional Chief Secretary
BHCIP	Balochistan Human Development project
BEPA	Balochistan Environmental Protection Agency
BHU	Basic Health Unit
BESP	Balochistan Education Sector Plan
BEAC	Balochistan Examination Assessment Commission
BISE	Board of Intermediate and Secondary Education
BOC	Bureau of Curriculum
BEP	Balochistan Education Project
CAR	Commissioner for Afghan Refugees
CMW	Community Midwife
CD	Civil Dispensary
dB	Decibels
DHQ	District Headquarter
DHIS	District Health Information System
DDO	Drawing and Disbursement Officer
DOS	Directorate of School
DHO	District Health Officer
DT	District Team
DEA	District Education Authority
ESMF	Environmental and Social Management Framework
EPA	Environmental Protection Agency
EQS	Environmental Quality Standards
ECA	Employment of Child Act
EA	Environmental Assessment
ESMP	Environmental and Social Management Plan
EHS	Environmental Health and Safety
ECE	Early Childhood Education
(B/C)EmONC	(Basic/Comprehensive) Emergency Obstetric and Newborn Care
EMIS	Education Management Information System
EC	Extension Center
EST	Environmentally Sound Technologies
FY	Fiscal Year
FYP	Five Years Plan
FP	Family Planning
GoP	Government of Pakistan
GIIP	Good International Industry Practice
GoB	Government of Balochistan
GPS	Global Positioning System
GBV	Gender Based Violence
GPI	Gender Parity Indices
GDI	Gender Development Index

GEM	Gender Empowerment Measure
GRC	Grievance Redress Committee
GRM	Grievance Redress Mechanism
HR-H	Human Resources for Health
HF	Health Facility
HMIS	Health Management Information System
HCWMS	Health Care Waste Management Specialist
IDA	International Development Association
IEE	Initial Environmental Examination
IMR	Infant Mortality Rate
IUCN	International Union for Conservation of Nature
LAA	Land Acquisition Collector
LHW	Lady Health Worker
LEC	Local Education Council
MAF	Million Acre Feet
MCHC	Maternal Child Health Care
MoWD	Ministry of Women Development
NEQS	National Environmental Quality Standards
NWQMP	National Water Quality Monitoring Program
NPA	National Plan of Action
NGO	Non-Governmental Organization
OP	Operational Procedure of World Bank
P&D	Planning and Development
PSDP	Public sector Development Programme
PEPA	Pakistan Environmental Protection Act
PDO	Project Development Objective
PPHI	People's Primary Healthcare Initiative
PITE	Provincial Institute for Teacher's Education
PTSMC	Parents Teacher School Management Committee
PoR	Proof of Registration
PSLM	Pakistan Social and Living Measurement Survey
PAP	Project Affected Personal
PMU	Project Management Implementation Unit
PD	Project Director
PSC	Project Steering Committee
PCC	Project Coordination Committee
RAA	Refugee Affected Areas
RAHA	Refugee Affected and Hosting Areas
RAP	Resettlement Action Plan
RMNCH(N)	Reproductive, Maternal, Newborn and Child Health (and Nutrition)
RHC	Rural Health Center
SED	Secondary Education Department
SCM	Supply Chain Management
SSAR	Sustainable Reintegration and Assistance
TRF	Total Fertility Rate
THQ	Tehsil Headquarter
TWG	Technical Working Group

UBC	Uniform Building Code
UNHCR	United Nations High Commissioner for Refugees
VLD	Voluntary Land Donation
WASA	Water and Sanitation Agency

1 Introduction

1.1 Introduction

The Government of Balochistan (GoB) intends to implement Balochistan Human Capital Investment Project (BHCIP) in four districts of the province with the proposed assistance of the World Bank (WB). The project will be implemented by provincial Planning and Development Department through Health Department, and Secondary Education Department. In line with the national/provincial laws as well as WB safeguard requirements, and to address potentially negative environmental and social impacts of the Project, the GoB has conducted an environmental and social assessment of the proposed project activities. As an outcome of this assessment, this Environmental and Social Management Framework (ESMF) has been prepared.

1.2 Background

Pakistan is facing economic challenges amid long-standing policy and structural weaknesses, leading to the implementation of a macroeconomic adjustment program. Over the last five years, the economy had accelerated with a gross domestic product (GDP) growth of almost five percent, but unbalanced policies and limited progress in structural reforms led to a fiscal deficit of 6.5 percent of GDP in fiscal year (FY) 2018. As fiscal and external imbalances emerged, the growth slowed down to 3.3 percent in FY2019 and is expected to further decline to 2.4 percent in the FY2020. In order to address these macroeconomic vulnerabilities, the Government of Pakistan (GoP) signed a program with the International Monetary Fund (IMF) under the US$6 billion, 39-month Extended Fund Facility in July 2019[9] aiming at restoring the macroeconomic stability.

While Pakistan has reduced poverty substantially over the last two decades, geographical inequities persist, and the implementation of the macroeconomic adjustment program could hamper progress made so far. The poverty rate has been more than halved from 64.3 percent in 2001 to 24.3 percent in 2015/16.[10] However, the poverty varies considerably from 7.4 percent in Islamabad to 67.3 percent in Dera Bugti, Balochistan, where in 2014, 21 out of 33 districts have poverty rates of 50 percent and above.[11] Balochistan province in Pakistan stands at the lowest amongst many dimensions of human capital, including health and education outcomes, while the country is already performing worse than its regional peers on average. Balochistan has a HCI of 34 percent, the lowest in Pakistan along with Sindh (35 percent), and presents gender disparities with a HCI that is lower for females (32 percent) compared to males

[9] International Monetary Fund. 2019. "Pakistan: Request for an Extended Arrangement Under the Extended Fund Facility-Press Release; Staff Report; and Statement by the Executive Director for Pakistan." IMF country Report No. 19/212. Retrieved from: https://www.imf.org/en/Publications/CR/Issues/2019/07/08/Pakistan-Request-for-an-Extended-Arrangement-Under-the-Extended-Fund-Facility-Press-Release-47092. Accessed on August 26, 2019

[10] World Bank (WB). 2019. World Development Indicators (WDI). Retrieved from: https://databank.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG/1ff4a498/Popular-Indicators#. Accessed on August 26, 2019

[11] WB. Data4Pakistan-District Development Portal. Retrieved from: https://geosdndev.worldbank.org/Data4Pakistan/. Accessed on August 28, 2019.

(35 percent).[12] The low score in HC is partially linked to Balochistan's alarming 42 percent poverty rate[13] and socio-cultural norms that make it difficult to utilize health and education services in the province.

Balochistan has a low population density organized in small settlements that are usually far-flung and isolated, implying high cost of service delivery. The rapid transition to devolved public services has brought opportunities but also challenges. The institutional capacity of the Government of Balochistan (GoB) in the devolved functions remains weak, including planning and budgeting, monitoring and supervision, regulation, contract management, human resource (HR) management and supply chain management (SCM).

Balochistan performs worse than the national average across all health outcomes and health service utilization indicators (Table 2).[14] Infant mortality and under-5 mortality rates are 66 and 78 per 1,000 live births in Balochistan compared to 62 and 74 per 1,000 live births at the national level. The total fertility rate (TFR) is 4.0 in Balochistan and 3.6 nationally, and almost half of the children under five are stunted in the province compared to about one in three at the national level. Differences in service utilization between the province and the national level are even more striking: only 38 percent of deliveries are attended by a skilled birth attendant (versus 69 percent nationally), 56 percent of women receive at least one antenatal care (ANC) from a skilled provider (versus 86 percent nationally), and about 58 percent of the children receive vitamin A supplementation (versus 75 percent nationally). The use of modern contraceptives is very low both at the provincial level (14 percent) and at the national level (25 percent), while the proportion of children immunized against measles is alarming at 33 percent in the province versus 73 percent nationally. While the data show that Balochistan perform worse than the national average, they also point to the fact that Pakistan performs worse than the average of its peers in the South Asia region (SAR).

Children in Balochistan do not only suffer from poor health outcomes, but they also have restricted access to schools and suboptimal learning outcomes and continue to suffer from stark gender disparities. Despite significant efforts by the Secondary Education Department (SED), the National Education Management Information System (NEMIS)[15] shows that in Balochistan 64 percent of boys and 78 percent of girls between the age of 5 and 16 were out of primary and secondary school in FY2016-17. The overall girls' net enrollment is 35 percent compared to 56 percent among boys at the primary level, which further drops to an abysmally low 13 percent for girls and 20 percent for boys at the secondary level, indicating very low retention rates. The effective transition rate of females from primary to lower secondary level for Balochistan is reported 69 percent as compared to 70 percent for boys, while it is 78 percent from lower secondary to upper secondary for girls as compared to 83 percent for boys. The Annual State of Education Report (ASER) 2018 also shows that 60 percent of grade five children in rural

[12] Geven, K. Forthcoming. A Proposal for a Provincial Level Human Capital Index for Pakistan. WB: Washington DC.
[13] Pakistan Bureau of Statistics. 2017. Household Integrated Economic Survey (HIES) 2015/16 [Data from 2014/15]; WB. Data4Pakistan-District Development Portal. https://geosdndev.worldbank.org/Data4Pakistan/. Accessed on August 28, 2019.
[14] National Institute of Population Studies (NIPS) [Pakistan] and ICF. 2019. Pakistan Demographic and Health Survey (PDHS) 2017-18. Islamabad, Pakistan, and Rockville, Maryland, USA: NIPS and ICF.
[15] NEMIS. 2018. Pakistan Education Statistics 2016-17.

Balochistan could not read a grade two level story in Urdu while 66 percent of the same grade children could not read grade two level sentences in English. As far as arithmetic learning levels are concerned, 57 percent of grade five children could not do a two-digit division.

Adding to these issues is the protracted Afghan refugee situation that further exacerbates the problems faced by the public. Balochistan hosts around 325,000 registered Afghan refugees in total: 47 percent of them are female and more than half of them (53 percent) are less than 18 years of age. Districts with the highest presence include Quetta, Pishin, Chagai, Loralai, Killa Saifullah, and Killa Abdullah districts[16]. The presence of large numbers of refugees without commensurate increase in resources has put extra pressure on the already stretched social sectors, severely affecting access to and utilization of quality health and education services for both host communities and refugees.[17]

Against the above described backdrop, the BHCIP aims to improve utilization of quality health and education services in selected refugee hosting districts of Balochistan. The project aims to achieve this by directly investing to fill supply- and demand- side gaps and strengthening service delivery systems through improved management and governance.

The project is fully aligned with the WBG's Country Partnership Strategy (CPS) for FY2015–FY202018 which aims to reduce extreme poverty and boost shared prosperity while supporting the federal and provincial governments to achieve their priorities. The Project contributes directly to results area 4 of the CPS, Service Delivery, and covers all sub-results areas: 4.1. improved public resources management; 4.2. improved access to maternal and child health services; 4.3. increased school enrollment and adoption of education quality assessment; and 4.4. adaption of performance and transparency mechanisms in selected institutions. In addition, the project contributes to results area 3, Inclusion, through 3.2. reduced vulnerability for groups at risk by improving girls' gross primary education enrollment. The project will address sub-optimal human development outcomes in refugee affected areas (RAAs) of Balochistan using the IDA18 Regional Sub-window (RSW) for Refugees and Host Communities.

The project is also consistent with Pakistan's Vision 2025 which, in turn, is fully aligned with the Sustainable Development Goals (SDGs). Investing in human capital and empowering women (Pillar 1, SDGs 1, 3, 4, 5) and strengthening governance and modernizing public sector service delivery (Pillar 3, SDG 16) are among the seven pillars identified in the country's longer-term vision to bring the economy to its full strength and potential. These pillars mirror the SDGs related to reducing poverty, improving health and education outcomes, reducing gender inequality, and promoting accountable and effective institutions. The Vision emphasizes uplifting the most vulnerable and marginalized segments of the society, who are inherently targeted by the project.

[16] Population data from Census 2017; Registered refugee data from UNHCR as of August 31, 2019.
[17] UNHCR, GoP, and United Nations Development Programme (UNDP). 2018.Needs Assessment for Refugee Affected Areas – Phase II. April 2008.
[18] Following the Performance and Learning Review, the CPS FY15-19 was extended to FY20 to align with the electoral cycle of the country and the IDA18 period.

1.3 Objective of ESMF

The objective of this Environmental and Social Management Framework (ESMF) is to provide guidelines and mandatory requirements to avoid or appropriately mitigate the environmental and social impacts of the Project. ESMF will help to assess the environmental and social impacts of the BHCIP at an early stage and propose mitigation measures along with screening of subprojects and provide framework for environmental and social safeguards implementation. The ESMF also recommends institutional arrangements to manage the environmental and social aspects of the project. It further identifies environmental and social monitoring requirements for effective implementation of the mitigation measures and describes environmental and social training and reporting mechanisms required during project implementation.

1.4 Need for ESMF

Since BHCIP plans to finance rehabilitation and upgradation of selected health and education facilities with potential negative environmental and social impacts, World Bank Policy on Environmental Assessment OP/BP 4.01 has been triggered. For BHCIP, specific sites and level of civil works has been broadly identified but not finalized as yet; therefore, a framework approach has been adopted to manage the potential environmental and social impacts of project activities.

1.5 Structure of ESMF

The ESMF consists of 11 chapters, explained below:

- Chapter 1 introduces the project and the need for ESMF;
- Chapter 2 presents a review of national regulatory frameworks, World Bank Safeguards policies and standards, environmental codes of practice and international conventions and agreements;
- Chapter 3 provides a detailed description of the project, its sub components with analysis of project alternatives;
- Chapter 4 is baseline with details on environmental and social settings of the project area;
- Chapter 5 presents institutional and community consultations conducted for the project;
- Chapter 6 describes the potential environmental and social impacts assessment for components 1 and 2 of the project;
- Chapter 7 formulates environmental and social management framework for implementation with the project. It proposes generic mitigation measures for construction and operations based impacts associated with education and health care facilities
- Chapter 8 provides environmental and health care waste management plan along with compliance criteria and monitoring requirements;

- Chapter 9 provides the Institutional arrangements of the project along with those required for ESMF implementation. Capacity development and training of the project implementation team and contractors is also detailed in this section;

- Chapter 10 elaborates on the Citizen Engagement including Grievance Redress Mechanism for stakeholders and communities;

- Chapter 11 provides the implementation budget for ESMF;

- Chapter 12 defines disclosure requirements and

- Chapter 13 provides references to the report.

2 Legal and Regulatory Framework

This chapter presents an overview of national and provincial regulatory frameworks and the World Bank's safeguard policies. These legislations and safeguard policies, and their relevance to the proposed project, are briefly discussed below.

2.1 Constitutional Provision on Environmental Protection

Prior to 18th Amendment in the constitution of Pakistan, the legislative powers were with federal parliament and legislative assemblies of four provinces of Pakistan. If a particular legislation passed by any provincial assembly came into conflict with a law enacted by the national assembly, then according to constitution, the federal legislation was supposed to prevail. The subject of environmental pollution and ecology were in Concurrent Legislative List, thus allowing both federal and provincial government to legislate on this subject. However only federal government enacted laws on environment and the provincial governments derived their power from federal law.

After the 18th amendment in 2010, the concurrent list has been abolished and a limited number of subjects on the list have been included in the federal legislative list, whereas, the provincial governments have been given powers to legislate on the subjects transferred to provinces. As a result, the power to legislate and decide on the subject of "environmental pollution and ecology" now lies with the provincial government; however, climate change remains under federal jurisdiction. Since BHCIP will be implemented in Balochistan, the environmental regulations of Balochistan will be followed.

2.2 Environmental Assessment Regulations

The ***Pakistan Environmental Protection Act (PEPA) 1997*** is the apex environmental law in the country, and provides for the protection, conservation, rehabilitation and improvement of environment, for the prevention and control of pollution, and for promotion of sustainable development. After the 18th amendment, Government of Balochistan adopted PEPA 1997 with some amendments and named it **Balochistan Environmental Protection Act (BEPA) 2012**. BEPA provides the framework for implementation of environmental reforms, protection and conservation of species, conservation of renewable resources, and establishment of Environmental Tribunals, appointment of Environmental Magistrates, and submission of Environmental Assessment in case of new development. It also provides details on prevention and control of pollution, and promotion of sustainable development in the province.

Balochistan Environmental Protection Agency (BEPA) is the entity responsible for the implementation of the law. BEPA was created in 1992 and currently works under the administrative control of Environment, Wildlife Livestock and tourism Department. The Agency has the power to conduct inquiries into possible breaches of environmental laws either of its own accord, or upon the registration of a complaint.

2.2.1 Environmental Assessment

There are 42 sections of BEPA and Section15 of the act, states that no development program involving construction activities or any change to the physical environment,

can proceed without an Initial Environmental Examination (IEE) or an Environmental Impact Assessment (EIA), both requiring approval from federal and provincial Environmental Protection Agencies. The act states that the provision is applicable only to prescribed categories of projects, which are defined in the Pakistan Environmental Protection Agency Review of IEE and EIA Regulations (2000). Under these regulations, projects are classified according to the expected degree of environmental impact. Project types listed in Schedule-I are potentially less damaging and only require IEE; those types listed in Schedule-II are potentially more damaging and requires an EIA.

2.2.2 Hospital Waste Management

Key stipulations of Section 19 of the Act titled "General Prohibition in relation to Solid and Hospital Waste management and Waste Management License" are;

1. No person may collect, transport, sort, recover, store, dispose of or otherwise manage waste in a manner that results in a significant adverse effect.

2. Every person who imports, produces, collects, recovers, transports, keeps, treats or disposes of waste shall take all reasonable measures to prevent a significant adverse effect on the environment from occurring.

3. The owner or proponent of every premises upon which solid and hazardous hospital waste is produced shall ensure that all hazardous waste whether solid or hospital waste is separated from other waste, and is stored in separate containers pending disposal, in accordance with the requirements of the Balochistan Environmental Protection Agency as set out in regulations, published guidelines or license conditions.

4. A person shall not dispose of solid and hazardous hospital waste in such a manner that it becomes litter or is likely to become litter.

5. Unless in possession of a valid waste management license issued by the Balochistan Environmental Protection Agency, no person may construct, own or operate a landfill site, incinerator or other facility at which waste is permanently disposed of or is stored indefinitely.

6. The Balochistan Environmental Protection Agency shall evaluate each application for a license and shall do the following: a) grant a license if the Balochistan Environmental Protection Agency is satisfied that the applicant has sufficient expertise to undertake the activity in question in accordance with the law and in a manner that will not have significant adverse effects; or b) refuse to grant a license giving reasons for the refusal in writing to the applicant.

7. The Balochistan Environmental Protection Agency shall reach a decision in regard to subsection 2 within thirty (30) days of the date of lodging of the application for a license with the Balochistan Environmental Protection Agency.

8. If there are reasonable grounds to grant license, and those grounds are communicated to the license holder in writing, the Balochistan Environmental Protection Agency may amend, revoke or impose new conditions in an existing waste management license.

9. The license granted under subsection (6) shall be subject to review if conditions of license granted are not fulfilled.

2.2.3 Environmental Protection Agency IEE & EIA Regulations, 2000

The projects falling under any of the categories listed in Schedule-I of the regulation require preparation of Initial Environmental Examination (IEE) report, whereas those falling under categories listed in Schedule-II require preparation of detailed study, the Environmental Impact Assessment (EIA). The sub-component in component 1 and 2 of BHCIP require construction and rehabilitation of health care and educational facilities at existing locations in urban and rural areas of the select districts. According to Schedule I and II of IEE/EIA Regulation 2000, small scale construction projects including schools do not require an IEE or EIA study. However, Schedule I requires an IEE for construction of hospitals and Schedule II requires EIA for installation of incinerators at hospitals. Refer to **Annexure 1.**

Table 2.1: Potential Project Activities Requiring Environmental Assessment

IEE/EIA regulation 2000	Section/ article of the regulation	Project Acitivity
Schedule I, List of projects requiring an IEE	**I. Urban development and tourism** 2. Public facilities with significant off-site impacts (e.g. hospital)	For Hospital construction
Schedule II, List of project requiring an EIA	**F. Waste Disposal** 1. Waste disposal and/or storage of hazardous or toxic wastes (including landfill sites, incineration of hospital toxic waste)	For incineration

The above provisions of the Act will be used for the screening of facilities for IEE and EIA. If an IEE or EIA is conducted, it will be submitted to the Balochistan Environmental Protection Agency for approval and shared with public. As a result, the disclosure requirements of both the WB and BEPA 2012 will be fulfilled.

2.2.4 Environmental Quality Standards, 2000

The National Environmental Quality Standards (NEQS) first promulgated in 1993 have been revised and the latest NEQS were issued in 2010. Section 14 of the BEPA act, on prohibition of certain discharges or emissions and potential harmful items or materials is based on NEQS and states that (1) No person shall discharge or emit or allow the discharge or emission of any effluent or waste or air pollutant or noise in an amount, concentration or level or is likely to cause, a significant adverse effect on the environment or human health which is in excess of the Environmental Quality Standards or, where applicable, the standards established under sub -clause (ii) of clause (f) of section 6. According to the World Bank policy, compliance to all local statutory requirements is compulsory during project execution. NEQS have been adopted by Environmental Protection Agency Balochistan as Environmental Quality Standards (EQS); therefore, it will be followed for the project component 2.

- EQS for Ambient Air Quality– states maximum allowable concentration of pollutants (9 parameters) in gaseous emissions from vehicle exhaust.

- EQS for Drinking Water Quality – describes drinking water properties by outlining the defined physical and chemical parameters.

- EQS for Noise – states maximum allowable limit of noise arising from vehicles in decibels (dB) separately for day and night times.

- EQS for Municipal and Liquid Industrial Effluents states maximum allowable concentration of pollutants (32 parameters) in municipal and liquid industrial effluents discharged to inland waters, sewage treatment facilities, and the sea.

The above standards will be complied with during execution of project activities. The detailed EQS are included as **Annexure 2**.

2.2.5 Environmental and Social Guidelines

In addition to the above, the BEPA has also the following guidelines;

- Guidelines for the Preparation and Review of Environmental Reports;

- Guidelines for Public Consultation;

- Guidelines for Sensitive and Critical Areas;

- Sectoral Guidelines

The BHCIP will follow the above guidelines as well as ensure compliance with the WB safeguard requirements.

2.3 Balochistan Forest Regulations of 1890

The Balochistan Forest Regulation 1890 governs the management of forests in the public sector. Any woodland, permanent grazing ground or other land that is government property can be declared a state forest. Acts such as setting fire, felling, tapping or clearing for cultivation are prohibited on state forests except when permission of the government is sought and granted. There are a number of reserve forests protected under the law. However, the project interventions are not likely to be carried out in reserve forests.

2.4 Balochistan Forest and Wildlife Act 2014

Section 9 of the Act states that all wild animals including free ranging or captive, tamed or untamed, found within territorial jurisdiction of the Province shall be deemed to be the property of Government. Section 10 on protected animals states the protection of wild animals included in Schedule-III. These wild animals shall not be hunted, killed, trapped, captured, traded, possessed or kept as pets except as provided specifically otherwise. Game Animals Protected in Certain Protected Areas Section 11 prohibits hunting, trapping and capturing of game animals included in Schedule I residing in a Strict Nature Reserve, Wildlife Sanctuary, National Park, Natural Heritage Site and the core zone of a Biosphere Reserve are prohibited. Section 62 of the Balochistan Wildlife (Protection, Preservation, Conservation and Management) Act 2014 provides that the Government should promote sequestration of carbon by effective management of Protected Areas and vegetation in the outer countryside to stabilize and reduce

greenhouse gas concentrations in the atmosphere. The project interventions are not likely to violate any of the above listed provisions.

2.5 Protection of Trees and Brushwood Act, 1949

This Act prohibits cutting or lopping of trees and brushwood without permission of the Forest Department. Efforts will be made to avoid cutting of tress and brushwood, but if that becomes inevitable for civil works, the Forest Department will be approached for permission.

2.6 The Antiquities Act (1975)

It ensures the protection of Pakistan's cultural resources. The Act defines "antiquities" as ancient products of human activity, historical sites, or sites of anthropological or cultural interest, national monuments, etc. The Act is designed to protect these antiquities from destruction, theft, negligence, unlawful excavation, trade, and export. BHCIP is not likely to cause any harms to Balochistan's antiques.

2.6.1 The Public Health (Emergency Provision) Act 1954 read with West Pakistan Epidemic Control Act 1958

These two laws cover the presentation and spread of human diseases, safeguarding the public health and providing and maintaining adequate medical services and other services essential to the health of the communities in the project area.

2.7 Explosives Act 1884

Under the Explosives Act 1884, the project contractors are bound by regulation for properly and securely handling, transporting and using explosive quarrying, blasting and other purposes. The project is not likely to use explosive quarrying and dismantling.

2.8 Labour Laws

The Constitution of Pakistan contains a range of provisions with regards to labour rights found in Part II: Fundamental Rights and Principles of Policy.

1. Article 11 of the Constitution prohibits all forms of slavery, forced labour and child labour;

2. Article 17 provides for a fundamental right to exercise the freedom of association and the right to form unions;

3. Article 18 proscribes the right of its citizens to enter upon any lawful profession or occupation and to conduct any lawful trade or business;

4. Article 25 lays down the right to equality before the law and prohibition of discrimination on the grounds of sex alone;

5. Article 37(e) makes provision for securing just and humane conditions of work, ensuring that children and women are not employed in vocations unsuited to their age or sex, and for maternity benefits for women in employment.

The acts related to labour laws including Factories Act 1934 and Employment of Child Act, 1991 are the most relevant to the project.

While hiring the project staff for construction and operation, the labour laws will be used as guiding principles for contractual and other requirements.

2.9 Employment of Child Act, 1991

Article 11(3) of the constitution of Pakistan prohibits employment of children below the age of 14 years in any factory, mine, or any other hazardous employment. In line with this law, construction contractors will be made contractually bound to abstain from employing child labour.

2.10 Motor Vehicles Ordinance, 1965, and Rules, 1969

The Motor Vehicles Ordinance deals with the powers of motor vehicle licensing authorities and empowers police officers to check and penalize traffic offenders. The ordinance also empowers the Regional Transport Authority to monitor road transport, licensing requirements, and compensations for death or injury to passengers on public carriers. During the use of transportation services for the project, these regulatory provisions will be taken into account.

2.11 Pakistan Penal Code, 1860

The Pakistan Penal Code deals with offences where public or private property and/or human lives are affected due to the intentional or accidental misconduct of an individual or body of people. The Penal Code provides the basis to coordinate project activities with the local authorities to ensure that construction activities do not become a cause of public nuisance or inconvenience.

2.12 Building Code of Pakistan (Seismic Provisions-2007)

The Pakistan Engineering Council (PEC) governs the application of Building Code of Pakistan (Seismic Provisions-2007). Prior to the start of construction, the proposed sub projects will take design approval from PEC to ensure compliance with seismic provision according to zones.

2.13 Provincial Local Government Ordinances, 2001

These ordinances establish regulations for land use, conservation of natural vegetation, air, water, and land pollution, disposal of solid waste and wastewater effluents, as well as matters related to public health and safety. These, where applicable, will be complied with during rehabilitation and subsequent operation of schools and hospital facilities.

2.14 Factories Act, 1934

The clauses relevant to the project are those that concern the health, safety and welfare of workers, disposal of solid waste and effluent, and damage to private and public property. The Factories Act also provides regulations for handling and disposing of toxic and hazardous materials. Given that construction activity is classified as 'industry', these regulations will be applicable to the project construction contractors.

2.15 Balochistan Water and Sanitation Authority Act, 1989

This Act provides for the establishment of the Water and Sanitation Authority, which is empowered protect water resources and water supply systems from sources of contamination or pollution. BHCIP will follow the act while carrying out construction and operational activities in schools and hospitals. The proposed schools and hospitals will be regulated for discharge of polluted water into the existing drainage system or water bodies where applicable.

2.16 Groundwater Rights Administration Ordinance, 1978

The Groundwater Administration Ordinance (1978, amended 2000) regulates groundwater use and administers the rights of various persons at the provincial and district levels. The Ordinance provides a legal and institutional framework for resource management by the local administration, allowing flexibility in determining rules for groundwater use as a common property. The proposed Project will take account of the Groundwater Administration Ordinance (1978, amended 2000) in case additional ground water extraction is needed for construction and operations.

2.17 Balochistan Culture Heritage Preservation Act, 2010

This Act empowers the Provincial Government to protect cultural heritage in the Province. It empowers the government to compulsorily acquire any heritage that could be lost to various threats. It states punitive action for the wilful destruction of protected cultural heritage. BHCIP will identify any cultural heritage sites in the proximity of project interventions and ensure that project activities do not cause damage to these.

2.18 Land Acquisition Act 1894

The national law governing land acquisition is the LAA 1894 and successive amendments to it. The LAA 1894 regulates the land acquisition process and enables the government to acquire private land for public purposes. It sets out the procedure and rules for land acquisition and compensating the owners, as well as for compensating owners for damage caused to their properties, crops and trees affected by projects. All efforts will be made by BHCIP to ensure that civil works are executed on the land already owned by existing health facilities and schools. However, in case there is a need for minor extension beyond existing facility boundaries, which may require additional small parcel of land, voluntary land donation (VLD) will be the preferred method. The VLD framework is provided as part of the RPF as **Annexure 11.** However, in the rare and unlikely situations where involuntary land acquisition becomes necessary, provisions of the WB Involuntary Resettlement OP/BP 4.12 will be complied with.

2.19 World Bank Safeguard Policies

The World Bank has a set of policies that may trigger for different projects. The WB safeguard policies triggered by BHCIP are Environmental Assessment OP/BP 4.01, while there is a slim possibility of also triggering Involuntary Resettlement OP/BP 4.12 as shown in **Table 2.2** below.

The EA policy requires projects activities to be environmentally sound and sustainable. Component 2 of BHCIP proposes rehabilitation and construction in schools and health facilities that may cause negative environmental and social impacts. Since the proposed project is not likely to finance large scale infrastructure development, most of these

impacts are likely to be small scale, localized, and reversible in nature. This project is classified as "Category B" with partial assessment as per WB safeguards category.

Since the activities under the project would be small-scale construction, the environmental and social impacts are likely to be low to moderate in case of schools whereas moderate to high in case of health care facilities. This ESMF presents checklists designed to identify these potential impacts, and guidance for communities and project teams to practically avoid or mitigate those impacts. If project screening used by implementing agencies finds that more detailed planning work is required, Environmental and Social Management Plans (ESMPs) may be prepared for health care and educational facilities separately.

In case involuntary land acquisition becomes necessary, provisions of the WB Involuntary Resettlement OP/BP 4.12 will be complied with to ensure that;

1. Involuntary resettlement is avoided where feasible, or minimized, exploring all viable alternatives.

2. Where it is not feasible to avoid resettlement, resettlement activities will be conceived and executed as sustainable development programs, providing sufficient investment resources to enable the persons displaced by the project to share in project benefits.

3. Displaced persons will be meaningfully consulted and will have opportunities to participate in planning and implementing resettlement programs.

4. Displaced persons will be assisted in their efforts to improve their livelihoods and standards of living or at least to restore them, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher.

Table 2.2: WB Safeguard Policies

#	Safeguard Policies Triggered by the Project	Yes	No
1.	Environmental Assessment OP/BP 4.01	✔	
2.	Performance Standards for Private Sector Activities OP/BP 4.03		✔
3.	Natural Habitats OP/BP 4.04		✔
4.	Forests OP/BP 4.36		✔
5.	Pest Management OP 4.09		✔
6.	Physical Cultural Resources OP/BP 4.11		✔
7.	Indigenous Peoples OP/BP 4.10		✔
8.	Involuntary Resettlement OP/BP 4.12	✔	

#	Safeguard Policies Triggered by the Project	Yes	No
9.	Safety of Dams OP/BP 4.37		✔
10.	Projects on International Waterways OP/BP 7.50		✔
11.	Projects in Disputed Areas OP/BP 7.60		✔

2.19.1 Environmental Health and Safety Guidelines

In addition to EHS guidelines, IFC/World Bank sector specific EHS guidelines will also be used for proposed sub-project interventions. Available IFC/World Bank Industry Sector specific guidelines are included in **Table 2.3.** The General EHS Guidelines will be used together with the relevant Industry Sector EHS Guidelines. General EHS guidelines will be applicable to both health and education interventions along with industry specific guidelines as and when required.

Table 2.3: IFC/ World Bank Applicable EHS Guidelines

#	Project component	IFC/ World Bank Applicable EHS Guidelines [19]	Weblink
1	Education	General EHS Guidelines	https://www.ifc.org/wps/wcm/connect/29f5137d-6e17-4660-b1f9-02bf561935e5/Final%2B-%2BGeneral%2BEHS%2BGuidelines.pdf?MOD=AJPERES&CVID=jOWim3p
2	Health	General EHS Guidelines	
		Environmental, Health, and Safety Guidelines for Health Care Facilities	https://www.ifc.org/wps/wcm/connect/960ef524-1fa5-4696-8db3-82c60edf5367/Final%2B-%2BHealth%2BCare%2BFacilities.pdf?MOD=AJPERES&CVID=jqeCW2Q&id=1323161961169
		Environmental, Health, and Safety Guidelines for Waste Management Facilities(incinerator)	https://www.ifc.org/wps/wcm/connect/5b05bf0e-1726-42b1-b7c9-33c7b46ddda8/Final%2B-%2BWaste%2BManagement%2BFacilities.pdf?MOD=AJPERES&CVID=jqeDbH3&id=1323162538174

Note: Sector specific guidelines will be used in combination with the general EHS Guidelinesin case national guidelines are not available for any particular sector..

2.20 International Conventions/Agreements

The international conventions to which Pakistan is a signatory, presented in **Table 2.4** Below, are relevant to project interventions.

Table 2.4: International Conventions

Category	Signatory Convention	Came into force
Chemicals and hazardous wastes conventions	Stockholm Convention on Persistent Organic Pollutants	April 2008
	Rotterdam Convention on the Prior Informed Consent procedures for Certain Hazardous	July 2005

[19] https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/policies-standards/ehs-guidelines

Category	Signatory Convention	Came into force
	Chemicals and Pesticides in International Trade.	
	Basel Convention on the control of Trans-boundary Movement of Hazardous Wastes and their Disposal.	July 1994
Atmosphere conventions/protocols	United Nations Framework Convention on Climate Change (UNFCCC)	June 1994
	Kyoto Protocol to UNFCCC	Jan 2005
	Vienna Convention for the protection of the Ozone Layer.	Dec1992
	Montreal Protocol on Substances that Deplete the Ozone Layer.	Dec 1992
Land / environmental cooperation conventions	United Nations Convention to Combat Desertification (UNCCD) in those Countries Experiencing Serious Drought and / or Desertification, Particularly in Africa.	Feb 1997
Cultural and natural heritage	Convention Concerning the Protection of World Cultural and Natural Heritage (World Heritage Convention)	July 1976
Biodiversity related conventions/protocols	Convention on Biological Diversity (CBD).	July 1994
	Cartagena Protocol on Bio-safety to the Convention on Biological Diversity.	March 2009
	Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention)	Nov 1976
	Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).	April 1976
	Convention on the Conservation of Migratory Species of Wild Animals (CMS)	Dec 1987
Refugees	Solutions Strategy for Afghan Refugees to Support Voluntary Repatriation, Sustainable Reintegration and Assistance to Host Countries (SSAR), UNHCR	May 2012
	Comprehensive Refugee Response Framework, UNHCR	2017

3 Project Description

3.1 Project Location

The GoB has identified improvement of service delivery in targeted areas and systems strengthening as the two guiding principles of this project. The interventions for improving systems will be first rolled out in targeted areas and later scaled up at the provincial level. To ensure that the project adequately reaches refugees and host communities in affected areas, the GoB selected four districts using the criteria of the highest presence of registered refugees (both in terms of percentage of total population in the district and number); or the main border crossing between Balochistan and Afghanistan which constitute a major entry/exit point for refugees. Based on this, the following districts have been selected for project interventions with numbers and percentage of refugees in each district given in **Table3.1** below.

Table 3.1: Project Districts, Refugee and Host Population and Area

District	Area Km²	Population	Refugees	Refugee %
Quetta	2,653	2,275,699	187,031	8.2%
Chagai	45,444	226,008	28,901	12.8%
Killa Abdullah	3,293	757,578	10,775	1.4%
Pishin	7,819	736,481	54,691	7.4%
Total	59,209	3,995,766	281,398	7.0%

3.2 Project Development Objective

The project development objective (PDO) is to improve utilization of quality health and education services in selected refugee hosting districts of Balochistan. The project aims to achieve the PDO by directly investing to fill supply- and demand- side gaps and strengthening service delivery systems through improved management and governance. This two-prong approach will help not only improve utilization and quality of critical public services that support the creation of human capital, but also increase sustainability of the results achieved under the project. Given the critical shortage of functional facilities in Balochistan, the project will take a phased approach of filling the supply side gaps first and then create demand as the supply gaps are being addressed. The project will also pay special attention to: (a) gender equity; (b) quality of services; and (c) synergies between health and education interventions to maximize accumulation of human capital.

3.3 Project Components and Activities

3.3.1 Component 1: Improving utilization of quality health services (US$18.25 million equivalent).

This component aims at increasing utilization of quality preventive and curative essential services delivered at primary and secondary level facilities in selected RAAs of Balochistan, with a focus on RMNCHN. The project's ultimate goal is to improve

children's health among host communities and refugees, especially of those coming from poor and vulnerable households.

Subcomponent 1a: Improving delivery of quality health services. This sub-component aims at improving service delivery by upgrading and improving functionality of existing primary and secondary HFs, increasing providers' skills and competencies and redesigning service delivery including strengthening referral systems. Within each of the targeted districts, facilities are selected taking the following initial criteria into account: proximity to a refugee village, ongoing or planned investments by other DPs and distance from the district/teshil headquarter hospitals (THQ/DHQ) for Pishin, Chagai, and Killa Abdullah, and the city center for Quetta to enable the creation of a cluster-based service delivery model. Each cluster will have a comprehensive EmONC (CEmONC) ready HF (for example, DHQ, THQ or RHC, if DHQ/THQ is too far from the RV) to serve as a "hub" and this will be linked to a network of basic EmONC (BEmONC) ready HFs (for example, BHUs and RHCs). At the community level, lady health workers (LHWs) will be engaged to increase awareness of the project interventions and health care benefits and refer patients to the HFs. When LHWs are not available or inactive, community groups, community/religious leaders, and/or schools will be engaged to mobilize communities.

Improving availability of critical inputs such as HRH, medical equipment and medicines, and infrastructure in selected HFs. The project will support a set of agreed minimum delivery standards for RMNCHN services in terms of HRH, medical equipment, health commodities, and infrastructure (through prioritized rehabilitation and upgradation of HFs based on the needs assessment). BHUs and RHCs in the selected cluster will be made BEmONC ready, while THQs/DHQs in the same cluster will be made CEmONC ready. Moreover, selected BHUs will be upgraded to 24/7 RHCs to provide services around the clock, every day of the week. To this purpose, the project will finance selected essential medical equipment, essential medicines including nutrition and family planning commodities, and health care waste management systems. To address key challenges affecting HRH performance, the project will support contracting for minimum number of health care providers to deliver essential RMNCHN services at each HF, based on the level of care. The HR database will be linked to the payroll system to allow the GoB to incentivize providers serving in far-flung areas.

Improving providers knowledge and competencies. The project will support, inter alia: a review and update of training curricula (including FP and nutrition services) with a shift towards competency based approaches, strengthening of training institutions, refresher training for key health providers with priority given to staff newly contracted for service delivery under the project, strengthening of on-the-job training at HFs to ensure staff has sufficient hands-on experience with deliveries, development of a system for continuous medical education to be linked with the HRH database, and piloting of an innovative intervention through the use of technologies for the assessment of providers' clinical knowledge and targeting of refresher training for selected providers. This technology-based intervention will first be fine-tuned in selected facilities to ensure its proper functionality, and later scaled up at the provincial level.

Increasing awareness of the benefits of the project supported activities. The project will support community-based advocacy and awareness raising activities about the

project interventions to ensure the targeted populations are reached, especially refugees, and generate demand for health services at HFs and education services at schools, with a focus on key RMNCHN services. Activities will target not only young and pregnant women, but also their husbands and other decision-makers in the households such as parents-in-law to facilitate utilization of both health and education services. Also, the project will explore the possibility of using the existing networks managed by CAR and using children as change agents for health promotion such as appropriate hand washing and personal hygiene at homes in collaboration with SED. Finally, the project will also strengthen facility level governance for increased accountability of health care providers by actively engaging citizens.

Subcomponent 1b: Improving health sector stewardship. This sub-component aims at making quality health information routinely available and fostering an evidence-based decision-making culture to efficiently deliver health services. In addition, this sub-component aims at strengthening institutional capacity to manage the health sector in general, with a focus on management of critical inputs necessary for effective and quality health care to be delivered to targeted beneficiaries.

Improving availability, quality, and use of routine health data. To strengthen the routine HMIS and generate high-quality, timely and reliable data that are used to improve service delivery, the project will, inter alia, support: development and implementation of a digital HR database including collection of baseline data with real time system to monitor staff presence at HFs, updating of the checklist and collection of baseline data on the status of HFs, digitization of DHIS/DHIS2, integration of various reporting systems into DHIS/DHIS2 including HMIS for vertical programs (for example, Nutrition, CMWs, LHWs), and PPHI, and creation of a user-friendly dashboard for decision-making, data review meetings, data quality check with feedback mechanisms for improvement. For this purpose, the health care providers at target districts will be trained and provided tablets or phones for data entry directly into DHIS/DHIS2.

Strengthening institutional capacity to manage the health sector. The project will further support: training of managerial staff at provincial and district levels in various health systems strengthening areas that are directly linked to improving effectiveness and efficiency of delivery as well as sustainability, including contract management of private-public partnerships, public financial management, monitoring and supervision, HRH management and SCM. Based on the lessons learned from the education sector, special attention will be paid to building capacity of key staff in utilizing data to better inform planning, budgeting, and monitoring and supervision.

3.3.2 Component 2: Improving utilization of quality education services (US$18.0 million equivalent).

This component aims at providing greater opportunities to children, especially girls, from RAAs of Balochistan to gain education that has the potential to transform their lives.

Component 2a. Improving delivery of primary and secondary education. This sub-component aims at improving access to schools by upgrading primary and middle schools to middle and high schools and applying model school criteria.

Upgrading public schools. In order to address the challenges hindering children's (especially girls) greater access to secondary and higher secondary education and improve enrolment and transition from one level to another in the target districts, the project will upgrade target schools from primary to middle and from middle to high in the selected project locations. Upgradation would entail adding to the existing schools next level grades, additional fully equipped class rooms to accommodate next level grade students, additional teachers on a performance-based contract, and other facilities that cater to the academic and extra-curricular needs of students in additional grades. The initial selection criteria include: distances to the school being considered for upgradation and current enrolment of students in its highest grades. All the girls' schools being upgraded under this project will recruit qualified female teachers.

Executing SED's model school criteria. The project will support the SED to execute model school criteria in target 'clusters' of schools, including a number of primary and secondary schools as defined under SED's Policy on 'Devolution of Education Management and Services at Cluster Level'. Distances to these schools and enrolment would be critical determinants for their selection. Execution of SED's model school criteria ensure that the project facilitates target schools to meet the respective standards for a model school. In particular, the project will ensure that:

- early childhood education (ECE) component is developed in each target school with a dedicated classroom for ECE, a dedicated ECE teacher recruited and trained, and ECE specific supplies made available to facilitate teaching and learning in ECE classrooms;

- all teachers in the target schools receive trainings on teaching methodologies, management tools, and content areas of English, mathematics and science from PITE; and

- PTSMCs are revived and trained in all target schools to contribute effectively in managing schools as per their role elaborated by BESP 2013-2018.

Component 2b. Improving education sector stewardship and training institutions. This sub-component aims at strengthening student assessment, teacher training institutions, institutional capacity to manage the education system to improve quality of primary and secondary education.

Strengthening student assessment institution. In order to tackle the enormous challenge of transitioning the student learning assessment system that promotes rote learning to a system that encourages higher order thinking, the project will support the SED to carry out a functional review of SED institutions mandated to design and conduct student assessments (for example, BEAC, BISE, DOS, and BOC&EC), develop and implement a strategy for transitioning the assessment system. The purpose of this review is to understand how these institutions function to implement the assessments and identify constraints they are dealing with in designing assessments that encourage the students to employ their analytical abilities. This review is expected to recommend concrete steps to upgrade the assessment system and strengthen SED institutions to implement such a system.

Strengthening teacher training institution. Given the inadequacies within in-service teacher training program, the project will support SED to conduct a functional review of PITE to understand how the institution operates and identify constraints it faces in delivering high quality teacher training across Balochistan province; assess the effectiveness and quality of in-service teacher training program; and develop a specific time bound action plan to address the major constraints PITE faces and to implement key recommendations to strengthen PITE and the in-service teacher training program. With a reorganized PITE and a strong teacher training program meeting international standards, it is anticipated that the teachers will receive higher quality trainings that will immensely help them create a classroom environment conducive for learning across the province.

Cluster-based education management. The project will support the SED to implement 'Devolution of Education Management and Services at Cluster Level' policy around upgraded schools. This entails 12 new high schools to act as cluster heads and deliver cluster level governance by notifying 12 upgraded high schools as cluster heads, forming LECs, assigning DDO codes for head teachers and establishing EMIS cells at each cluster head level. For 30 schools being upgraded from primary to middle, the project will a) strengthen LECs to deliver their responsibilities as per SED notification delineating their role (for example, monitoring project activities in each cluster), b) organize trainings of head teachers at the cluster head level on participatory planning, school-based budgeting, cluster level procurements, and conducting summative and formative assessments in cluster schools to plan improvements in student learning outcomes, and c) ensure that EMIS cells are fully operational in each cluster with necessary equipment and trained human resource.

Technology-based resource planning. The project will support SED in developing and pilot testing a technology-based tool that will enhance SED's capacity in conducting necessary analysis to inform regular planning and budgeting, resource rationalization, and management decision making. It is expected that this type of tool will utilize EMIS data along with GPS coordinates of all schools to draw comprehensive analysis, providing sector specific and geo-spatial recommendations based on concrete evidence. The project will explore the possibility to organize joint learning sessions during which the health and education departments can learn from each other's experience.

3.3.3 Project Beneficiaries

The direct project beneficiaries will be children, adolescents, and women of reproductive age in Balochistan, with a focus on refugees and host communities living in RAAs, namely Chagai, Pishin Quetta, and Kila Abdullah. These are among the most disadvantaged population groups in the province as many of them are located in low-income and hard to reach areas. Since the project also supports the interventions that will improve key aspects of health and education service delivery systems, the entire population in the province is expected to benefit from the project investments eventually.

The project will also support investments to strengthen the institutional capacity and governance to improve human capital in the province and improve providers' competencies. As a consequence, health and education service providers, supervisors, and managers at the facility, district and provincial level will also benefit from the

project. Many of the project interventions focus on strengthening systems for increased efficiency and accountability beyond health and education sectors (for example, strengthen public financial management with Finance Department). By strengthening capacity and governance of these institutions in close collaboration with the Governance and Policy Program for Balochistan, the project benefits could spill over to wider sectoral engagement in the province as well as over time.

3.4 Facilities to be Upgraded

Project Component 1 includes construction activities for rehabilitation and up gradation of existing health facilities, whereas up gradation of schools is planned in Project Component 2. The proposed lists of health facilities and schools selected for up gradation are given in **Table 3.2**. and **Table 3.3,** respectively. The lists may change based on the baseline assessment.

Table 3.2: Tentative List of Health Facilities for Upgradation/Rehabilitation

#	District	Health Facilities
1.	Killa Abdullah	1. DHQ Chaman 2. RHC Killa Abdullah 3. BHU Jungle Pir Alizai 4. RHC Maizai Adda 5. RHC Habib Zai 6. BHU Pir Alizai (upgrade to RHC)
2.	Chagai	1. DHQ Hospital Dalbandin 2. RHC Chagai 3. [20]BHU Posti (supported by UNFPA) 4. BHU Sargesha (supported by UNFPA) 5. BHU Amin Abad to (upgrade to RHC) 6. CD Lashkar Abb
3.	Quetta	1. RHC Panjpai 2. BHU New Pashtoonabad 3. BHU Mohammad Khail 4. THQ Mufti Mehmood 5. BHU Kotwai A 6. BHU Village Aid (upgrade to RHC)
4.	Pishin	1. DHQ Pishin 2. RHC Saranan 3. RHC Shadezai 4. BHU Tora Shah 5. RHC Bostan

Table 3.3: Tentative list of Schools for Upgradation

#	BEMIS	School Name	District	Tehsil	Gender	Level

[20] *S. No 3,4 will be included in year three*

1.	3350	GGMIDS Sira Gurgai	Quetta	Zarghoon	Girls	Middle
2.	10306	GBMS Chiltan Raisani Sariab	Quetta	Chiltan	Boys	Middle
3.	03455	GGPS Mehtar Zai Balilee	Quetta	Chiltan	Girls	Primary
4.	11232	GGPS Muhammad Khail Punjpai	Quetta	Chiltan	Girls	Primary
5.	13275	GGPS Ghaibzai Aghbarg	Quetta	Chiltan	Girls	Primary
6.	04802	GBPS Barezai Saryab	Quetta	Chiltan	Boys	Primary
7.	03042	GBPS Mohammad Shahi Digari	Quetta	Chiltan	Boys	Primary
8.	04973	GBPS Jahangeer Abad Kuchlak	Quetta	Chiltan	Boys	Primary
9.	13274	GBPS Sher Muhammad Marri	Quetta	Chiltan	Boys	Primary
10.	12726	GGCMPS New Kahan Quetta	Quetta	Quetta	Girls	Primary
11.	13273	GGCMPS Haji Adam Khan	Quetta	Quetta	Girls	Primary
12.	3482	GGPS Killi Shahnawaz	Quetta	Chiltan	Girls	Primary
13.	05035	GGMIDS Bibi Ziarat Poly Technique Colony	Quetta	Chiltan	Girls	Middle
14.	03448	GGMIDS Killi Sarda	Quetta	Chiltan	Girls	Middle
15.	6779	GBPS Killi M Azam	Chahgi	Dalbandin	Boys	Primary
16.	6822	GGPS Nok Abad Chaghi (FC Public School)	Chahgi	Chaghi	Boys	Primary
17.	6737	GBPS Killi Faqeer Dad Dawo	Chahgi	Dalbandin	Boys	Primary
18.	06819	GBPS Kochal	Chahgi	Chaghi	Boys	Primary
19.	17411	Mohammad Ibrahim	Chahgi	Dalbandin	Girls	Primary
20.	6832	Killi Sardar Hashim	Chahgi	Dalbandin	Girls	Primary
21.	12698	Faisal Colony	Chahgi	Dalbandin	Girls	Primary
22.	17423	GPS Killi Dost Abad	Chahgi	Chagai	Girls	Primary
23.	17408	GPS Killi Khuda-E-Daad, Chagai	Chahgi	Chagai	Girls	Primary
24.	12142	GGPS KILLI Mohmmad Azam Yak Mach	Chahgi	Dalbandin	Girls	Primary
25.	6809	KILLI Rasool Bksh	Chahgi	Dalbandin	Girls	Middle
26.	9800	GGMIDS Killi Qasim Khan	Chahgi	Dalbandin	Girls	Middle
27.	10674	GGMID GARIB ABAD	Chahgi	Dalbandin	Girls	Middle
28.	6742	GBMS Hassan Abad	Chahgi	Nokundi	Boys	Middle
29.	14586	GGPS Essa Daman Chaman	K.Abdullah	Chaman	Girls	Primary
30.	12254	GPS Haji Char Gul	K.Abdullah	Chaman	Girls	Primary
31.	14888	GGPS Killi Syedaan	K.Abdullah	K.Abdullah	Girls	Primary

#	BEMIS	School Name	District	Tehsil	Gender	Level
32.	15969	GGPS Nazar Ali Killi MaizaI	K.Abdullah	K.Abdullah	Girls	Primary
33.	11267	GGPS Killi Muhammad Ayoub Masezai	K.Abdullah	K.Abdullah	Girls	Primary
34.	1753	GGPS Landi Karez	K.Abdullah	Chaman	Girls	Primary

35.	13304	GGMS Sazopiralizai	K.Abdullah	K.Abdullah	Girls	Middle
36.	9067	GGMS Soi Karez	K.Abdullah	Chamn	Girls	Middle
37.	10493	GGMS Beikulak	K.Abdullah	K.abdullah	Girls	Middle
38.	1810	GBMS Mehmoodabad	K.Abdullah	Chaman	Boys	Middle
39.	9072	GBPS Killi Shayandayn	K.Abdullah	Chaman	Boys	Primary
40.	1733	GBPS Boghra Soi Karez	K.Abdullah	Chaman	Boys	Primary
41.	1418	GBPS Madarsa Taleem.Ul.Islam	K.Abdullah	Chaman	Boys	Primary
42.	1493	GBPS Killi Ziarat	K.Abdullah	K. abdullah	Boys	Primary
43.	11352	GBPS Mulla Khail	Pishin	Karezat	Boys	Primary
44.	01108	GBPS Killi Masterzai	Pishin	Karezat	Boys	Primary
45.	09547	GBPS Lumar Manzaki	Pishin	Barshore	Boys	Primary
46.	14943	GBPS Madrassa Arabia Misbah-Ul-Aloom	Pishin	Barshore	Boys	Primary
47.	01191	GBMIDS Grid Colony	Pishin	Pishin	Boys	Middle
48.	17896	GPS Malik Yar II	Pishin	Pishin	Girls	Primary
49.	17886	GGPS Mohala Baz Mohammad	Pishin	Saranan	Girls	Primary
50.	50003	GGPS Bachika	Pishin	Barshor	Girls	Primary
51.	1289	GGPS Zamistan	Pishin	Nana sahib	Girls	Primary
52.	50009	GGPS Shasa Mehmoodzai	Pishin	Barshore	Girls	Primary
53.	01234	GGPS Gangal Zai	Pishin	Huramzai	Girls	Primary
54.	01247	GGMIDS Faiz Abad	Pishin	Karezat	Girls	Middle
55.	01669	GGMS Poti Nasran	Pishin	Karaizat	Girls	Middle
56.	10019	GGMS Mangle Abad	Pishin	Karaizat	Girls	Middle

3.5 Construction Activities

Upgradation and rehabilitation of health facilities and schools will involve small sale construction. Wood, cement, metals, bricks, concrete, and clay are the common types of building material likely to be used in construction. In addition, coarse aggregates (crush), fine aggregates (sand), steel, water, and asphalt reinforcement may also be used. The construction materials will be procured from approved local vendors. Use of hazardous material like asbestos and those identified in the list of Hazardous Substances Rules 2003 of the Government of Pakistan[21] will be banned. The construction work for upgradation of existing schools and health facilities will have following regime:

1. Prefabrication in most of the identified facilities;
2. Site clearing and preparation for construction work;

[21] http://www.environment.gov.pk/images/rules/HAZRU03.PDF

3. Civil works including laying of foundation and construction of building;

4. Mechanical work for the water, electricity and natural gas supply and distribution. The water supply and distribution in compliance with water conservation techniques;

5. Electrical layout including installation equipment and supply of electricity and to ensure energy conservation;

6. Backup Generator and Solar Panel Installation at roof top;

The proposed construction activities are provided in **Table 3.4** with list of machinery. The construction work does not require excavation or use of heavy machinery like cranes. Construction vehicles will be parked in designated parking areas for machinery, stores and workshops at an appropriate distance from sensitive receptors population centres and ecologically sensitive areas.

Table 3.4: Construction Regime and Machinery

Typical Construction Activities	Equipment
Site clearing	Earth moving equipment
Removal of trees/shrubs and leveling	Construction vehicle
General excavation	Material Handling Equipment
Grading general area	Construction Equipment
Excavation for utility trenches	Personal Protective Equipment
Placing formwork and reinforcement for concrete	
Installing sewer lines	
Installing other utilities	
Pouring concrete	
Piped utility materials	
Water distribution	
Power and communications	
Site improvements	
Landscaping	

3.6 Infrastructure Utilities and Waste

3.6.1 Manpower

The manpower requirement during construction and operation of the project is likely to increase. The type of human resources required during design and construction will include skilled and unskilled labour, engineers, construction supervisors, electricians, plumbers, masons, and carpenters etc. Post construction, teachers, doctors, paramedics managerial staff, and janitors etc will be required. Influx of local labour at construction sites is expected during construction activities.

3.6.2 Water

During construction phase, water consumption is expected to increase up to 40% at construction sites, which will be met from existing sources. Similarly, due to increase in the capacity of selected schools and hospitals, the water consumption is also expected to increase during operational phase of the project. Subsequently there will be increase in waste water generated from proposed education and health facilities.

3.6.3 Electricity

As confirmed during public consultations, majority of the schools and some of the primary health care facilities located in rural areas and away from city centres have limited access to electricity. Where available, the electricity supply is from the national grid. Therefore, the additional demand during and after construction will be met from existing source. However, installation of back generators for upgraded health facilities and solar panels for both schools and health facilities have been proposed, and budgeted.

3.6.4 Waste Generation

An expected increase in solid waste during the construction phase is estimated to be 30-40 % from the baseline value. Since no hazardous materials will be allowed in the construction therefore the nature of waste is expected to be non-toxic. Similarly, the operational phase of the project is also expected to increase solid waste generation. The solid waste from schools is expected to be non- toxic in nature whereas the waste from the hospital includes hazardous and infectious waste. Hospital waste is a mixture of general refuse, biomedical laboratory and pathological wastes. Between 75-90% of the waste produced by the health facilities is non-risk health care waste whereas, the remaining 10- 25% consist of infectious pathological waste and is of great health concern, if not segregated from general hospital waste. A study surveyed public sector hospitals and their waste in Balochistan (Quetta City) 2013 categorized the waste into: general, bio-medical and hazardous wastes. As a whole, 80 % of total waste was general, 8-10% was hazardous, 10% was biomedical[22]. The waste disposal practices in place are discussed in following section as per results of social survey.

3.6.5 Waste Disposal

For hospital waste, three incinerators are currently installed in Quetta at Bolan Medical complex, Fatima Jinnah Medical Complex and Sheikh Zaid Hospital. Out of these only one installed at Sheikh Zaid is functional. Where incinerator is installed autoclaving, Incineration and dumping are common waste management practices. Apart from this, no other hospital in Balochistan uses incineration. Traditional waste disposal practices include collection, transportation and dumping of waste mostly in open sites, backyard or sewers. [23]

[22] A Case Study of Hospital Waste Management in Balochistan and Its Impact on Health and Environment Research Journal of Environmental and Earth Sciences 5(2): 98-103, 2013 ISSN: 2041-0484; e-ISSN: 2041-0492 © Maxwell Scientific Organization, 2013

[23] HOSPITAL WASTE MANAGEMENT: EXECUTION IN PAKISTAN AND ENVIRONMENTAL CONCERNS - A REVIEW Shakira Mukhtar

3.6.6 Labour Force

There will be an influx of construction labour in the project area during the construction phase of the project. Since project is unlikely to have a major construction at one location the labour force will not be more than 20-30 workers per site at schools upgrading to high school and BHUs upgrading to RHCs.

3.7 Analysis of Project Alternatives

This section describes various project alternatives considered during the study in order to ensure that the best possible options suitable in terms of environmental, social and economic impacts has been included in the design. Following is the brief description of alternative options considered during this study.

3.7.1 No Project Option

No implementation or "no project option" prevents the execution of the project and limits socioeconomic development. For BHCIP, this option is not considered because of the following reasons:

- BHCIP is likely to deliver major benefits to the communities in selected districts through investing in human capital, improving health and education outcomes, creation of employment opportunities, improvement in economy, reduction in poverty and enhancement of skills.
- The environmental and social impacts associated with the BHCIP will be addressed at an early stage as guided by this ESMF. For each health and education facility, the infrastructure development is proposed at existing locations and is not likely to cause significant, wide spread or irreversible environmental and social impacts.
- Environmental and Social screening documents are included in following sections for further necessary guidance on sustainable execution of the project.

3.7.2 Project Site Alternatives

The proposed project will not involve construction of new schools or new health facilities. Instead, rehabilitation and upgradation of existing schools and health facilities will be done. However, site selection for construction of new structures will be guided by the following;

- While selection sites, it will be ensured that construction activities cause minimum hindrance to the routine daily operations of schools and health facilities;
- As much as possible, cutting of tree and removal of vegetation will be avoided.
- The selected site will not be in poorly drained locations.
- The site should not be selected where heavy earth moving is required which may result in destabilization of land/soil.

- Parking for vehicles will be away from surface or ground water source in order to avoid contamination of water source with the spills or leakages of oil and fuel from vehicles.

3.7.3 Project Technology Alternatives

The only construction involved in the Project is rehabilitation and upgradation of schools and health facilities. While choosing the technology options during construction activities, the contractors will be required to ensure maximum use of day light and use of good properly maintained machinery to avoid noise and air pollution. Contractors will also be contractually bound to avoid wastage of water and littering of construction sites, maximum use of locally available materials and use of appropriate health and safety measures to avoid accidents and injuries to workers as well as other users of these facilities. Using reinforced concrete and stone or bricks masonry is the best alternative options for the construction of environmentally friendly buildings. Cemented structures with reinforced concrete are the most commonly used designs. These are climatically suitable, economically feasible and socially acceptable to the local communities and are, therefore, recommended for the proposed project. Other environmental parameters such as ventilation, lighting and heating inside the building will be taken care of through appropriate designing.

In addition, provision has been made for solarization of all the health facilities and schools to be upgraded under BHCIP to maximize the use environment friendly energy, during operational phase.

4 Baseline

4.1 Study Area

Balochistan is the largest province of Pakistan, spread over an area of 347,190 square kilometres, forming 43.6 per cent of the total area of Pakistan.[24] The province lies between 24° 53' and 32° 05 north latitudes and 60° 52 and 72° 18' east longitudes. It is bounded on the north by Afghanistan and erstwhile FATA, on the north-east by erstwhile FATA and Punjab province, on the east by Sindh province, on the south by Arabian Sea and on the west by Iran.[25] The project is proposed to be implemented in four districts of Balochistan namely Quetta, Chagai, Killa Abdullah and Pishin. The total area of the project districts (**Figure 4.1**) is about 59,209 square kilometres.

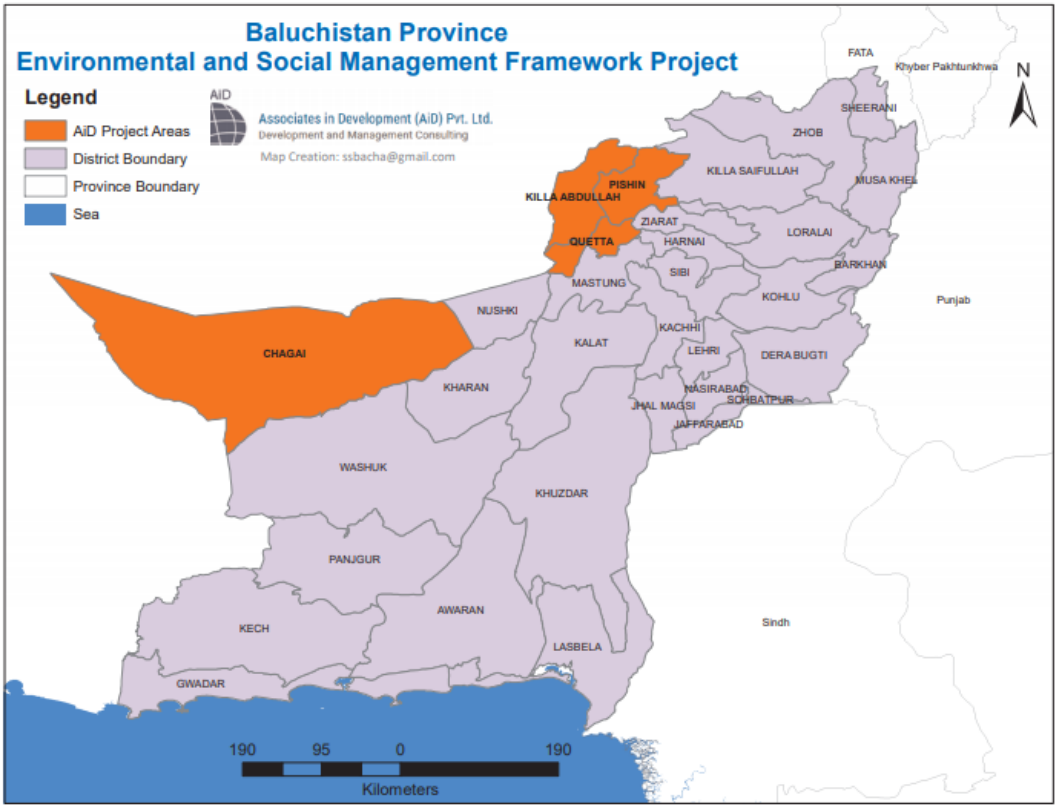

Figure 4.1: District Map of Balochistan

4.1.1 Quetta District

Area-wise district Quetta ranks as the 4th smallest district in Balochistan and has an area of 2,653 square kilometres, Quetta District lies between 66° 41' 40'' - 67° 17' 25'' East longitudes and 30° 01' 29'' - 30° 28' 25'' North Latitudes and consists of two Tehsils and 67 Union Councils.[26] The total population of Quetta according to the 2017

[24] http://www.balochistan.gov.pk/index.php?option=com_content&view=article&id=37&Itemid=783. Assessed on April 18 2018.

[25] 1998 Provincial Census Report of Balochistan, Nov 2001, Population Census Organization, Statistics Division, GoP.

[26] Quetta – District Development Profile, July 2011, Planning & Development Department, GoB, UNICEF

Population Census is 2,275,699. Quetta District is the provincial capital of Balochistan province and is bounded by Ziarat on the east, Killa Abdullah district on the west, Pishin district on the north and Mastung district on the south.[27]

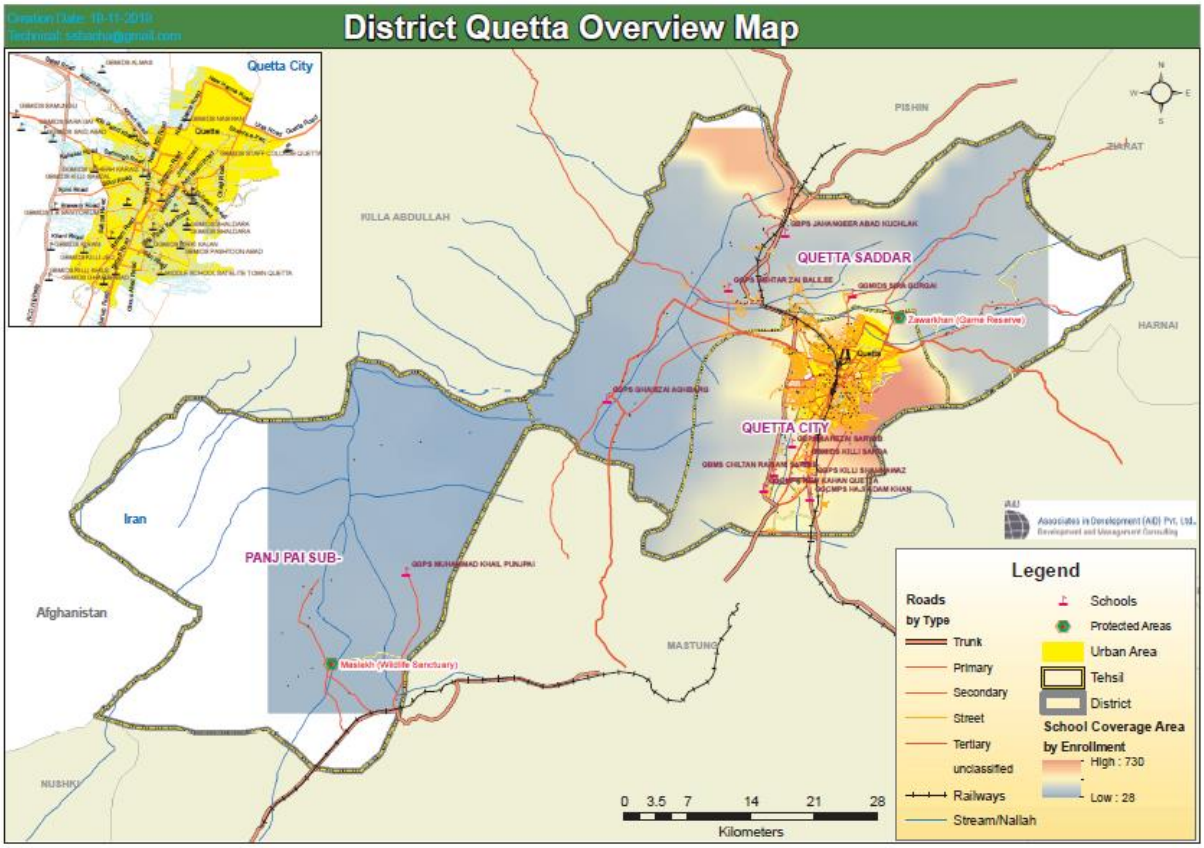

Figure 4.2: Map of Quetta District

4.1.2 Chagai District

Chagai is the largest district in Balochistan and has an area of 45,444 square kilometres. Chagai District lies between 60°49'23"- 65°28'35" East longitudes and 29°49'32"-27°51'51" North latitudes and consists of two Tehsils and 10 Union Councils. [28] The total population of Chagai according to the 2017 Population Census is 226,008. Chagai District is bounded by Afghanistan on the north, Nushki, Quetta, Mastung and Kalat districts on the east, Kharan district on the south-east and Iran on the south-west. [29]

[27] 1998 District Census Report of Quetta, Nov 2001, Population Census Organization, Statistics Division, GoP.
[28] Chagai - District Development Profile, July 2011, Planning & Development Department, GoB, UNICEF.
[29] 1998 District Census Report of Chagai, Sep 1999, Population Census Organization, Statistics Division, GoP.

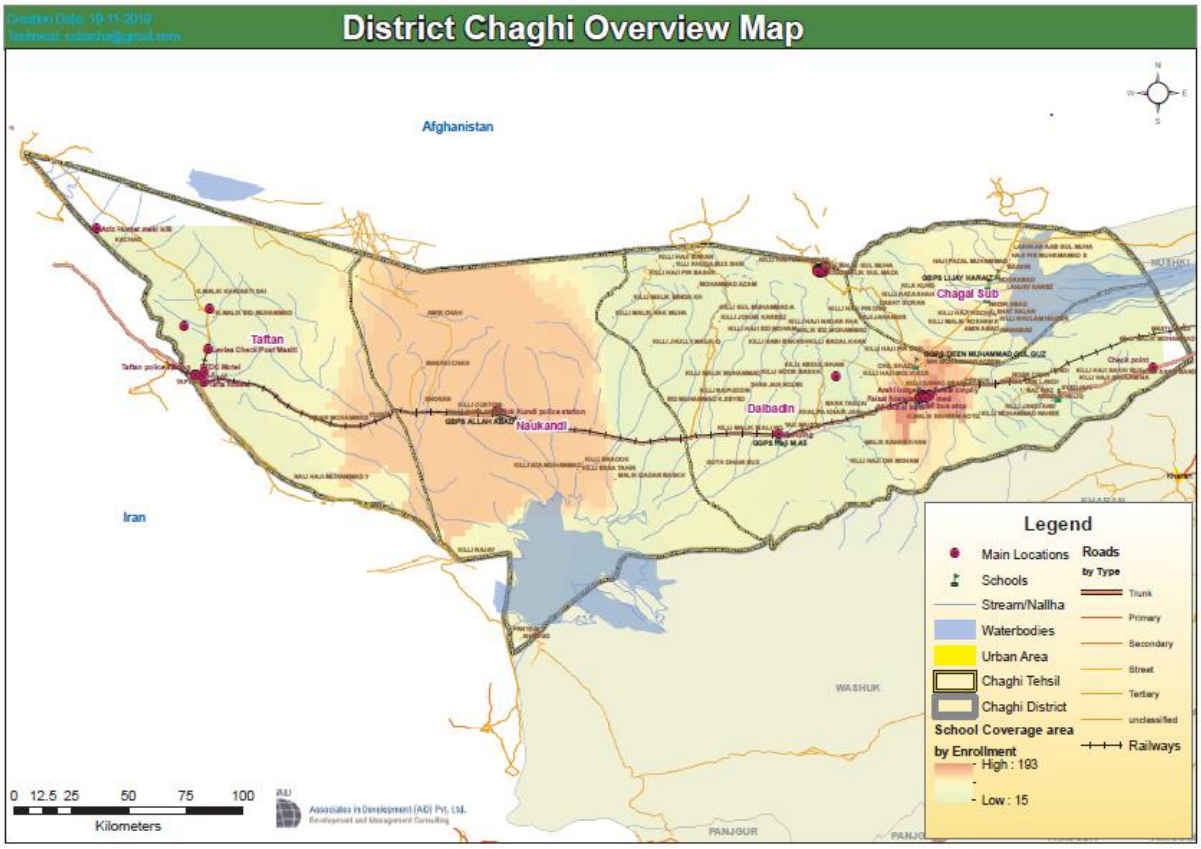

Figure 4.3: Map of Chaghi District

4.1.3 Killa Abdullah District

Area-wise district Killa Abdullah ranks as the 6th smallest district of Balochistan and has an area of 3,293 square kilometres. Located between 66°14'23"-67°15'43" East longitudes and 30°05'7"-31°18'46" North latitudes, it consists of four Tehsils and 25 Union Councils.[30] The total population of Killa Abdullah according to the 2017 Population Census is 757,578. It is bounded on the north and west by Afghanistan, Pishin district on the east and Quetta district on the south. [31]

[30] Killa Abdullah - District Development Profile, July 2011, Planning & Development Department, GoB, UNICEF.
[31] 1998 District Census Report of Kill Abdullah, Sep 2000, Population Census Organization, Statistics Division, GoP.

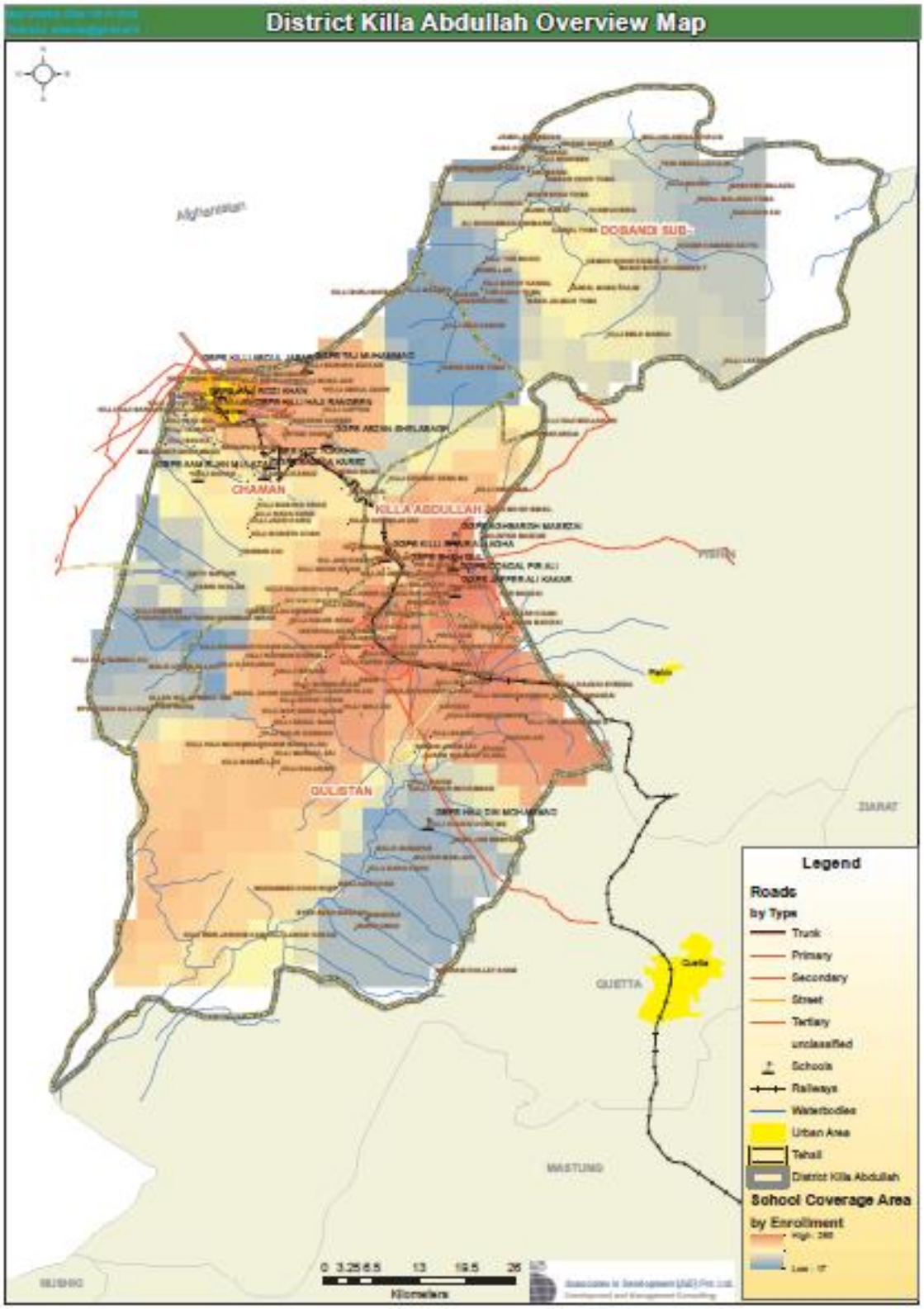

Figure 4.4: Map of Killa Abdullah

4.1.4 Pishin District

Area-wise, district Pishin ranks 18 in Balochistan and has an area of 7,819 square kilometres. Pishin District lies between 66 46'01"- 67 49'19" East longitudes and 30

44'02"- 31 14'02" North latitudes consisting of four Tehsils and 38 Union Councils.[32] The total population of Pishin according to the 2017 Population Census is 736,481. It is bounded on the north by Afghanistan and KiIla Saifullah district, on the east by Killa Saifullah and Loralai districts, on the south by Ziarat and Quetta districts, and on the west by Killa Abdullah district.[33]

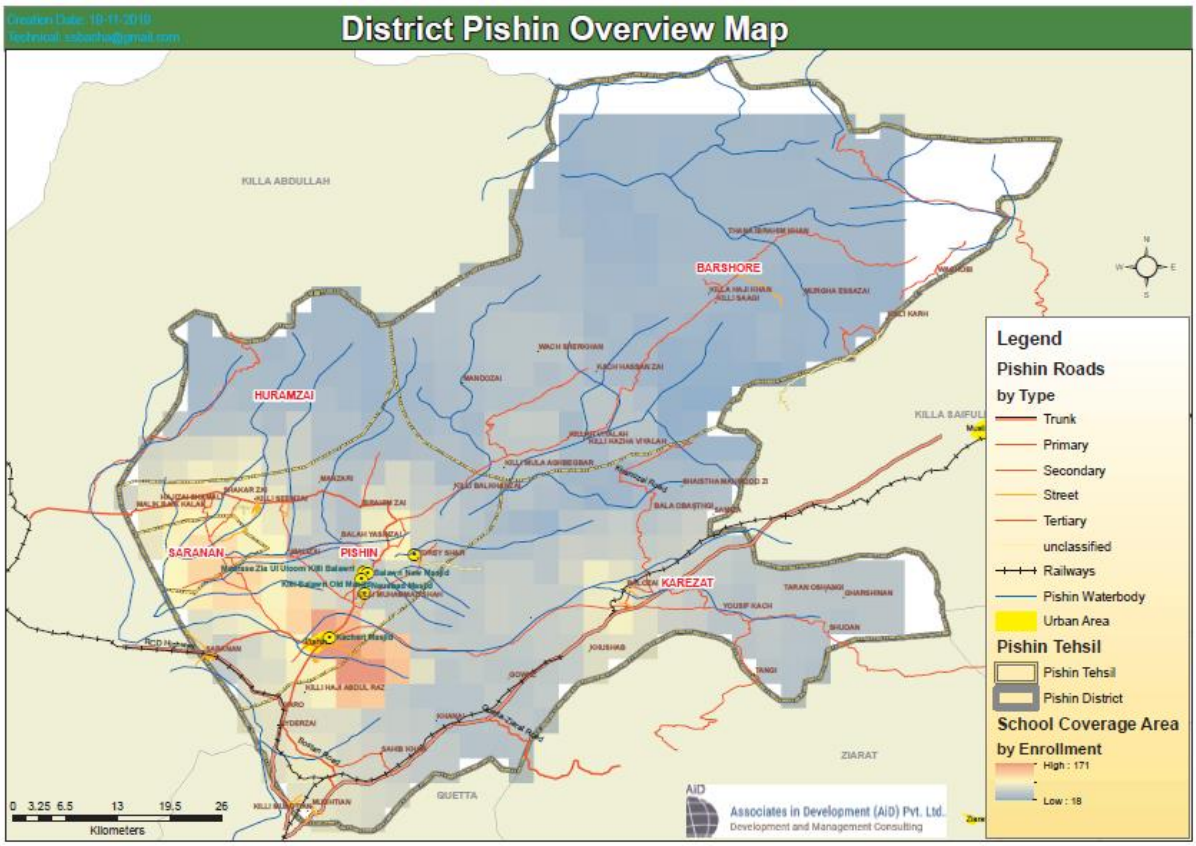

Figure 4.5: Map of Pishin District

4.2 Physical Environment

This section gives an overview of physical features of the project area and sensitive receptors.

4.2.1 Topography and Soil

The Balochistan plateau has an average altitude of about 1968 feet above sea level extends westward, with many ridges running across it from north-east to south-west.[34] Topography of project districts is given below.

Quetta: Geographically, Quetta District is mountainous; the hill ranges are fairly uniform in character consisting of long central ridges from which frequent spurs descend. These spurs are intersected by innumerable gorges and torrent beds with

[32] Pishin - District Development Profile, July 2011, Planning & Development Department, GoB, UNICEF.
[33] 1998 District Census Report of Pishin, Aug 2000, Population Census Organization, Statistics Division, GoP
[34] 1998 Provincial Census Report of Balochistan, Nov 2001, Population Census Organization, Statistics Division, GoP.

varied ground in elevation of 1,254 - 3,500 meters. The Mashlakh, Chiltan, Murdar and Zarghoon are the important mountain ranges in the district. Quetta lies in the active seismic region; therefore earthquakes occur from time to time. There is no perennial river in the district. Hanna stream is one of the important sources of drinking and irrigation water in the district.[35]

Chagai: Topography of the district includes distinctive highlands, low-lands, and desert. The highlands or the mountainous area comprises of Koh-i-Sultan, Chagai Hills, Sarlath range, Ras Koh and Kachau, and Mirjawa. These mountain ranges have a general east-west trend. The low-land part of the district is its plain area which is of two types. The area between Nushki and Chagai consists chiefly of a vast level plain of alluvial soil interspersed with tracts of sand and intersected by a low range of stony hills. The other portion of plain stretches from Hamun-e-Lora towards the southwest; between Chagai and Ras Koh hills. It is known as the "Oak". The area beyond Chagai is a sandy desert and stony or gravel land.[36]

Killa Abdullah: The northern half or the district is dominated by the mountains while the south-western part or the southern part is hilly. The south-eastern part of the district is a plain area bordered by the Saralath and Mashlakh ranges. The hill ranges are uniform in character consisting of long central ridges with frequent spurs separated by innumerable gorges and torrent beds. The largest mass of mountain is Toba Kakar stretching along the northern boundary and tapering off on the south into the Khwaja Amran range and afterwards into the Saralath range. The town of Killa Abdullah is situated on transcending mountain ridge at the mouth of the famous Khojak tunnel. The general elevation of the area is about 1500 to 2700 meters above sea level. The valley floor is covered with unconsolidated alluvial sediments mostly composed of clay, silt and silty clay.[37]

Pishin: The north-eastern part of Pishin district is covered by Toba Kakar range intersected by long nilrro valleys. The hills are fairly uniform in character consisting of long central ridges from which frequent spurs descend varying in elevation from 1800 to 2800 meters above sea level. The south-western part of the district is a plain area known as Pishin valley. It consists of flat plain with alluvial soil in the centre and pebbly slopes of varying length on either side to the surrounding hills.[38]

4.2.2 Climate

The climate of Balochistan is generally arid and the province can be divided into four climatic zones: [39]

- Hyper-arid (0-100 mm/year) - Chagai, Kharan, Makran coastal areas and south-east of Lasbela;
- Arid (150 mm/year) - North east of Zhob, Loralai, Sibi, Kachhi, Lasbela plains, and Pab-Mor ranges;

[35] Quetta – District Development Profile, July 2011, Planning & Development Department, GoB, UNICEF
[36] Chagai – 1998 Census report
[37] Killa Abdullah - District Development Profile, July 2011, Planning & Development Department, GoB, UNICEF.
[38] Pishin - District Development Profile, July 2011, Planning & Development Department, GoB, UNICEF.
[39] 1998 Provincial Census Report of Balochistan, Nov 2001, Population Census Organization, Statistics Division, GoP.

- Semi-arid (200-250 mm/year) - Sulaiman mountain range, Toba Kakari area, Marri Bugti areas and Pab Kirthar mountain ranges; and
- Dry (250-400 mm/year) - Northern Sulaiman and Brahui ranges.

Table 4.1 gives an overview of weather of project districts.

Table 4.1: Rainfall (mm) and Temperature (°C)

City	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean	Total
Quetta														
Rainfall	82	22	n/a	7	n/a	n/a	8	n/a	0	0	0	11	16.3	130
Max Temp	7	13	24	27	33	38	37	35	32	28	20	17	26	-
MinTemp	-3	-3	4	8	13	21	22	17	12	6	0	-1	8	-
Chagai														
Rainfall	70	2	0	0	0	n/a	0	1.7	0	0	0	9	7.5	82.7
Max Temp	13	20	32	35	42	46	45	41	39	36	27	22	33	-
MinTemp	0	-1	10	16	22	27	27	23	n/a	14	6	4	13	-
Killa Abdullah														
Rainfall	58.8	46.3	68.5	38.8	5.4	0.3	19.4	23.9	6.8	2.7	3.5	33.8	25.6	308.2
Max Temp	11	13	18	24	31	35	36	34	32	25	21	14	25	-
MinTemp	-2	0	4	9	14	18	21	19	13	5	2	-1	8	-
Pishin														
Rainfall	58.8	46.3	68.5	38.8	5.4	0.3	19.4	23.9	6.8	2.7	3.5	33.8	25.7	308
Max Temp	11	13	18	24	31	35	36	34	32	25	21	14	25	-
Min Temp	-2	0.1	4	9	14	18	21	19	13	5	2	-1	8	-

n/a: Data not available

Quetta: The climate of Quetta District is dry, arid: hot in summers and mild to extreme cold in winter. Snowfall season is mostly in the months of December, January and February. Quetta does not have a monsoon of sustained and heavy rainfall as it lies outside of monsoon range.[40]

Chagai: The climate of Chagai District is extremely hot in summer and mild in the winter. The rainfall is irregular and scanty because the district falls outside the monsoon currents. Rainy season is mostly in the month of January. However, a little rainfall is also recorded in the months of February, July and December.[41]

Killa Abdullah: The climate of Killa Abdullah District is generally dry and temperate. The summer is pleasant, whereas, the winters remain cold. The district lies outside the sphere of monsoon currents, so rainfall is irregular and scanty. At times, there are strong and cold winds hitting the area, in late spring, badly damaging the fruit orchards.

[40] Quetta - District Development Profile, July 2011, Planning & Development Department, GoB, UNICEF.
[41] Chagai - District Development Profile, July 2011, Planning & Development Department, GoB, UNICEF.

Due to the irregular rainfall pattern, farmers of rain fed areas cannot properly plan their crops. However, roads can be used throughout the year due to the dry climate[42].

Pishin: The climate of Pishin can be categorized as delightful summers, dry and bitterly cold winters. Pishin lies outside the sphere of monsoon currents. It encounters storms in winter season. Rainy season is mostly in the months of December, January, February, March and April.[43]

4.2.3 Surface Water Resources

Balochistan is water starved. Surface water mainly comes from precipitation in the form of surface runoff and its share of water from the Indus River. Surface water resources are very limited and major part of the province depends on rainfalls, tube-wells, Karez flows, flood flows, hill torrent and diversions from non-perennials streams, which bring substantial runoff during the rainy seasons.[44]

Quetta: There is no perennial river in the district. The whole area is drained by Quetta lora (Sariab lora) and its confluents, which has been described as the Hanna stream and the Tirkha or Karanga lora draining the Aghbarg valley. These streams supply much of the water, which is used for irrigation. Precipitation and the groundwater are the key sources of drinking and irrigation water.[45]

Chagai: The drainage of the district is carried off by innumerable hill torrents known as Nawars or seasonal nullahs. With the exception of a few they contain water only after rains. In the eastern end of the district two noteworthy streams namely Kaisar and Lora, enter the district from the north. The former flows as perennial stream towards the south, while the latter flows in a south-western direction and then towards the west draining itself into lake basin known as Hamun-i-Lora. The other hill torrents in Chagai and Dalbandin include Bulo, Morjen, Girdi and Gaze. In the central part of the district i.e., area down-the eastern Chagai and western Koh-i-Sultan ranges, many such torrents flow down towards the south however, a few of them are able to reach the Hamun-i-Mashkel; the great lake basin on the border with Kharan district. In the western part of the district besides the seasonal streams two rivers are of principal importance. One is Tahlab River, which flows along the southwest and southern boundary with Iran. In rainy season it has enough water to manage its channel to Hamun Mashkel. The other is Mirjawa River which originates in Iran and enters Chagai from southwest near Qila Sufed. It flows along the southern boundary with Iran for some distance. [46]

Killa Abdullah: There are no perennial streams or rivers in the district. However, some seasonal rivers and streams are found in the area. The Kurram River originates from the Toba Kakar range in the northern part of the district and flows from south-west to north-east. The other river is the Psein which flows from eastward and makes the boundary of the district with Afghanistan. A large number of hill torrents emerge from the Toba Kakar range and join the Psein River. The drainage of southern part of the

[42] Killa Abdullah - District Development Profile, July 2011, Planning & Development Department, GoB, UNICEF.
[43] Pishin - District Development Profile, July 2011, Planning & Development Department, GoB, UNICEF.
[44] Water Resources Management Research Issues in the Highlands of Balochistan, Report No. R92, Pakistan National Program, IWMI (July 1999)
[45] 1998 District Census Report of Quetta, Nov 2001, Population Census Organization, Statistics Division, GoP
[46] 1998 District Census Report of Chagai, Sep 1999, Population Census Organization, Statistics Division, GoP.

district is from north-east to south-west. Many hill torrents join the Pishin Lora (river) which flows towards south-west and enters into Afghanistan. Other important streams are Shora Rud, Hanna, Khojak and Aranil Manda. [47]

Pishin : The drainage of the district in the upper part is towards the north and north-east while into lower part to the south-west. The Pishin Lora (river) flows in the south-western part of the district from north-east to south-west. The Surkhab River enters from eastern side and flows westward joining Pishin Lora River. The Barshore Lora flows towards west and also enters in Pishin Lora River. The Kurram River rises in the Toba Kakar range and enters into the district on the north-western corner and then flows towards the north into Pishin River which forms the boundary with Afghanistan. The Khush Dil Khan Lake is in the north of Pishin city. A feeder cut from the Barshore River forms the chief source of supply of water to the Khush Dil Khan reservoir. [48]

4.2.4 Ground Water Resources

Ground water resources divide into three hydrological regions in Balochistan: the Nari Basin, the Kharan closed Basin and the Makran Coast, which constitute approximately 73 small or large rivers and streams. Project districts fall in sub-basin Hamun-e-Mashkel, Kadanai River and Pishin Lora Basin. According to an estimate the total water potential of the province is 22.116 million acre feet (MAF) originating from the following sources:[49]

A.	Indus Water as per Indus Accord	B. Non-Indus Basin Water Potential
a.	Perennial Flow = 3.87 MAF	a. Flood Runoff =12.756MAF
b.	Flood flow = 4.620 MAF	b. Ground Water = 0.87 MAF

The ground water potential of the province has been estimated in terms of flow[50] at 1,116 cusecs (cubic feet per second), while 687 cusecs were already utilised, which leaves 429 cusecs for future development. Decline of water table of the province is over 2-3 m per year.[51] At this stage, groundwater use exceeds recharge with 22% – see **Table 4.2.** The Pishin Lora – of which Kuchlagh is part – accounts for the largest imbalance with four times higher consumption than recharge. Almost all use is for agriculture.

[47] 1998 District Census Report of Kill Abdullah, Sep 2000, Population Census Organization, Statistics Division, GoP.
[48] 1998 District Census Report of Pishin, Aug 2000, Population Census Organization, Statistics Division, GoP
[49] http://siteresources.worldbank.org/PAKISTANEXTN/Resources/293051-1114424648263/Session-VII-Nadir.pdf
[50] http://waterinfo.net.pk/cms/?q=node/77
[51] IRRIGATION DEPARTMENT GOVERNMENT OF BALOCHISTAN

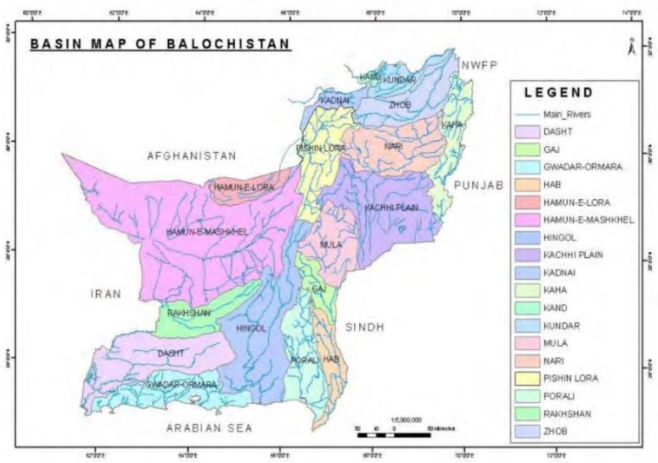

Figure 4.6: Ground Water Basins of Balochistan

Table 4.2: Annual water balance sub-basins of Project Districts (billion m³) [52]

Province	Water source	Recharge/flow		Total use		Balance
Balochistan	Groundwater (% of total)	2.210	(17)	2.659	(54)	−0.459
	Surface water	10.793		2.221		8.572
Sub-basins						
Hamun-e-Mashkel	Groundwater (% of total)	0.300	(13)	0.027	(8)	0.273
	Surface water	2.078		0.312		1.766
Kadanai River Basin	Groundwater (% of total)	0.030	(28)	0.115	(92)	−0.085
	Surface water	0.077		0.01		0.067
Pishin River Basin	Groundwater (% of total)	0.170	(36)	0.566	(77)	−0.396
	Surface water	0.302		0.169		0.133

The changing climatic conditions and the drought prevailing over the past several years have created acute water shortage and endangered the sustainability of this precious resource. Drinking water is scarce in the target districts and all districts were reported to be significantly affected by water scarcity[53]. Due to unplanned tube-wells installation and subsequent indiscriminate pumping of water for the last two and a half decades, the area is now facing problem of depleting groundwater and drying up of tube-wells is a common phenomenon.

[52] Halcrow (2007)
[53] Baseline Study Balochistan under Multi Donor Trust Fund for Balochistan, KP & FATA

The groundwater data acquired for the project districts is highly variable. Water table fluctuates between 130 and 470 feet in Killa Abdullah, 1000 to 2000 feet in Quetta[54] and 65 and 360 feet in Chagai. The groundwater level data of Pishin district could not be obtained. Groundwater level data is presented with a summary of the minimum, maximum, and average groundwater table of each district in **Figure 4.7.**[55] The main source of drinking water is groundwater, with the majority of households served by electric or diesel generated tube wells/piped schemes. Large number of people in rural areas depends on water from ponds and other un-hygienic sources.

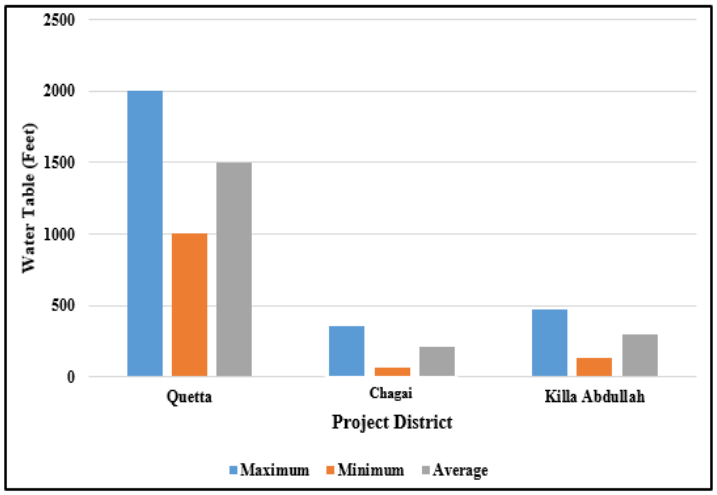

Figure 4.7: Summary of the Groundwater Table data for Project Districts

4.2.5 Ground Water Quality

The results of groundwater analysis conducted by PCRWR in 2016 signified high concentration of Sodium, Calcium, Magnesium, Chlorides and Bicarbonates. Most of the water sources were unsafe for drinking purpose due to bacterial contamination.[56]

Chagai: Recently conducted results of groundwater analysis signified high concentrations of Turbidity, TDS, Sodium, Hardness, Chloride and Sulphate in the groundwater collected from four sites (**Table 4.3**). The physical parameters such as colour, odour and taste were also recorded to be unpleasant at all four sites except site 1 and site 4 where the odour and taste is non-objectionable. Further testing for Microbial parameters was conducted to determine biological contamination in collected samples. Microbial parameter at all four locations is positive indicating bacterial contamination in the water which makes it unsafe for human consumption. Higher concentration of sodium and TDS in the water is representative of salinity.

Table 4.3: Ground Water Quality of Chagai

Parameters	Site 1	Site 2	Site 3	Site 4	Average	Standard
Sampling Depth (Ft)	300 to 600	300 to 600	300 to 600	300 to 600		
Turbidity (NTU)	11.1	8.2	8.8	5.7	8.5	5 (WHO)
TDS(mg/l)	915	4289	2374	856	2108.5	1000 (WHO)
Bicarbonate(mg/l)	180	120	400	190	222.5	NGVS

[54] WASA 2018
[55] Directorate of Ground Water Resources, Irrigation Department Balochistan
[56] Imran, S et al (2016). Water Quality Status of Major Cities of Pakistan 2015-2016. PCRWR.

Parameters	Site 1	Site 2	Site 3	Site 4	Average	Standard
Alkalinity (mg/l)	3.6	2.4	8.0	3.8	4.45	NGVS
Carbonate (mg/l)	0	0	0	0	0	NGVS
Potassium (mg/l)	7	15	13	5	10	12 (EC)
Sodium (mg/l)	204	960	498	190	463	200 (WHO)
Calcium (mg/l)	60	220	124	88	123	NGVS
Magnesium (mg/l)	38.9	209.0	143.4	19.4	102.6	150 (WHO)
Hardness (mg/l)	310	1410	900	300	730	500 (WHO)
Chloride (mg/l)	202	1598	647	221	667	250 (WHO)
Sulphate (mg/l)	284	1204	699	213	600	250 (WHO)
Nitrate-N(mg/l)	2.3	2.2	2.2	1.3	2	10 (WHO)
Fluoride	0.87	1.09	0.93	1.21	1.025	1.5 (WHO)
pH	7.94	7.59	7.64	7.59	7.69	6.5-8.6
Conductivity (µS/cm)	1435	7090	3705	1421	3412.7	NGVS
Colour	Objectionable	Objectionable	Objectionable	Objectionable		Colourless
Odour	Unobjectionable	Objectionable	Objectionable	Unobjectionable		Odourless
Taste	Unobjectionable	Objectionable	Objectionable	Unobjectionable		Tasteless
Contamination	Positive	Positive	Positive	Positive		Negative

Killa Abdullah: Recently conducted study by Balochistan Education Project indicates that the water table is at 500 to 800 feet. The results of groundwater analysis signified slightly high concentrations of Turbidity and Sulphate in the groundwater collected from four sites (**Table 4.4**). The physical parameters such as colour, odour and taste were also recorded and find them pleasant except at site 1 and site 2 where the colour is unpleasant. Further testing for Microbial parameters was conducted to determine biological contamination in collected samples. Microbial parameter at all four locations is positive indicate bacterial contamination in the water which makes it unsafe for human consumption.

Table 4.4: Ground Water Quality of Killa Abdullah

Parameters	Site 1	Site 2	Site 3	Site 4	Average	Standard
Sampling Depth	500 to 800	500 to 800	500 to 800	500 to 800		
Turbidity (NTU)	9.2	9.0	9.1	1.4	7	5 (WHO)
TDS(mg/l)	959	990	448	520	729	1000 (WHO)
Bicarbonate(mg/l)	300	240	260	300	275	NGVS
Alkalinity (mg/l)	6.0	4.8	5.2	6.0	5.5	NGVS
Carbonate (mg/l)	0	0	0	0	0	NGVS
Potassium (mg/l)	2	2	3	2	2.25	12 (EC)
Sodium (mg/l)	180	184	114	79	139	200 (WHO)
Calcium (mg/l)	48	44	36	36	41	NGVS

Parameters	Site 1	Site 2	Site 3	Site 4	Average	Standard
Magnesium (mg/l)	80.2	85.1	53	53	68	150 (WHO)
Hardness (mg/l)	450	460	310	310	382	500 (WHO)
Chloride (mg/l)	188	202	35	30	114	250 (WHO)
Sulphate (mg/l)	273	309	283	150	254	250 (WHO)
Nitrate-N(mg/l)	1.7	4.6	1.6	1.5	2	10 (WHO)
Fluoride	0.60	0.61	0.02	0.22	0.36	1.5(WHO)
pH	7.9	8.06	8.0	8.0	8.0	6.5-8.6
Conductivity (µS/cm)	1549	1714	700	813	1194	NGVS
Colour	Objectionable	Objectionable	Unobjectionable	Unobjectionable		Colourless
Odour	Unobjectionable	Unobjectionable	Unobjectionable	Unobjectionable		Odourless
Taste	Unobjectionable	Unobjectionable	Unobjectionable	Unobjectionable		Tasteless
Contamination	Positive	Positive	Positive	Positive		Negative

Pishin: Recently conducted study in a sample of schools by the World Bank supported Balochistan Education Project indicates that the water table is at 500 to 800 feet. The results of the water analysis indicate slightly higher levels of turbidity, hardness and sulphate in the water samples from four sites (**Table 4.5**). The total dissolved solids in the water are also high. Physical parameters were not up to the standards of colour, odour and taste. Microbial parameter is positive indicate bacterial contamination in the water which makes it unsafe for human consumption.

Table 4.5: Ground Water Quality of Pishin

Parameters	Site 1	Site 2	Site 3	Site 4	Average	Standard
Water Depth(ft.)	500 to 800	500 to 800	500 to 800	500 to 800		
Turbidity (NTU)	9.3	10.2	0.4	8.5	7	5 (WHO)
TDS (mg/l)	1216	518	579	2048	1090	1000 (WHO)
Bicarbonate(mg/l)	140	200	200	280	205	NGVS
Alkalinity (mg/l)	2.8	4	4	5.6	4	NGVS
Carbonate (mg/l)	0	0	0	0	0	NGVS
Potassium (mg/l)	4	0	2	8	4	12 (EC)
Sodium (mg/l)	240	42	58	380	180	200 (WHO)
Calcium (mg/l)	48	44	40	80	53	NGVS
Magnesium (mg/l)	78	66	53	190	97	150 (WHO)
Hardness (mg/l)	440	380	320	980	530	500 (WHO)
Chloride (mg/l)	330	50	20	360	190	250 (WHO)
Sulphate (mg/l)	410	210	210	1140	493	250 (WHO)
Nitrate-N(mg/l)	0.9	1.9	1.1	1.6	1	10 (WHO)
Fluoride	0.11	0.05	0.84	0	0	1.5 (WHO)

Parameters	Site 1	Site 2	Site 3	Site 4	Average	Standard
pH	8.15	8.27	7.48	7.51	8	6.5-8.6
Conductivity (µS/cm)	1900	810	905	3200	1704	NGVS
Colour	Objectionable	Objectionable	Objectionable	Unobjectionable		Colourless
Odour	Unobjectionable	Unobjectionable	Unobjectionable	Unobjectionable		Odourless
Taste	Unobjectionable	Unobjectionable	Unobjectionable	Unobjectionable		Tasteless
Contamination	Positive	Positive	Positive	Positive		Negative

4.2.6 Natural Hazard Vulnerability

Balochistan has been traditionally vulnerable to natural disasters on account of its unique geo-climatic conditions. Earthquakes, floods, droughts, cyclones, and landslides have been recurrent phenomena. Southern part of Balochistan has faced floods, tsunami and cyclones in past being near the coastline, which is not included in project districts. The project districts are prone to earthquakes and drought. A seismic map demonstrating seismic zones of Balochistan is given in **Figure 4.8**.[57] According to this map, most parts of the Balochistan province lie in the Earthquake Zones Classification of the Uniform Building Code (UBC – 1997).[58] Severe damage Zone 4- includes project district Quetta, Pishin and Killa Abdullah. Chagai lies in minor to moderate damage Zone-2. [76]

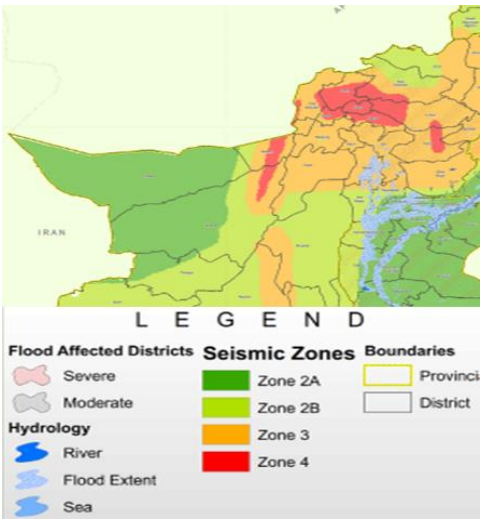

Figure 4.8: Seismic Zones of Pakistan

4.2.7 Ambient Air Quality

There is dearth of air quality data in project districts therefore the air quality baseline will be conducted before implementation stage to assess the pollution concentrations in ambient air according to EQS Balochistan and quarterly air quality monitoring will be conducted. Pak EPA carried out monitoring of ambient air quality in Quetta in May

[57] National Distaster Management Ayuthority
[58] http://allaboutgeology.blogspot.com/2011/04/seismicity-with-reference-to-pakistan.html

2011 and reported daily mean value for SO_2, NO, NO_2, CO and O_3, satisfied the standards value of WHO limits, while $PM_{2.5}$ values mostly exceeded the standard. Ambient concentration of carbon monoxide (CO) and dust particles (TSP) in Quetta was recorded (1981) as 10 ppm, and 200 -300 ug/cm^3 respectively.[59] Air pollution in other project districts has not been measured and reported. The Air Pollution Deterministic Index Modelling (APDIM) was applied to analyse the air quality in Quetta city. The six pollutants consider for modelling for 24 hourly-average are: CO, NO_x, Sox, O_3, TSP and PM_{10}. The results are presented in **Table 4.6**. It shows that gases (CO, SO_x, NO_x and O_3) are touching the boundary of satisfactory to un-satisfactory zone. The cause of concern is TSP and PM_{10}, which lies in the hazardous zone. [60]Therefore, monitoring of air quality is important for sub-project districts to evaluate the baseline conditions. Although, neither industrial pollution nor agro-chemical pollution have been reported in Balochistan but several sources of particulate matter and GHG are to be suspected.[61]

Table 4.6: Air Pollution Deterministic Index Modelling for Quetta City

S. No.	Criteria Pollutants	Concentration of Ambient Air in Quetta City (Annual Average)	WHO Standards	Color Code
1	Carbon monoxide	9.6 ppm	10 ppm	Satisfactory
2	Sulphur dioxide	0.029 ppm	0.0437 ppm	Good
3	Nitrogen Dioxide	0.037 ppm	0.080 ppm	Unhealthy
4	Ozone	0.02761 ppm	0.055_{ave} ppm	Good
5	Total Suspended Particle	544 µg/m^3	190_{ave} g/m^3	Hazardous serious harm
6	PM_{10}	304.83 µg/m^3	70 µg/m^3	Hazardous serious harm

4.3 Ecological Environment

Balochistan hosts a wide range of ecosystems / habitat types and associated biological diversity due to its unique geographical and climatic conditions. There are snow covered peaks, lush green as well as barren mountains, forests, irrigated plains, riverine tracts, sand dunes and deserts and coastal areas. With its dramatic geological history, broad latitudinal spread and immense altitudinal range, Balochistan spans a remarkable number of the world's ecological regions.[84] Balochistan represents faunal elements from three Zoogeographical regions of the world including Oriental, Palaearctic and Ethiopian.[62]

[59] Environmental Profile Balochistan, LARUS-IT, Enschede: Netherland, 1992
[60] Faiza Akhtar and Shahkhan. (2018). Air Pollution Deterministic Index Modeling: Application in Quetta, Pakistan. Materials Science and Engineering .
[61] Environmental Profile Balochistan, LARUS-IT, Enschede: Netherland, 1992
[62] Khan, M.S. 2006. Amphibians and reptiles of Pakistan. Krieger Publishing Company, Malabar, Florida..

4.3.1 Biodiversity /Ecological Zones of Project Districts

Ecological range zones of Balochistan are characterized by hyper arid to semiarid climate dominated by winter precipitation with residual influence of summer monsoon in the eastern part of the province. Based on edaphic, climatic and floral variations, the ranges of Balochistan can be further divided into various range ecological zones, project districts fall in following ecozones.[63]

- ***Dry temperate forest eco-zone:*** The northern part of the study area covering the districts Killa Abdullah, Pishin and Quetta represents partly the Dry Temperate Forest Eco-zone.[64]
- ***Chagai Kharan Desert eco-zone:*** The areas covering the Chagai district represent the Desert Eco-zone.[65]
- ***Northern highlands eco-zone:*** This region includes historic Killa Abdullah and Quetta district. [66]

4.3.2 Threatened Ecosystems

According to Biodiversity Action Plan for Pakistan[80], at least 10 ecosystems of particular value for their species richness and/or unique communities of flora and fauna are threatened with habitat loss and degradation (**Table: 4.7**). Given their biodiversity importance and high level of threat, these ecosystems are considered to be of critical concern for conservation. Out of these 10 important and threatened ecosystems, five exist in Balochistan whereas; four of them exist in the study area i.e. four selected districts in Balochistan.

Table 4.7: Threatened Ecosystems of Project Districts[67]

#	Ecosystem	Characteristics	Significance	Threats
1.	Chaghai Desert	A desert of great antiquity	Many endemic and unique species	Proposed mining, Hunting parties from the Gulf, wildlife poaching and trading
2.	Chilghoza Forest (Suleman Range)	Rocky outcrops with shallow mountain soils	Important wildlife habitat for several species at risk	Fuel wood cutting, over grazing, Illegal hunting
3.	Balochistan Sub-tropical Forests	Mid-altitude forests with sparse canopy but rich associated flora	Very few areas now remain important wildlife habitats	Fuel wood cutting, over grazing
4.	Riverine tracts of Balochistan	Not connected with The Indus River system	Unique aquatic fauna and flora with high levels of endemism	Water diversion / drainage, Overfishing

[63] Rubina, A. and Mirza, S. N. 2000. Arid Steppes of Balochistan, Pakistan, Secheresse, 17(1-2):203-9
[64] Mirza, Z. B., 2011. Ecosystems of Pakistan: Vol. 1; Ecozones of Pakistan. Urdu Science Board, 299 Upper Mall, Lahore, Pakistan. 247 pp.
[65] Mirza, Z. B., 2011. Ecosystems of Pakistan: Vol. 1; Ecozones of Pakistan. Urdu Science Board, 299 Upper Mall, Lahore, Pakistan. 247 pp.
[66] Dr. Raziq. Livestock ecological zones in Balochistan, 2012
[67] Biodiversity Action Plan GoP, 2000

4.3.3 Protected Wetlands

Five wetlands in Balochistan are under protection through Ramsar Convention and none of them are present in the project districts. However, there are a number of important wetlands present in the project districts. Existing wetlands in the districts include Hamun-e-Lora that provides refuge to migratory birds after heavy rains and flash flood in Chagai. Hanna Lake and Spin Karez support migratory bird population during their seasonal migration in Quetta. Band Khush Dil Khan in Pishin is an important stopover for migratory birds, a potential wildlife sanctuary and RAMSAR site due to recurrent droughts has now squeezed to a limited water reservoir, and hence excluded from the list of Ramsar Sites. Most of its area has been encroached by the local inhabitants for development of apple orchards.

4.3.4 Protected Areas

There are 27 protected areas in Balochistan including 3 national parks, 14 wildlife sanctuaries, 8 game reserves, 1 biosphere reserves and 1 marine protected area.[68] It constitutes an area of 34,719,000 hectares of terrestrial and 40,147 hectares of marine protected areas. In addition, there are 5 private game reserves in Balochistan. Total of 6.2 percent area of the Balochistan is under the protection by forest and wildlife department. The details of protected areas of project site are included in **Table 4.8**. There are 8 protected sites in project districts which include one national park, 4 wildlife sanctuaries and 3 game reserves covers an area of 457,176 ha. The project interventions are not likely to be carried out in protected areas of Balochistan, however management plan will be prepared if there is an indirect impact on the protected area.

Table 4.8: Protected Areas of Project Districts

#	Protected Areas (category & name)	Area (ha)	Status	District
National Parks				
1	Hazarganji Chiltan National Park	27,400	Notified	Quetta & Mastung
Wildlife Sanctuaries				
2	Gut	165,992	Notified	Chagai
3	Maslakh	46,575	Notified	Pishin
4	Band Khushdil Khan	1,296	Notified	Pishin
5	Zawar Kan	1,060	Notified	Pishin
Game Reserves				
6	Zangi Nawar	1,069	Notified	Chagai
7	Kambran	211,433	Notified	Chagai
8	Duzdara and Koh-e-Surko	2,351	Notified	Quetta
Total Area		457,176		

[68] The detailed list of game reserves and wildlife sanctuaries is available at World Database on Protected Areas

4.3.5 Notified Forests

There are a number of protected and reserve forests under the Balochistan Forest Law, however, the project interventions are not likely to be carried out in Government or State reserved or protected forest. The total area under the Balochistan Forest Department in 2016-17 was 2,783,554 acres including Coniferous (358,567 acres), Irrigated Plantation (285 acres), Reverian Bela (35,018 acres), Scrub Forest (1,420,919 acres), Coastal Forest (42,334 acres) and Rangelands (926,431 acres). [69] Out of which **1,263,904** acres fall in the project districts.[70] NOC will be attained from forest department (if required) for interventions near or inside the protected forest. The list of notified forest is included as **Table 4.9.**

Table 4.9: Notified Forest in Project Area[71]

#	Forest Name / District	Forest Area (in Acres)	#	Forest Name / District	Forest Area (in Acres)
	Quetta			**Pishin**	
1	Dhobi Ghat	10	**1**	Gwal	2880
2	Hazarganji National Park	5440	**2**	Surghund	8500
3	Zangi Lora	525	**3**	**Bund Khushdil Khan**	1174
4	Zarghoon North	5760	**4**	**Umai**	1600
5	Zarghoon Center	17160	**5**	Sarwat	1030
6	MarriChak	1830	**6**	Takatu North	12210
7	Spin Karez	17933	**7**	Surkhab	3521
8	Karkhasa	10000	**8**	**Targhatu**	33000
9	Mazar	2176		**Sub-total**	**63915**
10	Khur				
11	Tur			**Killa Abdullah**	
12	Tagha Torghar	15130	**1**	Popalzai	1516
13	Babri	973	**2**	**PirAlizai**	**0**
14	Southern Maslakh	45280		**Sub-total**	**1516**
15	Maslakh	69760			
16	Maslakh	67760		**Chagai**	
17	Takatu	7150	**1**	**Kambran**	521,392
	Sub-total	**266,887**	**2**	**Gut**	410,194
	Grand Total	**1,263,904 (acre)** **511,483 ha**		**Sub-total**	**931,586**

[69] Development Statistics of Balochistan 2016-17, Planning & Development Department, Bureau of Statistics, GoP.

[70] 1998 Provincial Census Report of Balochistan, Nov 2001, Population Census Organization, Statistics Division, GoP.

[71] Planning and Development Division, Forest & Wildlife Department

4.4 Biological Environment

This section describes the biotic factors in the project area.

4.4.1 Fauna

Western region of Pakistan, most of which is in Balochistan has a complex geography. Some of the mammal species include the caracal, Balochistan leopard, Balochistan forest dormouse, Blanford's fox, dromedary camel, goitered gazelle, Indian crested porcupine, long-eared hedgehog, markhor, ratel and striped hyena, bird species of bearded vulture, houbara bustard and merlin, reptile species of leopard gecko and saw-scaled viper and amphibian species of Balochistan toad. The details are given below.

Mammals

More than 190 mammalian species are reported from Pakistan (Roberts, 2005). A number of mammalian species are found in Balochistan including small mammals, medium sized mammals and large mammals. Four out of the six endemic mammalian species of Pakistan are found in the study area in Balochistan including Chiltan Wild Goat (*Capra aegagrus*), Hoston's five-toed jerboa (*Allactaga hotsoni*), Greater three-toed jerboa (*Jaculus blanfordi*) and Balochistan Pygmy Jerboa (*Salpingotus michaelis*). A list of mammalian species recorded from Balochistan is given in **Annexure 3.**[72]

Reptiles

Reptiles are represented in Pakistan by crocodilians (crocodiles), chelonians (turtles and tortoises), lacertilians (lizards) and serpents (snakes) and total 112 reptilian species are reported from Pakistan with more than 60 species from Balochistan. Amphibians and reptiles collectively called Herps are very important animals among the vertebrates and important components of any living system. They may act as excellent biological indicators of any ecosystem. Their position in the ecological niche is so vulnerable that the survival and collapse of the whole energy cycle depends upon the presence and absence of the amphibians and reptiles. A list of 60 reptilian species found in the selected four districts of Balochistan is given in **Annexure 3**.[73]

Amphibians

Amphibians are represented in Pakistan by anurans i.e. frogs and toads and total 24 species of amphibians are reported in Pakistan. Total six amphibian species are found in the selected districts in Balochistan - **Annexure 3**[81].

Birds

More than 670 bird species are reported from Pakistan.[74] A number of avian species are found in Balochistan including resident birds, summer breeders, winter visitors and

[72] Roberts, T. J. 2005 Field Guide to the Large and Medium Sized Mammals of Pakistan. Oxford University Press, Karachi.
[73] Khan, M.S. 2006. Amphibians and reptiles of Pakistan. Krieger Publishing Company, Malabar, Florida. Mohammad Ali et al., 2012. Herpetofauna in the Province of Balochistan, Pakistan. Sci.Int, 24(1), pp. 59-62.
[74] Grimmett, R., Roberts, T. and Inskipp, T. 2008. Birds of Pakistan. Christopher Helm Publishers Ltd, 38 Soho Square, London W1D 3HB. 256 pp.

passage migrants or irregular year-round visitors. The characteristic game birds are chikor (*Caccabis chucar*) and sisi (*ammoperdix bonhomie*). Large flocks of sand-grouse pass through the province in the winter, and wetlands are frequented by many varieties of wild-fowl. Most of the birds of Balochistan are migratory.[75] Of those permanently resident, the most characteristic are the raven, frequent everywhere; the lammergeyer, for which no place is too wild; and the golden eagle. Among the visitors the most common are different species of saxicola, headed by the pied chat, and several kinds of shrikes which appear in spring in large numbers. **(Annexure 3).**[83]

Endangered Species

The number of endemic species and those considered as threatened with extinction are provided in IUCN red list. The IUCN Red List of threatened species lists 49 species of internationally threatened animals occurring in Pakistan. The selected four districts of Balochistan represent total 303 faunal wildlife species including six amphibians, 60 reptiles, 198 birds and 39 mammals. Out of the total 303 wildlife species, 3 species are being endangered while rests of the 10 species being Vulnerable and all having decreasing population trend (**Table 4.10**). The threatened species include eight birds and five mammals. None of the amphibian and reptilian species is threatened in the selected four districts in Balochistan. [76]

Table 4.10: Endangered Faunal Species of Balochistan[88]

#	Zoological Name	Common Name	Class	IUCN Status 2018	Population Trend
1	European Turtle Dove	Streptopelia turtur	Aves	Vulnerable	Decreasing
2	Egyptian Vulture	Neophron percnopterus	Aves	Endangered	Decreasing
3	Southern Grey Shrike	Lanius meridionalis	Aves	Vulnerable	Decreasing
4	Houbara bustard	Chlamydotis undulata	Aves	Vulnerable	Decreasing
5	Marbled Duck/ Teal	Marmaronetta angustirostris	Aves	Vulnerable	Decreasing
6	Common Pochard	Aythya ferina	Aves	Vulnerable	Decreasing
7	Steppe Eagle	Aquila nepalensis	Aves	Endangered	Decreasing
8	Saker Falcon	Falco cherrug	Aves	Endangered	Decreasing
7	Common Leopard	Panthera pardus	Mammalia	Vulnerable	Decreasing
9	Marbled Polecat	Vormela peregusna	Mammalia	Vulnerable	Decreasing
10	Gad / Urial	Ovis vignei	Mammalia	Vulnerable	Decreasing
11	Persian or Goitred Gazelle	Gazella subgutturosa	Mammalia	Vulnerable	Decreasing
12	Chiltan Wild Goat	Capra aegagrus	Mammalia	Vulnerable	Decreasing

[75] Mirza. Z. B. 2007. A Field Guide to Birds of Pakistan, WWF Pakistan, PO Box 5180, Ferozepur Road, Lahore, Pakistan. 366
[76] The IUCN Red List of Threatened Species. Version 2017-3. (www.iucnredlist.org). Downloaded on 05 November 2019.

Endemic Species

Ten out of the 303 wildlife species reported from Balochistan are endemic including one amphibian, five reptiles and four mammals. These 10 endemic species are therefore, important from conservation point of view. The project intervention shall not disturb their habitats. A list of Endemic wildlife species found in selected four districts in Balochistan is given below[77].

Table 4.11: Endemic Wildlife Species of Project Districts

#	Zoological Name	Common Name	Class	Type locality	Distribution
1	*Bufo viridis zugmayeri*	Baloch Green Toad	Amphibia	Pishin	Quetta, Pishin Chagai, Killa Abdullah
2	*Laudakia melanura nasiri*	Black Rock Agama	Reptilia	Tanishpa (District Killa Saifullah)	Killa Abdullah, Quetta
3	*Trapelus ruderatu baluchianus*	Spotted Ground Agama	Reptilia	Quetta	Quetta, Pishin
4	*Rhinogekko femoralis*	Point-tail Spider gecko	Reptilia	Kharan	Chagai
5	*Tropiocolotes depressus*	Mountain Dwarf gecko	Reptilia	Kach, Quetta	North Quetta , Pishin
6	*Coluber karelini mintonorum*	Banded Desert Racer	Reptilia	Zangi Nawar	Chagai
7	*Salpingotus michaelis*	Balochistan Pygmy Jerboa	Mammalia	Chagai	Chagai
8	*Capra aegagrus chialtanensis*	Chiltan Wild Goat	Mammalia	Chagai	Chagai
9	*Allactaga hotsoni*	Hoston' s five-toed jerboa	Mammalia	Chagai	Chagai
10	*Jaculus blanfordi*	Greater three-toed jerboa	Mammalia	Chagai	Chagai

4.4.2 Flora

Being producers, the plant species form the foundation of an ecosystem. Plants provide the basic needs of all the other living organisms including food, shelter and cover. Beyond the irrigated valleys the inhospitable stony soil is covered by a scraggy overlay of stunted scrub. Flora native to the region includes *capparis aphylla, periploca aphylla, boucerosia, tacoma undulate, acanthodium. spicatum, prosopis spicigera, withania coaguluns, zizyphus jujubu, slavadora oleoides*, three kinds of *acacia, leptadenia spartium, taverniera nummularia, physorhynchus brahuicus, alhugi camelorum* etc. In low-lying parts where water is available *tamarix articulata* and *tamarix gallica* are found. The herbaceous vegetation is very scanty, consisting of such plants as *aerua javanica, pluchea lanceolata, fagonia arabica. mibulus alatus,* and *cassia obovata*. Two species

[77] Khan, M.S. 2006. Amphibians and reptiles of Pakistan. Krieger Publishing Company, Malabar, Florida. pp 311 Government of Pakistan. 2000. Biodiversity Action Plan for Pakistan; A Framework for conserving our natural wealth, pp 79.

haloxylon suadea and *vermiculata* and *salsola foetida* are abundant on saline soil. *Panicum antidotale* is the most important grass, but *eleusine flagellifera* and a species of eragrostis are also abundant[78].

In the upper highlands the flora is of varied origin. The long flat valleys for the greater part of the year have a monotonous covering of Artemisia and *haloxylon griffithii*, diversified, where there are streams with tamarisks and species of *salsola, arenaria, halocharis*. On the surrounding hills, up to an elevation of 7,000 feet above sea-level are to be found species of *acantholimon, acanthophyllum, salvia, amygdalus, spiraea, gentian, eremostachys and campanula*. Pistachio trees, associated with ash, wild olive, and daphne are also common. At higher elevations junipers *macropoda* and *prunus eburnea* are abundant. Other plants common at these altitudes are *lonicera, caragana ambigua, berberis, cotoneaster nummularia, rosa beggeriana*, etc and two varieties of pennisetum. A number of medicinal plants are also found in Balochistan.

4.5 Socioeconomic Environment

This section describes the socioeconomic profile of the project districts using primary and secondary data.

4.5.1 Demography

The data for demography has been taken from district census reports of 1998 and results of 2017[79]. According to the national population census conducted in 2017, the population of the province has increased to 12.34 million as compared to 6.5 million in 1998 recording an increase of 88% of over the last 19 years. The percentage of population in urban and rural areas in 2017 was 72.5% and 27.5% respectively. The total population of four project districts was 1.7 million in 1998 which has now increased to 3.9 million in 2017 with 2.6 million people residing in rural areas and 1.3 in urban areas. (**Table 4.12**).

Table 4.12: Demographic Statistics [80]

Province/ District	Growth Rate 1998-2017 (%)	Rural Population (2017)	Urban Population (2017)	Total Population (2017)
Quetta	5.83	1,274,494	1,001,205	2,275,699
Pishin	3.6	593,339	143,142	736,481
Chagai	4.13	209,689	16,319	226,008
Killa Abdullah	3.97	608,236	149,342	757,578
Total	-	2,685,758	1,310,008	3,995,766
Balochistan Province	3.37	8,943,532	3,400,876	12,344,408

4.5.2 Health

[78] Flora of Pakistan, Volume 219
[79] http://www.statistics.gov.pk/assets/publications/Population_Results.pdf . Assessed April 2 2018.
[80] http://www.pbs.gov.pk/sites/default/files//DISTRICT_WISE_CENSUS_RESULTS_CENSUS_2017.pdf.

The Health Department of the Government of Balochistan is the main service provider in the province, though the private sector (both for profit and non-profit) also plays an important role along with the public sector. The Balochistan Health Department is responsible for delivery of key health services to the people through hospitals, Basic Health Units (BHU), Rural Health Centers (RHC), Mother and Child Health Centres (MCH) and Civil Dispensaries (CD). The department operates more than 710 BHUs, 107 RHCs, 91 MCHs, 540 CDs and 48 hospitals, which include 5 Tertiary Care Hospitals in Quetta, 5 Divisional HQ hospitals, 5 fifty Bedded Hospitals and 26 District Headquarter (DHQ) Hospitals. [81]

Situation Analysis

The province's health sector faces challenges manifested in poor health indicators of Balochistan as compared to other provinces and national averages. The burden from poor reproductive, maternal, newborn and child health and nutrition (RMNCHN) outcomes is extremely high both in absolute terms as well as relative to the national average. Balochistan performs worse than the national average across all health outcomes and health service utilization indicators (**Table 4.13**).[82] Infant mortality and under-5 mortality rates are 66 and 78 per 1,000 live births in Balochistan compared to 62 and 74 per 1,000 live births at the national level. The total fertility rate (TFR) is 4.2 in Balochistan and 3.6 nationally, and almost half of the children under five are stunted in the province compared to about one in three at the national level. Differences in service utilization between the province and the national level are even more striking: only 38 percent of deliveries in the province are attended by a skilled birth attendant (versus 69 percent nationally), 56 percent of women receive at least one antenatal care (ANC) from a skilled provider (versus 86 percent nationally), and about 58 percent of the children receive vitamin A supplementation (versus 75 percent nationally). The use of modern contraceptives is very low both at the provincial level (14 percent) and at the national level (25 percent), while the proportion of children immunized against measles is extremely low at 33 percent in the province versus 73 percent nationally. While the data shows that Balochistan performs worse than the national average, it also highlights that Pakistan performs worse than the average of its peers in the South Asia Region (SAR).

Table 4.13: Key Health Outcomes and Service Utilization Indicators in Balochistan vis a vis National and SAR[83]

	Balochistan (PDHS 2017/18)	**Pakistan (PDHS 2017/18)**	**SAR average# (2015-2017)**
Key RMNCHN outcomes			

[81] PC-I Balochistan Human Capital Investment Project

[82] National Institute of Population Studies (NIPS) [Pakistan] and ICF. 2019. Pakistan Demographic and Health Survey (PDHS) 2017-18. Islamabad, Pakistan, and Rockville, Maryland, USA: NIPS and ICF.

[83] Sources: # WBG. Find my Friends using data from the Health Nutrition and Population statistics (unless otherwise specified). *United Nations Children's Fund (UNICEF). 2017. http://www.unicefrosaprogressreport.org/stopstunting.html, **UN 2015. Estimated. https://www.un.org/en/development/desa/population/publications/pdf/family/trendsContraceptive Use2015Report.pdf

Infant mortality rate (per 1,000 live births)	66.0	62.0	31.9
Under-5 mortality rate (per 1,000 live births)	78.0	74.0	39.7
TFR (births per woman)	4.0	3.6	2.6
Stunting rate (% of children under 5)	47.4	37.6	35.0*
Key RMNCHN service utilization indicators			
Skilled birth deliveries (% of pregnant women)	38.2	69.3	--
Any ANC from a skilled provider (% of pregnant women)	55.5	86.2	--
Use of modern contraception (% of currently married women)	14.0	25.0	50.3**
Vitamin A supplementation (% of children ages 6-59 months)	57.7	75.2	82.9
Immunization, measles (% of children ages 12-23 months)	33.3	73.0	85.4

The Neonatal mortality rate (NNMR), Infant mortality rate (IMR), and Under-five mortality rate (U5MR) are high showing poor health outcomes in the province. Provincial trends, however, depict that Balochistan has made progress with a decline in neonatal deaths from 63 in 2012/3 to 34 in 2017/8. Although the trend of neonatal mortality in Balochistan seems encouraging, the utilization of essential maternal and child health (MCH) services that are known to reduce measles, mumps and rubella (MMR) and IMR are still poor compared to national trends. Pakistan Demographic and Health Survey (PDHS) 2017-18 has not estimated MMR, hence the figure of PDHS 2012-13 is still the only available estimate which is 786 per 100,000 live births, much higher than the rest of country.

Major challenges being faced by the health department include absenteeism of providers, lack of female doctors, weak management and monitoring capacities, and insufficient medical equipment and supplies. Low competencies of providers result from various barriers in staff production, retention, and management including suboptimal training entities, obsolete and inadequate training curricula (for example, exclusion of long-term family planning (FP) methods), ineffective on-the-job training, lack of data on providers' education, absence of a system for continued medical education, and insufficient supervision of health facilities (HFs), especially in remote areas.

Primary Data Results

Baseline survey was conducted using questionnaire on health attached as **Annexure 9.** Baseline survey sites were selected in consultation with the health department. The criteria for selection was to include health care facilities from each district based on population density to acquire a representative sample. A baseline survey was been conducted in Project districts where 11 health facilities were (**Table 4.14)**.

Table 4.14: List of Health Facilities Visited for Baseline Survey

#	District	Tehsil	Health Facilities
1.	Killa Abdullah	Chaman	District Headquarter Hospital Chaman
		Chaman	RHC Habib Zai
		Killa Abdullah	BHU Pir Alizai (upgrade to RHC)
2	Chagai	Dalbandin	DHQ Hospital Dalbandin (Hub) – Prince Fahad Hospital
		Chagai	RHC Chagai
		Dalbandin	BHU Amin Abad (upgrade to RHC)
3.	Quetta	Quetta	RHC Panjpai (Hub)
		Chiltan	BHU Village Aid HUB (upgrade to RHC)
4.	Pishin	Pishin	District Headquarter Hospital Pishin (HUB)
		Pishin	RHC Saranan
		Saranan	BHU Saranan Camp

Table 4.15 provides information about the number of beds available in each visited health facility. It shows that situation is quite miserable as number of beds fluctuates substantially and Basic Health Units have no stretchers and beds for patients. Moreover, in other healthcare facilities, not all the available beds are in working condition.

Table 4.15: Number of Beds in Surveyed Health Facilities

#	District	Health Facilities	Number of Beds
1.	Killa Abdullah	District Headquarter Hospital Chaman	50
		RHC Habib Zai	4
		BHU Pir Alizai (upgrade to RHC)	4
2.	Chagai	DHQ Hospital Dalbandin (Hub) – Prince Fahad Hospital	50
		RHC Chagai	4
		BHU Amin Abad (upgrade to RHC)	0
3.	Quetta	RHC Panjpai (Hub)	20
		BHU Village Aid HUB (upgrade to RHC)	0
4.	Pishin	District Headquarter Hospital Pishin (HUB)	100
		RHC Saranan	2
		BHU Saranan Camp	0

Hospital Waste Management: Table 4.16 gives an overview of the hospital waste management system present in each visited facility. The survey data reveals that in 91% of health facilities, hospital waste management plan has not been prepared, however, in District Headquarter Hospital Chaman, MSF organization has prepared the waste management plan. In 82% of the health facilities, hospital waste management committee has not been formed, however, in 18% of the DHQ and RHC, waste

management committee exists. In 90% of health facilities, waste generation record is not being maintained. In 82% of health facilities, no training has been provided to health care/ sanitary workers on health care waste management (HCWM).

Table 4.16: Overview of Hospital Waste Management System

District	Health Facilities	Hospital waste management committee	Waste collection	Waste Segregation	Waste Storage/ Transportation	Waste Disposal
Killa Abdullah	District Headquarter Hospital Chaman	Yes, hospital waste management committee exist	No separate waste bins present	No segregation system present	No waste storage/ transportation mechanism present	Waste is disposed of and burnt at open dump site in the vicinty of health facility. Incinerator is present.
	RHC Habib Zai	No hosiptal waste management committee present	No separate waste bins present	No segregation system present	No waste storage/ transportation mechanism present	Waste is disposed of and burnt at open dump site in the vicinty of health facility.
	BHU Pir Alizai (upgrade to RHC)	No hosiptal waste management committee present	One waste bin present	No segregation system present	No waste storage/ transportation mechanism present	Waste is disposed of and burnt at open dump site in the vicinty of health facility
Chagai	DHQ Hospital Dalbandin (Hub) – Prince Fahad Hospital	No hosiptal waste management committee present	No separate waste bins present	No segregation system present	No waste storage/ transportation mechanism present	Waste is disposed of and burnt at open dump site
	RHC Chagai	No hosiptal waste management committee present	No separate waste bins present	No segregation system present	No waste storage/ transportation mechanism present	Waste is disposed of and burnt at open dump site in the vicinty of health facility
	BHU Amin Abad (upgrade to RHC)	No hosiptal waste management committee present	No separate waste bins present	No segregation system present	No waste storage/ transportation mechanism present	Waste is disposed of and burnt at open dump site in the vicinty of health facility
Quetta	RHC Panjpai (Hub)	No hosiptal waste management committee	No separate waste bins	No segregation system present	No waste storage/ transportation mechanism	Waste is burnt in well.

District	Health Facilities	Hospital waste management committee	Waste collection	Waste Segregation	Waste Storage/ Transportation	Waste Disposal
		present	present		present	
	BHU Village Aid HUB (upgrade to RHC)	Yes, Hospital waste management committee exist	One waste bin placed between two beds	No segregation system present	No waste storage/ transportation mechanism present	Waste is disposed of and burnt at open dump site in the vicinty of health facility
Pishin	District Headquarter Hospital Pishin (HUB)	No hosiptal waste management committee present	One waste bin placed between two beds	No segregation system present	Uncovered tractor trolleys transport the waste to disposal site	Waste is disposed of and burnt at open dump site.
	RHC Saranan	No hosiptal waste management committee present	No waste bins present	No segregation system present	No waste storage/ transportation mechanism present	Waste is disposed of and burnt at open dump site in the vicinty of health facility
	BHU Saranan Camp	No hosiptal waste management committee present	Two separate bins. White for municipal waste and yellow for infectious waste.	No segregation system present	No waste storage/ transportation mechanism present	Waste is disposed of and burnt at open dump site in the vicinty of health facility

54.4% of workers are using Personal Protective Equipment (PPE) whereas 45.5 % of the workers do not use any kind of personal protective equipment. Both mask and gloves are used by almost 60% of healthcare workers while head covers and Gowns and shoe covers are used by 36 % and 18 % respectively. Only 9% of the Health care workers wear hard sole long boots (**Figure 4.9**). Facemasks and gloves are the most commonly used PPE to protect from respiratory and other infections. It indicates that compliance with the use of PPE is generally low among healthcare workers and is mainly due to unavailability of PPE and lack of training.

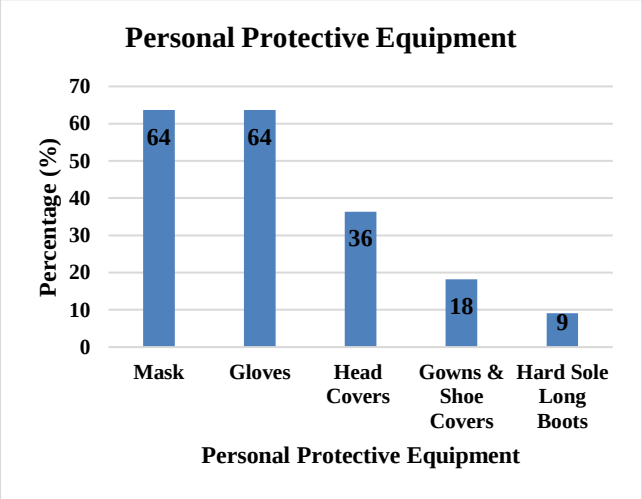

Figure 4.9: Personal Protective Equipment

Type of Waste: The amount and type of waste generated in healthcare units depends upon various factors such as the number of beds, types of health services provided and the general condition of the area where the hospital is situated. Hospital waste can be classified into four different categories: infectious, hazardous, general and radioactive waste.

Collection, Segregation and Storage: It is very alarming to note that only 9% of the health facilities have placed a set of two small waste bins along each bed side for primary collection of waste; white for municipal waste and yellow for infectious waste. No large colour coded waste bins are present near nursing stations in all wards. There are no separate yellow, red and white bins for collections of infectious waste, glass waste and municipal waste respectively. Mostly empty boxes of medicines are being used for collection of all types of waste with no segregation or labelling.

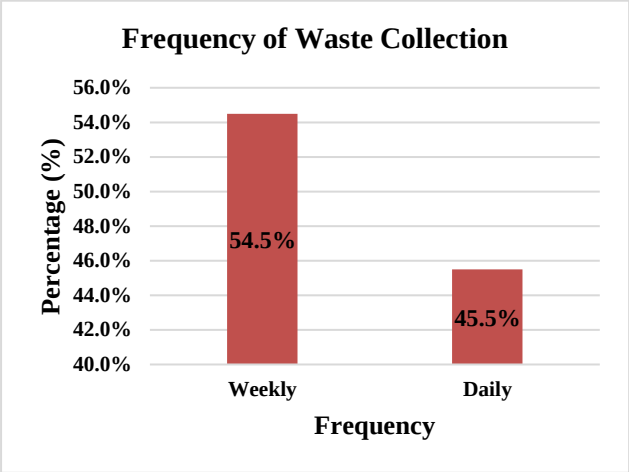

Figure 4.10: Frequency of Waste Collection

In 45.5% of health facilities waste is collected daily from the ward and units whereas in rest of the 54.5 % waste has been collected weekly (**Figure 4.10**). There is no proper marking on containers indicating type of waste, time of collection, ward, total weight, responsible person and biohazard symbol. There is no record of amount of daily waste generated as there is no weighing scale present in any DHQ and RHC. There are no registers and reports for maintaining the record of daily waste generation and disposal.

Transportation, Storage and Disposal: There are no fabricated yellow vehicles available for transportation of waste to disposal sites. Mostly, waste is being collected by hand and dumped in open spaces from where municipal tractors pick it up. Hence, no proper transportation mechanism for waste exists. In all health facilities, infectious waste is not collected separately. There is no provision of yellow room for storage of infectious waste.

91% of the health care facilities do not have facility of incinerator for proper disposal of waste, however, there is one incinerator installed in DHQ hospital Chaman. As in majority of healthcare units, facility of incinerator is not available, collected waste is either dumped or burned in open space. 91% of healthcare facilities dispose waste in open dump sites whereas 73% of health facilities burn the waste in the vicinity of the healthcare facility. In 91% of HFs, well structures, covered burial pits are not present to dispose the placenta and other body parts. As in majority of health facilities, burial pit is not present, placenta and other organs are being disposed with other waste.

91% of healthcare facilities do not follow injection safety protocols. Only in 36 % of health facilities, needle cutters are being used to cut needle and nozzle of the used syringes whereas majority of health facilities do not cut the needle before their disposal. In only 18%of the HFs, containers for disposal of sharp containers are present while in majority of the HFs no separate containers are present for disposal of sharp materials.

In 45% of laboratories, waste is being disinfected before final disposal, whereas 55% laboratories dispose waste without disinfecting. However, 73% of laboratory workers wear basic personal protective equipment such as masks while rest of 27% do not wear PPE.

Drinking Water and Sanitation: In 73% of health facilities, there is no provision of safe drinking water for patients, attendants and staff whereas in 27% of health facilities, safe drinking water is available (**Figure 4.11**). However, quarterly drinking water testing is not being conducted in any facility.

In 55% of health facilities, WASH facilities are not available (**Figure 4.12).** In remaining 45 % where WASH facilities are available separately for men and women, there is no provision of soap and waste bins and few of them are not even functional. In 64% of health facilities, there is no proper drainage system whereas in 36% where drainage system exits, is mostly damaged or broken. Moreover, there is no proper sanitation/cleaning mechanism.

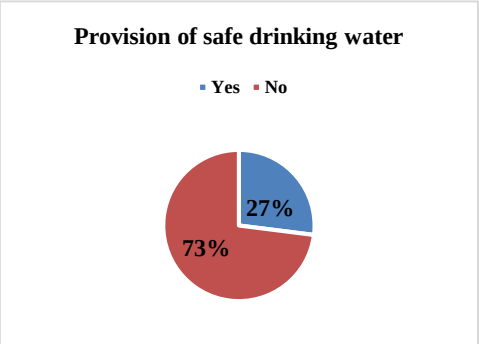

Figure 4.11: Provision of safe drinking water

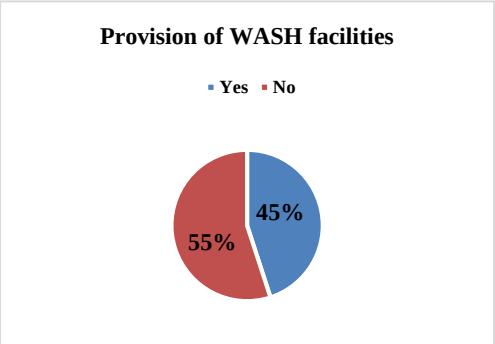

Figure 4.12: Provision of WASH facilities

Voluntary Land Donation: The survey data reveals that in 82% of the health facilities, nearby communities are willing to donate land voluntarily whereas in remaining 18%, land is either owned by state or the health facilities have already land available within the premises for expansion. 82% of the owners are aware of the nature of VLD and its procedure as land donations have been made in past.

Grievance Redress Mechanism: In 64% of HFs, feedback and complaints are being invited whereas in remaining 36% there is no system for receiving complaints. In 91% of Healthcare units, there is no documentation of received complaints, and mostly complaints are received and resolved verbally.

There is no proper mechanism for recording complaints such as complaint box, register, helpline or any other mode in any of the HFs. In one of the HF, it was introduced by DG Health in 2019 but could not be continued.

Gender Based Violence: Gender based violence against women is highly prevalent but remains mostly underreported. Hence, majority of the literature provides a low number of reported cases of rape, abuse, harassment and even killings in Balochistan. A scoping study conducted by the Gender Equality Programme identified that police registered 4870 cases of violence against women during 2010, out of which only 313 cases were

reported to authorities in Balochistan.[84] Similarly, in 2014, only 74 cases of sexual assaults were reported across Pakistan where from Balochistan and ex-FATA no cases of sexual assault were reported.[85] The statistics show that in majority of the cases the victims of abuse and harassment do not approach authorities mostly due to pressure from their families.

During consultations, 18% of HCWs expressed that there is a risk of gender-based violence (GBV) or harassment during construction whereas 9% and 36% said that construction may restrict mobility of healthcare workers and cause noise, respectively.

4.5.3 Education

Balochistan has the country's lowest net enrolment rates for all stages of schooling. There are 2,058 primary schools, 299 middle schools, 219 high schools and 15 higher secondary schools in the four project districts. There are 2,591 schools in total in the four project districts serving the population of 3.9 million, and only 11 colleges. (**Table 4.16**). The total enrolment in primary schools of project districts is 177,536. The total number of students' enrolment in degree colleges is 26,859 which shows a decreasing trend in the enrolment. (**Table 4.17**). Enrolment data also shows decreasing trend in higher secondary education in project districts, especially for female students.[86] (**Table 4.18**).

Table 4.17: Total Number of Schools in Balochistan and Project Districts[87]

District /Province	Primary	Middle	High	High Sec	Inter College	Degree College	Total
Quetta	454	101	98	8	48	8	717
Pishin	841	116	60	2	8	2	1,029
Chagai	255	32	22	3	4	0	316
Killa Abdullah	508	50	39	2	3	1	603
Total	**2,058**	**299**	**219**	**15**	**63**	**11**	**2,665**
Balochistan	12,299	1,427	1,056	72	155	35	15,044

Table 4.18: Institution Wise Enrolment in Project Districts[88]

Province/District	Primary	Middle	Higher Sec	High	Inter College	Degree College	Total Enrolment
Quetta	85,395	25,494	14540	155	1240	23541	150,365
Pishin	49,541	6,948	0	0	573	1,875	58,937
Chagai	15,342	3,202	15	767	180	562	20,068

[84] Gender-Based Violence - in Pakistan Aurat Foundation A Scoping Study 2011
[85] (January - December, 2014). Violence Against Women in Pakistan, A qualitative review of reported incidents. Auration Publication and Information Service Foundation.
[86] http://emis.gob.pk/website/#. Assessed on April 09 2018.
[87] Source: http://emis.gob.pk/ Assessed on April 09 2018.
[88] Source: http://emis.gob.pk/website/#. Assessed on April 09 2018.

Killa Abdullah	27,256	3,425	0	0	388	881	31,950
Total	177,536	39,069	14,555	922	2,381	26,859	261,320

Table 4.19: Gender Wise Enrolment in Project Districts

Province/District	Boys	Girls	Total Enrollment
Quetta	71,608	70,593	142,201
Pishin	38,511	20,820	59,331
Chagai	12,458	7,321	19,779
Killa Abdullah	27,878	9,280	37,158
Total	**150,455**	**108,014**	**258,469**
Balochistan	583,289	387,363	970,652

Literacy rate refers to the ability of the population aged 10 years and above to read and write a simple message. According to Pakistan Social and Living Measurement Survey (PSLM) 2014-15, the literacy rate of age 10+ in Balochistan Province was 61% among males and 25% among females, with an overall literacy rate of 44%. [89] The literacy rate of project districts is mentioned in (**Table 4.20**).

Table 4.20: Literacy Rate of Project Districts

Province/ District	Literacy%	Male %	Female %
Quetta	63	77	46
Pishin	51	72	24
Chagai	30	48	9
Killa Abdullah	27	42	8
Balochistan	44	61	25

Quetta District

The Quetta district has a total of 454 primary schools (government 411, private 43), 101 middle schools (government 82, private 19), 98 high schools (government 90, private 8) and 56 colleges (15 government, 41 private)[90]. The total number of government institutions for boys outnumbers total institutions for girls in the district. Refer to **Table 4.21,4.22**)

Table 4.21: Numbers of Government Educational Institute in Quetta by Gender

Primary			Middle			High/High Secondary			Degree College			Inter College			Total		
Boy	Girl	Tota	Boy	Girl	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total

[89] Pakistan Social and Living Measurement Survey (PSLM) 2014-15, Mar 2016, Pakistan Bureau of Statistics, Statistics Division, GoP

[90] BEMIS, Directorate of Education, Balochistan, Quetta, PPIU, Policy Planning and Implementation Unit Quetta.

s	s	l	s	s													
276	135	411	35	47	82	39	51	90	3	7	10	4	1	5	357	241	598

Table 4.22: Numbers of Private Educational Institutes in Quetta

Primary	Middle	High/H.Secondary	College	Total
43	19	8	41	111

According to Pakistan Social and Living Measurement Survey (PSLM) 2014-15, the literacy rate of age 10+ in Quetta District was 78% among males and 45% among females, with an overall literacy rate of 63%.[91] The total enrolment in 2017-18 for primary classes are 85,395 including 39,511 boys and 45,885 girls, which means that 53% of primary school students were girls while 47% were boys. The total enrolment for middle classes (6-8) was 25,494 including 12,208 (48%) boys and 13286 (52%) girls. The total enrolment for high secondary school classes was 14,540 including 7,580 (52%) boys and 6,960 (48%) girls.[92] The total enrolment in 4 inter government colleges was 1240 and 23541 students were enrolled in 8 degree colleges. [93]

Pishin District

The Pishin district has a total of 841 primary (government 826, private 15), 116 middle (government 114, private 2), 62 high/higher secondary (government 58, private 4)[94] and 10 colleges (government 7, private 3) [95]. At each educational level, the number of institutions for boys outnumbers institutions for girls in the district. (Refer to **Table 4.23,4.24**)[96]

Table 4.23: Numbers of Government Educational Institute in Pishin by Gender[97]

Primary			Middle			High/High Secondary			College			Total		
Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
623	203	826	63	51	114	39	19	58	5	2	7	730	275	1,005

Table 4.24: Numbers of Private Educational Institutes in Pishin

Primary	Middle	High	College	Total
15	2	4	3	24

According to Pakistan Social and Living Measurement Survey (PSLM) 2014-15, the literacy rate of age 10+ in Pishin District was 72% among males and 24% among

[91] Pakistan Social and Living Measurement Survey (PSLM) 2014-15, Mar 2016, Pakistan Bureau of Statistics, Statistics Division, GoP
[92] http://emis.gob.pk/website/
[93] http://emis.gob.pk/website/Collages.aspx
[94] http://emis.gob.pk/website/SchoolSections.aspx#. Assessed on April 09 2018.
[95] http://emis.gob.pk/website/CollegeSections.aspx. Assessed on April 09 2018.
[96] http://emis.gob.pk/Uploads/Environmental%20&%20Social%20Impact%20Assessment%20of%20BESP.pdf
[97] http://emis.gob.pk/website/Collages.aspx

females, with an overall literacy rate of 51%. [98] The total enrolment in 2017-2018 for primary classes are 49,541 including 30,938 boys and 18,603 girls, which means that 63% of primary school students were boys while 37% were girls. The total enrolment for middle classes (6-8) was 6,948 including 4,775 (55%) boys and 2,173 (45%) girls. No enrolment is listed in High and Higher Secondary Schools. In 5 inter colleges 573 students were enrolled & in 2 degree colleges 1,875 students were enrolled.

Chagai District

The Chagai district has a total of 255 primary (government 213, private 42), 32 middle (government 32), 25 high/higher secondary (government 19, private high schools 6), [99] and 4 inter colleges (government 2, private 2) [100]. At each level of school, the number of government institutions for boys outnumbers institutions for girls in the district. Refer to **Table 4.25 and Table 4.26.**

Table 4.25: Numbers of Government Educational Institute in Chagai by Gender

Primary			**Middle**			**High/High Secondary**			**Inter College**			**Total**		
Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
160	53	213	20	12	32	13	6	19	1	1	2	194	72	266

Table 4.26: Numbers of Private Educational Institutes in Chagai

Primary	**Middle**	**High**	**Inter College**	**Total**
42	-	6	2	50

According to Pakistan Social and Living Measurement Survey (PSLM) 2014-15, the literacy rate of age 10+ in Chagai District was 48% among males and 9% among females, with an overall literacy rate of 30%. [101] The total enrolment in 2017-18 for primary classes are 15,342 including 9,271 boys and 6,071 girls, which means that 64% of primary school students were boys while 39% were girls. The total enrolment for middle classes (6-8) was 3,202 including 2,214 (69%) boys and 988 (31%) girls. The total enrolment for high school classes was 767, all of which were boy and 15 for higher secondary, all of which were girls. There are no government degree colleges in Chagai and 2 inter colleges in which 180 students are enrolled. [102]

Killa Abdullah District

Killa Abdullah district has a total of 508 primary (government 469, private 39), 50 middle (government 48, private 2), 41 high/higher secondary (government 40,

[98] Pakistan Social and Living Measurement Survey (PSLM) 2014-15, Mar 2016, Pakistan Bureau of Statistics, Statistics Division, GoP
[99] http://emis.gob.pk/website/SchoolSections.aspx#. Assessed on April 09 2018.
[100] http://emis.gob.pk/website/CollegeSections.aspx. Assessed on April 09 2018.
[101] Pakistan Social and Living Measurement Survey (PSLM) 2014-15, Mar 2016, Pakistan Bureau of Statistics, Statistics Division, GoP
[102] Chagai - District Development Profile, July 2011, Planning & Development Department, GoB, UNICEF.

private high schools 6), 1 government higher secondary, [103] 3 inter colleges (government 3, private 0) [104] and 01 government degree college [105]. At each educational level, the number of institutions for boys outnumbers institutions for girls in the district Refer **Table 4.27,28**.

Table 4.27: Numbers of Government Educational Institute in Killa Abdullah by Gender

Primary			Middle			High/High Secondary			Inter College			Degree College			Total		
Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
404	65	469	37	11	48	31	9	40	2	1	3	1	-	1	475	86	561

Table 4.28: Numbers of Private Educational Institute in Killa Abdullah

Primary	Middle	High	Inter College	Total
39	2	1	-	42

According to Pakistan Social and Living Measurement Survey (PSLM) 2014-15, the literacy rate of age 10+ in Killa Abdullah District was 42% among males and 8% among females, with an overall literacy rate of 27%. The total enrolment in 2017-18 for primary classes was 27,256 including 19,022 boys and 8,234 girls, which means that 69.7% of primary school students were boys while 30.3% were girls. The total enrolment for middle classes was 3,425 including 2,642 (77%) boys and 783 (23%) girls. There are no enrolments in 39 high schools and 2 higher secondary schools. There are 3 inter colleges in which 388 students are enrolled and there is only 1 Degree College. Students enrolled in Degree College are 881.[106]

Situation Analysis

Balochistan's education outcomes are marked by low access (less than 2 in 5 children aged 5-9 are enrolled in primary schools); low efficiency (late enrolments, low survival rates and repetitions), and high inequities (females are 4.5 times more likely than males to be out of school). The net enrolment rate (NER) for both boys and girls at the primary, middle and higher secondary school levels is at least 10 percentage points lower than the national average and the lowest in the country. Additionally, there are significant differences in school participation rates across the province, when disaggregated by districts, rural-urban and gender. Gender disparities are visible in all aspects of education. For example, while the overall adult literacy rate is 41%, it is only 19% for females. More worryingly, the NER for girls in Balochistan is 35% compared to

[103] http://emis.gob.pk/website/SchoolSections.aspx#. Assessed on April 09 2018.
[104] Source: http://emis.gob.pk/website/CollegeSections.aspx. Assessed on April 09 2018.
[105] Source: http://emis.gob.pk/website/Collages.aspx. Assessed on April 09 2018.
[106] Killa Abdullah - District Development Profile, July 2011, Planning & Development Department, GoB, UNICEF.

boys NER of 56%, and drops to an abysmally low 11% at the middle school level, indicating very low retention rates.[107]

Not only for girls, access is also a serious challenge for boys in a geographically wide-spread area with small, sparsely populated communities. Out of the roughly 22,000 settlements in the province, 40% do not have access to a school. Where schools are present, they are in poor physical condition and the buildings of most existing schools suffer from severe neglect and disrepair[108]. There is also a serious imbalance between the provision of primary and post primary schools across the province. Over 80% of all government schools are at the primary level only, with enrolment in government girls' high schools as low as in the hundreds in some districts[109]. While the Balochistan Education Sector Plan recommends a ratio of 1:2:6 for primary, middle and secondary schools, in reality, there are a total of 13,674 schools among which 11,272 are primary 1,395 middle and only 1,007 are secondary[110].

Another serious challenge in Balochistan is of the quality of education and learning outcomes. The Annual Status of Education Report (ASER) 2012 noted that only 34% of children in Class 5 could solve Grade 3 level arithmetic problems and 36% of Grade 5 children could read an Urdu story of Grade 3 level in rural Balochistan. Also, students at both grade 4 and grade 8 levels in Balochistan scored below the scaled mean score of 500 out of a total of 1000 in the National Achievement Test 2016. This indicates that children who progress from the primary to next level, do not get the right learning environment. Most of the schools lack teaching and learning materials and teachers are poorly equipped to support learning outcomes.[111]

Primary Data

A total 56 schools in project districts have been selected for upgrade and reconstruction in various clusters identified by the Education Department. The selected primary schools for the project are planned to be upgraded to middle school, whereas, middle schools will be upgraded to higher secondary in each district. A baseline survey was conducted in Project Districts where sixteen (16) schools – four from each project district - were visited in consultation with Education department. List of surveyed schools is given below as **Table 4.29** and questionnaire is attached as **Annexure 4**. The criteria for selection of schools was to include a girl's and boy's primary and middle school from each district to attain a representative sample. The sample comprised of 62% boys and 38% girls schools, in which there were 56% middle and 44% primary schools.

Table 4.29: List of Visited School for Baseline Survey

#	District	Tehsil/Village	School Name	School Grade	Gender
1	Chaghi	Dalbandin	GGMS killi Qasim	Middle	Girls School

[107] http://emis.gob.pk/Uploads/BalochistanEducationStatistics/Balochistan_Education_Statistics_2016-17.pdf
[108] Balochistan Education Sector Plan 2013-2017
[109] Alif Ailna, 2018
[110] EMIS Report 2017
[111] PAD- Balochistan Human Capital Investment Project

2		Nokundi	GBMS Hassanabad	Middle	Boys School
3		Chaghi	GGPS Killi Khuda I dad	Primary	Girls School
4		Chaghi	GBPS Killi Kochal	Primary	Boys School
5	Killa Abdullah	Chaman	GBHS Mehmoodabad	Middle	Boys School
6		Killa Abdullah	GGMS SAZO PIRALIZAI	Middle	Girls School
7		Chaman	GBPS Madarassa Taleem ul Islam	Primary	Boys School
8		Killa Abdullah	Muhammad Ayoub Mesazai	Primary	Girls School
9	Pishin		GBMS Bala Obashtagai	Middle	Boys School
10			GBMS Sameeza	Middle	Boys School
11			GBPS Sharan	Primary	Boys School
12			GGPS Zarnistan	Primary	Boys School
13	Quetta	Hazar ganji	GGCMP New Kahaan	Middle	Girls School
14		Hazar Ganji	GBHS Chiltan Hazar Ganji	Middle	Boys School
15		SARAGURGAI	GGMS SARAGURGAI	Middle	Girls School
16		Chiltan	GBPS Barezai Sariyab	Primary	Boys School

General Information: In each school, covered area is quite less as compared to the total land available. **Table 4.30** shows the total area and covered area of each school. Only 38% of schools have green area.

Table 4.30: Area and Rooms Detail of Visited Schools

#	District	Tehsil/ Village	School Name	Total Area (Sqft.)	Covered Area (Sqft.)	Rooms/ Halls
1	Chaghi	Dalbandin	GGMS killi Qasim	10,000	3,000	5
2		Nokundi	GBMS Hassanabad	10,010	4,000	3
3		Chaghi	GGPS Killi Khuda I dad	10,000	400	1
4		Chaghi	GBPS Killi Kochal	40,000	5,000	4
5	Killa Abdullah	Chaman	GBHS Mehmoodabad	65,340	43,560	12
6		Killa Abdullah	GGMS SAZO PIRALIZAI	3,000	1,500	6
7		Chaman	GBPS Madarassa Taleem ul Islam	720	300	2
8		Killa Abdullah	Muhammad Ayoub Mesazai	20,000	10,000	2
9	Pishin		GBMS Bala Obashtagai	8,093	80	4
10			GBMS Sameeza	10,000	1,500	4
11			GBPS Sharan	5,000	500	4
12			GGPS Zarnistan	8,267	1,615	2
13	Quetta	Hazar ganji	GGCMP New Kahaan	4,400	4,400	7
14		Hazar Ganji	GBHS Chiltan Hazar Ganji	12,000	6,500	6

#	District	Tehsil/ Village	School Name	Total Area (Sqft.)	Covered Area (Sqft.)	Rooms/ Halls
15		SARAGURGAI	GGMS SARAGURGAI	1,300	1,150	6
16		Chiltan	GBPS Barezai Sariyab	10,000	5,000	8
			Total	**218,130**	**88,505**	**76**

The total enrolment in surveyed primary schools of project districts is 439, girls are 56% and boys are 44%. Enrolment in middle schools is 2,131, girls are 60% and boys are 40%. Total 13 students are disabled. Details are present in **Table 4.31**. Accordingly to our primary baseline survey results, approximately 184 students drop out per year from all 16 schools.

The number of total staff members deployed in surveyed schools was 94, including 87 teachers and seven administrative staff. It was noted that only 15% of teachers are untrained whereas 85% teachers have training certificates/degrees i.e., M.Ed, B.Ed etc. In 81% of schools there is no provision of library. In 94 % of schools, laboratories are not present whereas in 6% of schools laboratories lack lab equipment and chemicals.

There is no gas connection in any school. In only 25% of schools, electricity is available whereas in remaining 75%, there is no electricity. 25% schools have ceiling fans in the classrooms but there is no provision of heater as there is no gas connection.

Table 4.31: Number of Enrolled Students in Visited Schools

School Name	Gender	Number of Students Enrolled			Mentally Disabled	Physically Disabled
		Female	Male	Total		
Primary Schools						
GGPS Killi Khuda I dad	Boys School	40	10	50		1
GBPS Madarassa Taleem ul Islam	Boys School	0	110	110		
Muhammad Ayoub Mesazai	Boys School	51	3	54		
GBPS Sharan	Boys School	7	8	15	1	
GBPS Barezai Sariyab	Boys School	15	40	55		
GBPS Killi Kochal	Girls School	25	60	85		
GGPS Zarnistan	Girls School	53	17	70	1	
Sub-total		**191**	**248**	**439**	**2**	**1**
Middle Schools						
GBMS Hassanabad	Boys School	136	248	384	5	
GBMS Bala Obashtagai	Boys School	17	58	75	1	1
GBMS Sameeza	Boys School	18	41	59		
GBHS Chiltan Hazar Ganji	Boys School	100	586	686		
GGMS SARAGURGAI	Boys School	203	0	203		
GGMS killi Qasim	Girls School	104	0	104	1	

School Name	Gender	Number of Students Enrolled			Mentally Disabled	Physically Disabled
		Female	Male	Total		
GBHS Mehmoodabad	Girls School	0	200	200	1	1
GGMS SAZO PIRALIZAI	Girls School	125	25	150	1	
GGCMP New Kahaan	Girls School	144	126	270		
Sub-total		**847**	**1284**	**2131**	**9**	**2**
Grand Total		**1,038**	**1,532**	**2,570**		

Water Source and Usage: Figure 4.13 shows that only 6% schools use groundwater, 6% use groundwater and from water supply, 6% use water from municipal supply and purchased water tankers, 25% do not have municipal water supply connections and groundwater so they only use water tankers to meet their needs and large number of (57%) schools do not have provision of water. Students bring water from home with them for drinking purpose. However, drinking water and waste water quality has not been tested in any school.

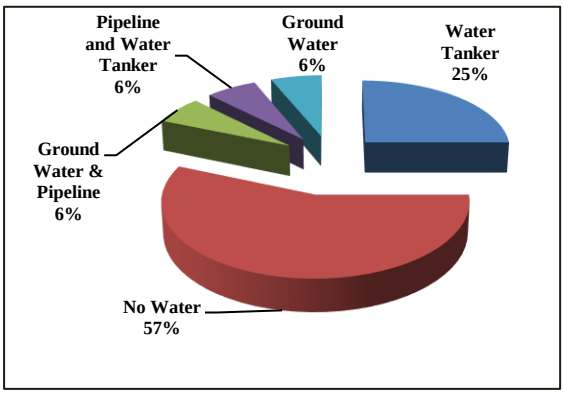

Figure 4.13: Water Source and Usage

Only in 12% of schools, drainage system is present, whereas 88% of schools do not have proper drainage system. Even where drainage system is present, it was found to be either blocked due to broken pipes or poor maintenance.

Solid Waste Management: In 50% of schools, no waste bins are present whereas in remaining 50% only two to three waste bins are present. Solid waste generated from the school mostly consists of papers, food wrappers, plastic bottles, pens, markers, pencils, and plastic bags etc. The amount of solid waste generated from schools ranges from 1 kg to 10 kg per day, with an average of 5 kg, depending upon the number of students. There is no proper solid waste management practice in schools. There is no proper mechanism for waste collection, segregation and disposal. In almost all of schools, the collected waste in waste bins is being disposed in nearby open areas where community also dump their waste, which is ultimately burned.

WASH facilities: In 62.5 % of schools, sanitation system exits whereas in 18.8% of schools no WASH facilities are available. However, in remaining 18.8%, sanitation system is present but not in functional condition (**Figure 4.14**). Inadequate sanitation and water in schools jeopardize not only students' health but also their attendance. In 43.7% of schools functional hand washing facilities are available whereas in remaining 56.3% hand washing facilities are not present. There are total 42

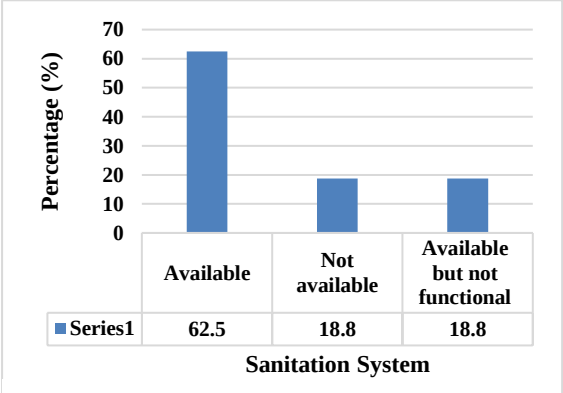

Figure 4.14: Sanitation System

washrooms available in total of 16 surveyed schools (**Table 4.32**). In 93.75% of schools, no staff member has been deployed for cleaning of washrooms.

Table 4.32: Number of Washrooms Available in Schools

#	Name of School	No. of washrooms
Quetta		
	GGCMP New Kahaan	7 (04 for students and 03 for teachers)
	GBHS Chiltan Hazar Ganji	4
	GBPS Barezai Sariyab	2
	GGMS Saragurgai	5
Killa Abdullah		
	GGPS Muhammad Ayoub Masezai	3
	GGMS Sazo Pir Ali Zai	4
	GBHS Mehmoodabad	5 (02 in hall, 02 for students and 01 for teachers)
	GBPS Madarassa Taleem ul Islam	0
Pishin		
	GBMS Bala Obashtagai	0
	GBPS Sharan	0
	GBMS Sameeza	2
	GGPS Zarnistan	1
Chagai		
	GGPS Killi Khuda I dad	1
	GBPS Killi Kochal	2
	GBMS Hassanabad	2
	GGMS killi Qasim	5
	Total	**42**

Air Quality and Noise Levels: Majority of students, teachers and workers either use motorcycles for coming to and returning from schools or walk. Moreover, no kitchen facility is present in any school which can otherwise contribute to poor indoor air quality. Based on visual and hearing observation, existing noise level is quite low in most schools whereas in one school, noise level was quite high because it is located in a densely populated urban area.

Environmental and Social Safeguard Training: In 94% of schools, teachers have not been informed or trained on environmental safeguards. However, in few schools teachers have been trained on personal hygiene. The rehabilitation and construction in

the schools will trigger the environmental safeguards, because of the noise and other inconveniences associated with the construction/rehabilitation.

Health and Safety: The survey data reveals that 87.5% of teachers are not aware of self/children safety whereas 12.5% of teachers and students have been trained on health and safety measures. In 88% of schools, there is no provision of playground whereas in 12% of schools, playgrounds usually have swings and slide. In 94% of schools, there are no ramps, handrail and emergency exits while in only 6% of schools, there is provision of ramps, handrails and emergency exits. It is very alarming to note that children safety practices are not adopted for accidents at swings and walkways to avoid unnecessary accident.

In majority of schools, minor injuries are being treated in school using First Aid Box however, in case of serious injuries; students are taken to nearby health facility. In those schools where there is no provision of first aid box, injured students are sent to home. Almost all schools have nearby medical facility available in the vicinity of 2 to 6 km. In 25% of schools, First Aid Box is available whereas in 75% of schools there are no medical emergency kits available. Students encounter different diseases such as sore throat, measles, typhoid, flu, fever, cough, malaria, diarrhoea, hepatitis, nausea and Tuberculosis etc.

In only 6% of schools, fire safety equipment has been installed whereas in 94% of schools, there is no fire extinguisher. The staff present at school is not trained in fire safety and emergency procedures. Important contact number of fire brigade and local law enforcement agencies (Police, Rescue 15 etc.) are not displayed in the schools. The survey reveals that there is no security guard present in any school. However, no incidents of criminal activity and terrorism have been recorded in past.

Grievance Redress Mechanism: In 62.5% of schools, feedback and complaints are being invited whereas in remaining 37.5% complaints are not invited. In almost all education facilities, there is no documentation of recorded complaints, however mostly complaints are recorded and solved verbally. 93.75% of the schools respond back to the complaints lodged by community members, students or parents. There is no grievance manual for staff. There are different ways used by the schools to resolve the grievances including the verbal method, PTSMC, by head teacher, community member and education officers. Most of the complaints are resolved by principal of the school or community members verbally.

4.5.4 Afghan Refugees

Balochistan hosts around 325,000 registered Afghan refugees in total: 47 percent of them are female and more than half of them (53 percent) are less than 18 years of age. Districts with the highest presence include Quetta, Pishin, Chagai, Loralai, Killa Saifullah, and Killa Abdullah districts. More than half of these refugees in Balochistan live in urban Quetta (56 percent), whereas the remaining live in rural settlements (29 percent) and refugee villages (RVs, 15 percent). There are approximately 280,799 registered Afghan refugees in the project districts (**Table 4.33**).

Table 4.33: Number and Percentage of Afghan Refugees by District[112]

District	Population	Number of registered Afghan refugees	Percentage of registered Afghan refugees
Quetta	2,275,699	185,994	8.2
Pishin	736,481	55,092	7.5
Chagai	26,008	28,948	12.8
Killa Abdullah	757,578	10,765	1.4
Total	3,795,766	280,799	

Delivery of both health and education services in Balochistan has been further affected by the influx of Afghan Refugees. The presence of large number of refugees without commensurate increase in resources has put extra pressure on the already stretched social sectors, severely affecting access to and quality of health and education services for both host communities and refugees.

Overall, only 33 percent of the Afghan refugees aged 12 and above are reportedly able to read and write. The female literacy is extremely low at 15 percent compared to male literary (50 percent).[113] The Afghan refugee children were also shown to have much lower net enrolment rate (NER, 29 percent) compared to Pakistani children (56 percent). Moreover, a needs assessment conducted in 2008 in refugee affected areas (RAAs) found that the education indicators in RAA districts fared unfavourably with the national average in Pakistan.[114] For example, in Killa Abdullah RAAs, the literary rates were four percent for females and 19 percent for males, and the primary and middle school gross enrolment rates (GER) were only 31 percent and 12 percent, with 50 percent and 66 percent gender disparity, respectively. According to a population profiling of Afghan refugees done in 2011, for example, 92 percent of deliveries among Afghan refugees in Pishin were done by unskilled attendants (compared to 94 percent among the poorest quintile of Balochistan in 2012/13).[115,116]

The GoP established a Commissionerate of Afghan Refugees (CAR) in each province to oversee the management of refugee camps and other refugee related activities and granted refugees the rights to access education and health services as acknowledged in the Solutions Strategy for Afghan Refugees (SSAR).

Though the Government of Pakistan has maintained a clear policy on allowing Afghan refugees access to basic services including primary and secondary education, a significant number of Afghan refugee children continue to access education in schools inside Refugee Villages (RVs) run by refugee communities, with support from United Nations High Commissioner for Refugees (UNHCR). In order to ensure that their access to basic education is sustained so that they acquire essential years of schooling and are able to contribute positively, the GoB will have to take over this responsibility both

[112] Source: Population data from Census 2017; Registered refugee data from UNHCR as of August 31, 2019. NB: data for districts with more than 300 registered refugees.
[113] UNHCR. 2011. Population Profiling, Verification and Response Survey of Afghan Refugees in Pakistan
[114] UNHCR, GoP, and UNDP. 2018.Needs Assessment for Refugee Affected Areas – Phase II. April 2008.
[115] NIPS [Pakistan] and ICF International. 2013. PDHS 2012-13.
[116] UNHCR. 2011. Population Profiling, verification and response survey of Afghans in Pakistan.

inside the RVs and in host communities. In the backdrop of diminishing funding for refugees, refugee children's participation in education may decline, particularly if the GoB doesn't step in.

So far UNHCR has been directly providing health and education services through facilities located in or nearby RVs. Due to decreasing funding by development partners (DPs) for refugees and host communities in Pakistan and a desire to better integrate refugees into public service delivery, UNHCR is now changing its strategy which involves support to community-based approaches and linking of refugees to nearest public facilities. Also, with migration of refugees from RVs to other areas, refugees are largely dependent on access to social services provided by the government.

4.5.5 Law and Order

There are two main law enforcement agencies, police and a paramilitary police force called 'levies' in Balochistan. More than 80% of the area in Balochistan is under levies control. The levies are a conventional force, deployed for maintaining law and order all over the province. However, regular police force also exists, mainly in urban areas.[117] Majority of the area in project districts is under the control of levies.

Quetta : There are 22 police stations, one crime unit and one CID police station in Quetta[118]. There is a website run by the department that has the information on contact numbers along with various procedures for crime reporting and complaint management.

Pishin : In District Pishin, levies comprising local tribesmen maintain law and order in the rural areas of the district. The police force is responsible for maintaining law and order only in the major towns of the district.[119]

Chagai: Levies comprising local tribesmen maintain law and order in the rural areas of the district. The police force is responsible for maintaining law and order only in the major towns of the district. [120]

Killa Abdullah: In addition to levies, District Killa Abdullah has 3 police stations. [121]

4.5.6 Archaeological Sites and Monuments

There are total 389 officially notified sites of cultural and archaeological importance in Pakistan protected under the Federal Antiquities Act, 1975 and UNESCO. Out of these 389 sites, 27 sites are located in Balochistan province. [122] Sites of archaeological, religious and cultural importance in each of the project districts are given below:

Quetta District: The most important archaeological site is a Quetta Miri (a mass of indurated clay). The base of Miri is 183 meter long by 122 meter wide and rises 24.4

[117] 1998 Provincial Census Report of Balochistan, Nov 2001, Population Census Organization, Statistics Division, GoP.
[118] http://www.balochistanpolice.gov.pk/rpo_quetta
[119] Pishin - District Development Profile, July 2011, Planning & Development Department, GoB, UNICEF.
[120] Chagai - District Development Profile, July 2011, Planning & Development Department, GoB, UNICEF.
[121] Killa Abdullah - District Development Profile, July 2011, Planning & Development Department, GoB, UNICEF.
[122] ESIA – Promoting Girls Education in Balochistan (PGEB) Project, Aug 2012, Secondary Education Department, GoB.

meter above the plain. The Miri is now used as an Arsenal. Some noticeable mounds in the district are Kasiano Dozakh, between Katir and Kuchlak, Tor Ghund near Baleli and Tor Wasi between Panjpai and Muhammad Khel. Besides, some Karezes of archaeological interest are found at Kirani, Sariab and Kachi Baig.[123]

Pishin District: Archaeological sites are found in the Quetta-Pishin valley and the valleys to the immediate north, south and beyond in to Afghanistan, at the famous site of Mundigak and even reaching Shehr-e-Sokhta in Siestan.[124]

Chagai District: The only features of archaeological interest in the district are the remains of ancient forts, *Karezes*, dams and cupolas. In Dalbandin Tehsil, there are ruins of several cupolas in the neighborhood of Padag and Zarala. Shrines of Sayyad Bala Nosh (Chaghai), Pir Sultan, Sheikh Hussain and Sayyad Khawaja Ahmad are located in the district. [125]

Killa Abdullah District: Killa Abdullah has a number of scattered mounds with associated local traditions and cultural importance. The most important mound is Spin Ghundi Mound, which is located at the foothill of Khawaja Imran Range within the limits of the Habibzai village, Killa Abdullah. [126]

[123] Quetta – District Development Profile, July 2011, Planning & Development Department, GoB, UNICEF.
[124] Pishin - District Development Profile, July 2011, Planning & Development Department, GoB, UNICEF.
[125] Chagai - District Development Profile, July 2011, Planning & Development Department, GoB, UNICEF.
[126] Killa Abdullah - District Development Profile, July 2011, Planning & Development Department, GoB, UNICEF.

5 Stakeholder Consultations

5.1 Overview

One of the key steps in the process of ESMF preparation was stakeholder consultations which were held in all the four project districts. The objectives of these consultations were to;

- Share information about the Project and get stakeholders' input in project design, planning and implementation;
- Obtain views and opinions of stakeholders about the likely social and environmental impacts of the Project;
- Ascertain the most acceptable solutions and mitigation measures for issues which could arise during implementation of the Project activities;
- Ensure transparency and build trust among stakeholders to gain cooperation and partnership from the communities, local leadership, and NGOs.

5.2 Consultation Process and Outcome

A transparent and effective process was adopted to ensure that the objectives of the stakeholder consultations are met. Key stakeholders consulted for the preparation of this ESMF included the following;

- Primary Stakeholders: Communities residing in the proposed project areas;
- Secondary Stakeholders: Representatives of Health Department, Secondary Education Department, service providers and NGOs.

5.2.1 Consultations with Primary Stakeholders

Health

Separate consultation sessions were held with communities about health and education. Health related consultations were held with the help of a consultation questionnaire attached as **Annexure 5.** At the end of each consultation session, participants were also given the option to provide their additional feedback though email or letters. A total of 11 community consultation sessions focusing on the topic of health were held as detailed in **Table 5.1** below.

Table 5.1: List of Communities Consulted for Health

#	Village	District	Tehsil	Date
1.	Aid Ub	Quetta	Chiltan	Nov 23, 2019
2.	Saranan Camp	Pishin	Saranan	Nov 25, 2019
3.	Saranan	Pishin	Saranan	Nov 25, 2019
4.	Pishin	Pishin	Pishin	Nov 25, 2019

5.	Pir Ali Zai	Killa Abdullah	Killa Abdullah	Nov 26, 2019
6.	Chaman	Killa Abdullah	Chaman	Nov 26, 2019
7.	Habib Zai	Killa Abdullah	Killa Abdullah	Nov 27, 2019
8.	Panjpai	Quetta	Panjpai	Nov 29, 2019
9.	Ameenabad	Chaghi	Dalbandin	Dec 02, 2019
10.	Dalbandin	Chaghi	Dalbandin	Dec 02, 2019
11.	Chaghi	Chaghi	Chaghi	Dec 03, 2019

A summary of major issues, opinions, and views shared by communities in health related consultations is presented in **Table 5.2** below.

Table 5.2: Summary of Consultations with Primary Stakeholders on Health

Issues	Summary of responses
Section1: Environmental and Social safeguards	
Improvement in the utilization of health services	All the respondents expressed that the project would help improve the utilization of quality health services. The provision of basic neccessities like water, electricity and gas, prime healthcare facilities, laboratory equipments, furniture, refurbishment of already existing buildings and upgradation of health facilities will bring improvement in the utilization of quality health services. They also mentioned that the presence of staff in the government HFs will bring ease in the lives of people as they will not have to travel to distant places to get healthcare services.
Environmental and Social Impacts	Almost all the respondents stated that they didn't have any concerns of community regarding environmental and social impacts during construction and rehabilitation of HFs. The community members are supportive and will gladly welcome the project. They also said that they have enough land to facilitate the construction and rehabilitation of HFs. Only one participant mentioned that construction activities may casue some disturbance to patients and staff of the hospital.
Suggestions regarding project interventions	Different repsondents came up with different suggestions. List of facilities demanded by the group incldued WASH facilities, electricity, proper washrooms, ambulance, new wards labour rooms, emergency rooms, beds and medicines including life saving drugs, furniture, lab equipments and presence of staff.
Suggestions to maximize project benefits	Most of the repondents repeated the items listed in response to the above question.
Section 2 : Gender Based Violence/harassment and other social issues	
Risk of GBV/harassment	All of the respondents reported that there has never been any harassment in past during construction nor is it expected during the project.
Mobility of hospital staff and patients	Amost all the respondents mentioned that there will be no restriction on mobility of hospital staff and patients as many constructions have taken place in the past with no restriction on the mobility. There is enough space in hospitals and the management can take suitbale measures to minimise any

Section 2 : Gender Based Violence/harassment and other social issues	
	problems during construction. One respondent, however, said that the construction may limit the mobility of hospital staff and patients.
Disturbance	91% of the respondents were of the view that the constrction activties will not casue any disturbance to patients and staff, however, 9% said that the noise generated during construction and movement of construction workers could cause some disturbance.
Noise	72.7% of the respondents mentioned that the noise caused by construction will not be an issue to doctors and patients because of availability of land and community's awareness regarding the purpose of construction. 27.3% of the respondents mentioned that the continuous noise will cause disturbance to doctors and patients.
Risk Mitigating Measures	Majority of the respondents mentioned that deployment of secutiry guards, suitable scheduling of construction actvities so that these do not interfere with delivery of health services and ensuring protection of medical equipment, machinery and medicine will be needed.

Education

Education related consultations were also held with the help of a consultation questionnaire attached as **Annexure 5.** At the end of each consultation session, participants were given the option to provide their additional feedback though email or letters. A total of 11 community consultation sessions focusing on the topic of education were held as detailed in **Table 5.3** below.

Table 5.3: List of Communities Consulted for Education

#	Village	District	Tehsil	Date
1.	Chiltan Raisani	Quetta	Chiltan	Nov 22, 2019
2.	Barezai	Quetta	Chiltan	Nov 23, 2019
3.	Sura Guragi	Quetta	Saragurgai	Nov 23, 2019
4.	Sazo Pir Alizai	Killa Abdullah	Pir Alizai	Nov 28, 2019
5.	Ayub Masezai	Killa Abdullah	Killa Abdullah	Nov 28, 2019
6.	Mehmoodabad	Killa Abdullah	Chaman	Nov 28, 2019
7.	Chaman	Killa Abdullah	Chaman	Nov 28, 2019
8.	Hassanabad	Chaghi	Nokundi	Dec 02, 2019
9.	Killi Qasim	Chaghi	Dalbandin	Dec 02, 2019
10.	Killi Khudiadad	Chaghi	Chaghi	Dec 03, 2019
11.	Kochal	Chaghi	Chaghi	Dec 03, 2019

A summary of major issues, opinions, and views shared by communities in education related consultations is presented in **Table 5.4** below.

Table 5.4: Summary of Consultations with Primary Stakeholders on Education

Issues	Summary of responses
Section 1 : Environment & Social Safeguard	
Improvement in the utilization of Education services	All the respondents expressed that the project would help improve the utilization of quality education services. The provision of basic necessities like drinking water, WASH facilities, electricity and boundary walls will improve enrolment and reduce dropout. Proper infrastructure of schools with required number of classrooms will facilitate students as well as teachers. Addition of playground, propper furniture and science labs will make schools more attractive for students and will help to enhance the attendance of students as well as help to imporve the quality of education. If a high school for girls in constructed, it will definitely help to convince the parents to send their girls to the school. Two of the respondents also highlighted that better schools will lead to higher enrolment rates which will in turn help to reduce child labour in the area.
Environmental and Social Impacts	Majority of the respondents mentioned that there will be no environmental and social impacts during construction and rehabilitation of facilities since the community members are supportive enough and the schools have sufficient vacant land available for expansion.
Suggestions regarding project interventions	Key suggestions made by the community members included upgradation of education facilities including provision of more class rooms, labs, libraries, washrooms, furniture and play ground, presence of teaching stafff, and provision of electricity. According to the community members, there is a lot of land available for construction. Schools should have proper boundary walls.
Suggestions maximize project benefits	The majority of the respondents said that the new school building/more class rooms in already existing building with all basic necessary requirements will help maximize the benefits. They emphasized the need for basic neccessities inclduing clean drinking water, proper furniture for students, WASH facility, and properly qualified and trained teachers.
Section 2 : Gender Based Violence/harassment and other social issues	
Risk of GBV/harassment	All the respondents thought that there is no risk of gender-based voilence or harassment during construction.
Mobility of students and teachers	63.6% of the respondents thought that there will be disturbance and restriction on mobility of students and teachers during school hours. However, 36.4% said that since schools have enough space available for construction, restrcition to mobility of students and teachers can be minimized through appropriate scheduling and management of construction activties.
Disturbance	36.4% of the respondents mentioned that there will be no disturbance caused to teachers and students during construction because of availability of excess land. Whereas, 63.6% highlighted that labours and noise produced due to construction will cause disturbance. The latter group suggested that major construction activities should be carried out after school hours.
Noise	54.5% of the respondents mentioned that the continuous noise caused by construction will be an issue for teachers/students during school hours . the remaining 45.5% said that the disturbance will be minimal if more noisy activities are scheduled after school hours.
Risk Mitigating Measures	Majority of the respondents suggested that the above identified issues and risks could be mitigated through approriate scheduling and management of construction activities.

5.2.2 Consultations with Secondary Stakeholders

Secondary stakeholders were invited for consultation sessions in Quetta on 21st and 22nd November 2019. A list of institutions that attended these sessions is given in the minutes of the meeting attached as **Annexure 6.** A summary of major issues, opinions, and views shared by secondary stakeholders in education related consultations is presented in **Table 5.5** below.

Table 5.5: Summary of Consultations with Secondary Stakeholders

Sectors/Phase	Issues Raised	Response Provided	Adressed in ESMF
Environment	There should an assignment of planting a tree be assigned to students in each class. It must be mandatory and students must not pass without doing this assignment.	Noted.	**Section 7 and 8** Environmental and soicial managment framework
	Government officials should also be given incentives for planting trees.	Noted.	
	Books related to Environment, DRR and WASH should be included in the syllabus of students.	Will advise accordingly.	**Section 9.6** training and capacity buidling
	Teachers in Balochistan do not know what environment is.	It is important to train teachers in this regard.	
	Plants that require less watering should be planted because the districts already lack water.	Noted.	**Section 7 includes mitigation measures on water wastage**
	Politicians should be trained and told the importance of safeguarding the environment. They should be fully involved in it.	Will be proposed.	
	There has never been any budget assigned for environment safeguards.	It is important to train the authorities on environmental impacts and safeguards in order to bring their attention to this important neglected global issue.	**Section 11** ESMF Budget
	Highlight Political Impacts with Environmental Impacts in this project.	There are none assumed at the moment	**Section 7** social impacts
Hospital Waste Management	There are incinerators in hospitals already but they are non-functional. The incinerator was also installed in Fatima Jinnah Women University and it is non-	Staff will be trained on use of incinerators	**Section 9** training and capacity building

Sectors/Phase	Issues Raised	Response Provided	Adressed in ESMF
	functional as well.		
	Incinerators should be installed in DHQs.	Noted.	**Section 8** HCWMF
	Incinerators cannot work in Chagai since the district doesn't have electricity and gas facilities.	Back up generators will be provided along with solarization.	
	There should be one incinerator in one DHQ at least.	Noted.	
	If incinerator is not installed in DHQ, install it in RHC. An RHC named Panjpai is suggested.	Noted.	
Hospital Waste Management	Vehicles can be used to rotate in Chagai and collect wastage from hospitals. This can be done through outsourcing or buying waste transporatation vehicles.	Waste will be collected using existing sytem or contractors in Chagai.	
	Sheikh Zahid Hospital in Quetta can be used as a spot where all the waste will reach. It is a huge hospital and can cover 3 to 4 hospitals. The hospital needs upgradation though.	The hospital can be evaluated to be used for incineration.	
Wastewater Management	Waste output specifically the liquid waste is expected to be very low in schools. Thus, a treatment plant may not be required in schools. Schools are completely deprived of water including water for drinking and washroom purposes. Installation of the treatment plant would not be a feasible plan.	Water treatment plants are not proposed for schools however sewerage will be directed to sewerage lines.	Section 7 and 8
Water Avaiability	Drinking water for students is not available in majority of the schools.	Will be provided in the upgraded schools.	**Section 7 and 8** Environemntal and health care waste managlmebt farmeworks
	Students in schools bring their water bottles from home. It is advised that the students may be asked to water the plants with the left over water in bottles when leaving for home.	Noted.	
	There are no water pipe connections or bore water. Schools are deprived of water facilities. One of the major reasons of girls' drop out is that the schools do not have water facilities. It is advised that there must be bore water even if the project has to reduce the cost invested in construction of classrooms due to	The proposed project will consider measures to ensure water availabilty at schools.	

Sectors/Phase	Issues Raised	Response Provided	Adressed in ESMF
	providing the bore water facility.		
	Where there is bore water facility, there is greenery found in the vicinity of that specific area. If not all, at least the High and Middle schools should have the bore water facility to resolve the issue of WASH.	-	
	Provide bore water facility to DHQs and provide connectivity through it to other connected areas.		
WASH	Menstrual Health and WASH related facilities should be given to girls. There should be separate washrooms for girls in schools and hospitals.	Separate washrooms would be made for girls in schools and hospitals.Availability of water will be ensured through connectivity or solar bores	
Voluntary Land Donation (VLD)	Involve Revenue Department in Voluntary Land Donation process.	Noted in RPF	**Annexure 11**
	VLD is an issue in Balochistan. It is advised that once the land is donated, start construction as soon as possible because there is a mafia of claimers who would claim that the land belong to them even if it does not.	It has already been decided by the health and education department that they will provide those lands which are easily available in the vicinity of project areas. And if the land is obtained through VLD then only those lands will be acquired which are free of incumberance and conflicts and in accordance with the VLD criteria and process laid out in the RPF. The VLD criteria, amongst others, include ensuring that the landholder knows he/she has the right to refuse (there have to be other viable options in case of refusal), and that VLD will not involve physical resettlement and taking of a significant portion (more than 10%) of the person's land. The RFP has been provided in Annexure 11 to address any issues related to VLD	
	Voluntary Land Donation would be a challenge in Balochistan as it has unsettled lands and a single land has multiple owners.		

Sectors/Phase	Issues Raised	Response Provided	Adressed in ESMF
		and extremely small scale private land acquisition (if required).	
	People must be informed before that they would not be getting anything as a reward of donating lands. People in past have got jobs in exchange of donating their lands.	People will be informed about voluntary land donation. The procedure and criteria for VLD, as stated in the RPF, will be followed	
	VLD would be difficult in Quetta.	Noted.	
Refugee Population	It is difficult in Balochistan to differentiate between Refugees and host population.	The project areas are selected on the basis of having large number of refugee population.	
	RHC Orangzai in Pishin must be upgraded. It has a big number of refugees' population.	The list is under consideration based on specific criteria.	N/A
Occuptional and Public Safety /conflicts	Facilities including proper security should be given to teachers for going to far flung areas for teaching.	Noted.	
	Due to lack of awareness in students and sometimes teachers, expired medicines in first aid kits are used. Medicines should not be put in the first aid kit. High schools' students should be given tablets and middle schools' students should be given the syrups.	Edible medicines must be placed in the principal's office. First aid training for teachers and staff will be organised at each school. Bandage and related medical supplies can only be kept with teachers.	**Section 8** occupational and public safety
	If new staff is hired and trained, they are used throughout the project but as the project ends, the staff is gone. It leaves a big impact on project's sustainability.	Noted. The project is also working on enhancing the capacity of departmental staff.	**Section 7** Social conflict management
Trainings	Technicalities of using a machine is hard to grasp for people. People are not allowed to touch the machines since they are expensive. The machines are just kept in the hospitals unused, non-functional or out of order.	The machines will be used after giving proper training to the staff.	**Section 9.6** Capacity Buidling
	There should be proper training of people for using solar panels.	Training will be conducted.	
	There should be more trainings for engineers on Environment and Social Safeguards and the Education team must be trained on Social Safeguard.	Noted.	

Sectors/Phase	Issues Raised	Response Provided	Adressed in ESMF
Institutional Arrangement	There should be 2 PMUs and one DMU on provincial levels to implement Environmental Plan. There should also be an Environmental Specialist, and then a Safeguard Specialist and finally District officers / District focal persons to implement environmental plan.	The team hierarchy is noted and will be advised.	**Section 9** Institutional arrangements
	There should be a single person in both health and education department to coordinate and supervise. On district level, there would be 4 people for this task. These people should be from the permanent staff. They should be given role to perform. In education department, staff from administration department can play this role.	Where possible existing staff will be used for project implementation.	
	PMU of Education & Health should be one	PSC has been proposed for the project	
	There should be separate PMUs of Education & Health.	Already proposing.	
Monitoring System	Make health committee who will work with health department to ensure the presence of staff and medicines.	The project will address the issue of absenteeism and availability of medicine.	**Section 3** Project description
	The veterinary medicines are given to people of Balochistan. Who will keep a check on the expired medicines?	Governemnt to take action	
	Small medical stores are raided sometimes and sealed because of selling/keeping expired medicines, however, in big hospitals if medicines expire, the hospital sends it back to the company who manufactures/sells it. The company changes the date of the same medicines and sends them to the government hospitals.	Governemnt has to take action. Complaints related to project HFs can be launched through GRM.	**Section 9.5** Mionitoring of ESMF
Archeological sites	There was an archaeological site in district Bolan which was 3000 year older than Moen Jo Daro. It was called the Mother of Civilizations. Two claimers of the same land had fight over the land and they destroyed the entire civilization. This unfortunate incident was notified in UNESCO.	Noted. It will be ensured that the project activities do not damage heritage.	See **Annexure 7** PCR management
Grievance Redress Mechanism	Awareness should be raised about GRM among community members.	There will be awareness sessions to inform communities about GRM.	**Section 11**
	There should be a focal person on district level to take complaints on District level.		

Sectors/Phase	Issues Raised	Response Provided	Adressed in ESMF
(GRM)	It is easier to have a proper GRM in schools.	GRM will be formed in schools.	
	There are some functional committees to lodge complaints. There is also a CMS where an online complaint can be lodged.	Noted. The project system will build on existing meshanisms wherever possible	
	In health department, there is a complaint cell of every department on provincial level. There is no proper complaint system. Complaints can be lodged by writing a letter to DHO.	Noted. The complaints system of the health department will be strengthened to not only ensure that the project's needs are met but also to address long-term grievance redress needs.	
	There is a PM portal as well where complaints can directly be sent to the Prime Minister. But the issue here is that people can bring out their personal grudges by using this portal.	PM Portal can be used to take the complaints. However, the issue of bringing personal grudges can be addressed if the staff can provide substantial evidence.	
	DHMC (District Health Management Committee) should be revamped for taking complaints. There should be monthly meeting for this cause.	Noted. Citizen Engagment and GRM mechanisms for the health sector will be strengthened under the project.	**Section 11 GRM** provides three tiered for project
	There should be three tiers of health and education for lodging a complaint. i.e. VHC, DHC and Court of law in health and PTSMC, DCR and DEC in education.	Noted.	
	PM portal in Balochistan has proved to be effective in resolving compalints.		
	GRM already exists in schools in the form of Parents Teacher School Management Committee PTSMC. Teachers are given trainings on how to resolve conflicts among themselves, children and parents.	Parent-teacher meeting is one of the aspects of the project. PTMSCs will get further training.	
	In order to lodge complaints, there exist a Grievance Redress Mechanism and committees on district level but the local community members are not aware of it.	Communities will be given awareness about the GRM.	
Institutional Arrangments	The hierarchical system of Balochistan is not very efficient. The relevant departments of districts do not report properly to their other respective provincial departments which is why the information gets lost in between. There is a communication gap since the districts are very far away from one	There would be different focal persons for better coordination, exchange of information and reducing the communication gaps within	**Section 9** Institutional Arrangements

Sectors/Phase	Issues Raised	Response Provided	Adressed in ESMF
	another.	departments.	
	There should be departmental coordination between Education and Health.	Noted. Quarterly meetings can be suggested for better coordination.	
	There should be a joint venture of both health and education departments.		
	There should be a forum where DHEMT (District Health Education Management Team) will come for effective coordination. A strict action should be taken against the members who don't attend it.		
Electricity	There is no electricty in most schools and DC(Direct Current) solar panels should be proposed wheer grid connectivity cannot be ensures.	Already proposed.	**Section 7 and 8**
	There should be solar fans in schools which will be operated on Direct Current (DC). If solar panels are installed then one of the members of the community, who has the sense of its ownership, must be trained to operate it properly.	School staff and possibly PTSMC members will be trained.	
	Provide electricity all day to three critical units of hospitals i.e. EPI room, gynae and emergency rooms	Generators and solar based emergency lights are proposed.	
Service Delivery	There are service related issues in Balochistan. Service delivery is weak, however, government gives allowances to doctors who are giving their services in the far flung areas of Balochistan but still the staff is not present in the hospitals.	There will be proper monitoring systems proposed in PC1 for ensuring that staff is present in the hospital.	**Section 3** Project description defines the measures to improve service delivery
	Chagai has a dispersed population. The doctors who belong to Chagai and are hired to work in this district, do not stay in there. Urbanization has been a major issue of this area.	Doctors will be given different incentives/allowance to stay in the district.	
	On district level, tests are not conducted properly in RHCs. Same machines are kept in the same hospitals for 15 years.	There will be proper training of lab staff. Already kept machines and equipment will be replaced with the new ones if needed.	
	There's amazing infrastructure of hospitals but no doctors are there in Pishin to deliver their services.	Doctors would be given incentives/allowance.	
	Some schools are in the far flung areas of Balochistan. Teachers do not go to	Noted. Staff will be facilitated	

Sectors/Phase	Issues Raised	Response Provided	Adressed in ESMF
	these schools because they can't afford the transportation cost. In Balochistan, except for Quetta, there should be rooms made for teachers' stay in order to reduce their cost of coming to schools for teaching.	appropriately under the project	
	There are no lady doctors in the far flung areas of Chagai that is why ladies have to move to other districts for major or critical operations and surgeries.	Special incentives have been proposed for LMOs in the project.	
General	There is a complete lack of awareness and ownership in communities of Balochistan.	Awareness would be raised in the communities.	
	The students of schools should be allowed to go to labs and playgrounds. There is no library period in schools. Students should be encouraged to go to the libraries. There should be a library assistant to assist students in reading books and storytelling.	It can be proposed in teacher's and management's training.	**Section 9.6** capacity building
	In terms of better schools, Pishin is second in the list after Quetta.		N/A
	Boys primary School in Killa Abdullah named Killa Joi Kuluck must also be upgraded.	The list is finalized in consultation with government	N/A
	There should be a child friendly atmosphere in schools to attract students to come to schools. i.e. Students should be allowed to play in play area. Enrolment in schools increases due to child friendly atmosphere.	Play grounds and swings will be propsed for schools	**Section 3** Project Description
	One of the schools should be made a child friendly centre in each district or one of the schools could be used as a child friendly centre after school hours for out of school children.		N/A
	Schools should be made for second chance learners.	Noted.	N/A
	Solar heaters should be proposed with solar panels.	Solar heaters can be proosed where needed.	**Section 7 and 8**
	A referral system for serious cases should be formed.	Noted.	**Section 3** Project Description
	Ownership of all sort of investments including the ownership of infrastructure in terms of water and solarizartion should be given to the community members with an involvement of PTMC.	Noted.	N/A

Sectors/Phase	Issues Raised	Response Provided	Adressed in ESMF
	There should be material i.e colourful pictures, action pictures pasted on the walls of schools to raise awareness amongst students. Colours and diagrams are a source of fascination for children which they find hard to resist and eventually read what the material is all about.	Most of the schools have colourful charts and action pictures pasted on the walls. However, if not, the school management can be advised on practicing it.	**Section 7 and 11** Awareness raising materials and budget allocation
	There is no ambulance in Balochistan that has a ventilator in it.	Properly equiped ambulances are included in the project.	**Section 3** Project Description

6 Project Screening and Impact Assessment

While preparing sub-projects, the ESMF will be followed to screen sub-projects and to determine the appropriate safeguards which will be required in line with the World Bank policies. The following guidelines, codes of practice and requirements will be followed in the screening, selection, design and implementation of sub-project.

Criteria for the type of assessment to be conducted for projects are provided in **Table 6.1**. BHCIP has been categorised as a Category B project using criteria given in **Table 6.1.**

1. For Category B, Environmental and Social Management Plans (ESMPs) are required to be prepared and clearance obtained from the Bank prior to initiating sub-projects, therefore, this ESMF is prepared in line with the bank policy;

2. For projects categorized as C, no further activity beyond screening would be required.

Table 6.1: Subcomponent Screening Criteria

Category	Description	Requirement
A	Proposed project is classified significant adverse social and/or environmental impacts that are sensitive, diverse, or unprecedented. These impacts may affect an area broader than the sites or facilities subject to physical works.	Full ESIA Category A subproject examines the project's potential negative and positive environmental and social impacts, compares them with those of feasible alternatives (including the "without project" situation), and recommends any measures needed to prevent, minimize, mitigate, or compensate for adverse impacts and improve environmental and social performance.
B	Proposed project is classified as Category B, if it's potential adverse social impacts on human populations or environmentally important areas—including wetlands, forests, grasslands, and other natural habitats—are less adverse than those of Category A projects. These impacts are site- specific; few if any of them are irreversible; and in most cases mitigation measures can be designed more readily than for Category A projects.	Narrower scope of ESIA for a Category B subproject than that of ESIA for Category A. But, like ESIA for Category A, it examines the subproject's potential negative and positive environmental and social impacts and recommends any measures needed to prevent, minimize, mitigate, or compensate for adverse impacts and improve environmental and social performance.
C	Proposed project is classified as Category C if it is likely to have minimal or no adverse social and/or environmental impacts.	Beyond screening, no further ESIA action is required for a Category C subproject.

6.1 Environmental and Social Safeguard Screening

Sub component project screening has been carried out based on available information from PAD and PC1 according to **Table 6.1** and **Section 6.3** requirement for Environmental Assessment. Screening of health and education facilities has been carried out according to type of upgradation and requirement for EIA or IEE and Environmental and Social Management Plans (ESMP). Major upgradation and construction work proposed in the project that will have a significant environmental and social impact includes the rehabilitation of BHUs to RHCs, construction of laboratories in High school and installation of incinerators. According to BEPA development in hospitals require IEE and waste disposal facilities including incinerators require an EIA.

Table 6.2: Screening Using BEPA Regulation on Requirement of IEE/EIA

IEE/EIA regulation 2000	Section/ article of the regulation	Project Acitivity
Schedule I, List of projects requiring an IEE	**I. Urban development and tourism** 3. Public facilities with significant off-site impacts (e.g. hospital)	For Hospital construction
Schedule II, List of project requiring an EIA	**F. Waste Disposal** 2. Waste disposal and/or storage of hazardous or toxic wastes (including landfill sites, incineration of hospital toxic waste)	For incinerator installation

The identified project components including health facilities provided in **Table 6.3** are required to prepare and submit EIA, IEE or Environmental and Social Management Plans. Approval of EIA, IEE and ESMP by BEPA and WB is required prior to construction work. Compliance monitoring is also required to be carried out for the IEE, EIA and ESMPs. Generic construction related mitigation measures are proposed in this ESMF whereas detailed HCWMP is prepared along with this document for hospital waste management. For educational facilities this ESMF serves for management of environmental and social impacts.

Table 6.3: Project Components Screening

Project Components	Nature of Environmental and Social Impacts	Safeguard Instrument/Document Requirements	Documents Prepared
Rehabilitation /Refurbishment of DHQs, BHUs, RHCs and CD's at their existing facility	May have negligible or low scale environmental and social impacts	**ESS checklist** will be prepared for each sub-component and made part of the design document. Gudileine to fill in the ESS checklist and Mitigation measures are provided in Section 7 and 8.	ESMF BHCIP serves the purpose of IEE and WB requirements
Upgradation of BHUs to RHC at existing location	May have some negative but temporary and localized environmental and/or social impacts due to	IEE is required according to BEPA and ESMP wll be prepared according to WB guidelines, along with this document.	ESMF BHCIP for and associated HCWMP serves the purpose of IEE and WB requirements

Project Components	Nature of Environmental and Social Impacts	Safeguard Instrument/Document Requirements	Documents Prepared
	hospital waste.		
Installation of Incinerator	May have some negative but temporary and localized environmental and/or social impacts due to emissions.	EIA is required according to BEPA with an ESMP according to WB guidelines	HCWMP serves the pupose of EIA and WB requirements
Rehabilitation /Refurbishment of schools	May have negligible or low scale environmental and/or social impacts	**ESS checklist** will be prepared for each sub-component and made part of the design document. Gudileine to fill in the ESS checklist and Mitigation measures are provided in Section 7 and 8.	ESMF BHCIP serves the purpose of WB requirements
Upgadation of primary to middle and middle to high schools at existing location	May have some negative but temporary and localized environmental and or social impacts due to generation of laboratory waste from science laboratory.	**IEE** will be needed when additional rooms are to be constricted. **ESS checklist** will be prepared for each sub-component and made part of the design document. Gudileine to fill in the ESS checklist and Mitigation measures are provided in Section 7 and 8.	ESMF BHCIP serves the purpose of WB requirements

6.2 Land Acquisition and Resettlement Screening

The upgradation is likely to be carried out on government owned land. In the rare cases, where additional small parcels of land are needed, all efforts will be taken to ensure that land required for the project is donated by the beneficiary individual/community through Voluntary Land Donation (process is provided in the RPF). However, if acquisition of private land is necessary, land will be acquired in accordance with the RPF presented in **Annexure 11** of this ESMF report. In addition, following measures will be followed in case of BHCIP:

1. Acquired land is at a reasonable distance from Protected Areas, identified sensitive habitats and natural habitats of animals;
2. Location is at a safe distance from designated Forests;
3. Activity will not result in any resettlement or displacement (economic and physical) of the local communities.
4. Activity will not adversely impact vulnerable groups such as women, children and disabled etc;
5. Location is away from Protected Sites of Archaeological and cultural significance.

6.3 Impact Assessment

This chapter includes description of potential impacts of the project activities on physical, biological and socio-economic environment of the project area and puts forth measures for their mitigation. The potentially adverse environmental and social impacts have been discussed with respect to the site/design, construction, and operation stages of the project. Necessary mitigation measures have been proposed for avoiding or rectifying the adverse impacts.

The main environmental and social negative impacts which are may occur during Site Selection, Design, Construction/ Rehabilitation and Operation Stages are listed here under:

Environmental impacts:

- Soil erosion
- Surface water contamination
- Generation of waste
- Soil contamination
- Air quality deterioration
- Loss of vegetation and trees

Social impacts:

- Noise and vibrations
- Health and hygiene problems
- Conflicts/grievances
- Water resources depletion
- Exclusion of women/ minorities/refugees
- Gender based violence

In order to minimize these impacts, mitigation measures have been proposed. The mitigation strategy follows the principle delineated hereunder:

1. Avoiding the impacts by appropriate site selection and adopting environmental friendly construction practices.

2. Reducing and rectifying the impacts by adopting and implementing the proposed mitigation measures and guidelines.

3. Enhancing the capacities of concerned PMU Staff to carry out monitoring and mid-course corrections to ensure long-term environmental and social sustainability of the project.

6.3.1 Assessment of Potential Impacts

ESMF has identified, assessed and evaluated the nature, extent, magnitude, duration, likelihood and significance of potential environmental and social impacts of BHCIP

project activities on existing environmental and social receptors and baseline conditions of the project area. The assessment has been made on scale of low, moderate and high in accordance with the impact characteristics considering the parameters listed in **Table 6.4**. The environmental and social impacts during construction and operation phases were evaluated and mitigation measures are proposed accordingly.

Table 6.4: Impact Assessment Parameters and their Characteristics

Parameter	Characteristics
Nature	Direct: when an environmental and social receptor is directly affected by the project activity Indirect: when an environmental and social receptor is affected by change in another environmental receptor. Indirect impacts are less obvious and can occur later in time.
Magnitude	Estimating the magnitude of the impact is of primary importance. Typically, it is expressed in terms of relative severity, such as major, moderate or minimal.
Extent/Location	The spatial extent or zone of impact influence is predicted as local at site / regional / global.
Phase	Construction, Operations and Post Completion
Duration	Short-term; impacts lasting for short duration such as noise from construction activities. Long-term; impacts lasting for life of the project such as inundation caused be reservoir filling. Intermittent; impacts occurring in intervals such as industrial operations occurring only for few hours. Continuous; persistent impacts occurring continuously without any break
Reversibility	Reversible; when an environmental receptor can resume to its original state after ending the project activity Irreversible; when an environmental receptor cannot regain its original state even the impacting activity has been stopped.
Likelihood	Almost Certain; expected to occur under most circumstances. Likely; probable to occur under most circumstances. Possible; may possibly occur at some time. Unlikely; could possibly occur but only under exceptional circumstances. Uncertain: Not known

Following impact assessment approach has been adopted for identification, assessment and mitigation.

6.4 Project Component Impact Assessment

The assessment of the impacts based on above mentioned procedure is given as **Table 6.2** impact assessment matrix. The details of impact assessment of project components are discussed below:

Component 1: Improving utilization of quality health services aims at increasing utilization of quality health services.

- ***Subcomponent 1a: Improving delivery of quality health services***: *This component may result in limited reversible environmental and social impacts since the project is likely to involve construction work and generation of hospital waste*.

Mitigation plan has been prepared to address those impacts through technology, offsets and management.

- ***Subcomponent 1b: Improving health sector stewardship*** *There are no perceived environmental and social impacts associated with component 1b*.

Component 2: **Improving utilization of quality education services** aims at providing greater opportunities to children, especially girls, from RAAs of Balochistan to gain education that has the potential to transform their lives.

- ***Sub Component 2a: Improving delivery of primary and secondary education*** *There will be some small scale construction activities (e.g. additional class rooms, science and computer labs etc having low scale, reversible environmental and social impacts.* These can be mitigated with the implementation arrangement focusing on measures that reduce the impact to as low as possible.

- ***Component 2b: Improving education sector stewardship and training*** *There are no potential environmental and social impacts associated at this stage*.

The potential environmental impacts associated with construction of facilities will be temporary and confined to construction duration. Whereas the operational impacts if not contained or mitigated will have major impact on to entire life of the project. To ensure sustainability of the project after the completion in 5 years, measures will be taken for inclusion of environmental and social safeguards in schools and hospitals. Project will ensure required infrastructure development for environmental and social safeguards, however, maintenance budget will be proposed to provincial government prior to the completion of the project.

6.5 Conclusion

Construction activities of both component 1 and 2 will have moderate environmental and social impacts

Component 1 is expected to have medium scale negative environmental impact due to generation of hospital waste. High scale positive socioeconomic impact is expected due to improvement in health care. The HCWMP is prepared to address those impacts at operational stage.

Component 2 is expected to have low scale negative environmental impact due to increase in liquid and solid waste. It will have high scale positive socioeconomic impact through improving access to education for children especially girls.

The cumulative impact of both the components is moderate. If the environmental impact of component 1 is not addressed through proposed mitigation measures then the operations of component 1 are likely to cause long term environmental and social impact by polluting water ways, soil , air and impacting residing human population. Therefore, HCWMP is prepared along with this document to address adverse environmental and social impacts. Similarly, component 2 will also have minor environmental impact however if not mitigated according to ESMF, it can cause temporary damage to the environment.

6.6 Positive Impacts

The project may well result in improved quality and higher rates of utilization of health services, and hence better health outcomes for children in their teens and the general adult population. The project is estimated to generate a total of 19,123 additional years of schooling. Ny 2024, the project aims to increase the number of children enrolled in project schools from currently 19,000 to 27,000 – a relative increase 42 percent, equivalent to a 9.2 percent annual growth rate.127In turn the project is expected to improve the quality of life for the residents of the area.

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Table 6.5: Impact Assessment Framework

Project Activities	**Impacts on Environmental Aspects**										**Ecological Environment**			**Socioecnomic Aspects**							
Components	Soil Erosion	Land use	Air Quality	Water Quality	Municipal Waste	Infrastructure Utilities	Hazardous Waste	Acoustic levels	Natural Hazards	Climate	Flora	Fauna	Biodiversity /Ecology	Traffic	Public Health, Safety and security	Workers Health satey	Economy	Employment	Drinking Water	Loss of Land	Cultural/religious and Archeological Sites
Component 1:Improving utilization of quality health services																					
Construction Phase	L-	N	L-	L-	H-	H-	H-	H-	L-	M-	L-	L-	L-	L-	L-	H-	H+	H+	L-	M-	H-
Operation Phase	N	N	N	L-	H-	H-	H-	H-	L-	M-	N	N	N	L-	L-	N	H+	H+	N	N	N
Component 2:Improving utilization of quality education services																					
Construction Phase	L-	N	L-	L-	H-	H-	L-	H-	L-	M-	L-	L-	L-	L-	L-	H-	H+	H+	L-	M-	H-
Operations Phase	N	N	N	L-	M-	L-	M-	M-	L-	M-	N	N	N	M-	L-	L-	H+	H+	N	N	N

H- = High Negative Impact; N =Negligible M- = Moderate Negative Impact; L- = Low Negative Impact; H+ = High Positive Impact; M+ = Moderate Positive Impact; L+ = Low Positive Impact.

6.7 Environmental Impacts (Health and Education facilities)

The project involves small scale construction including addition rooms in the existing facilities that will have low impacts on the environment if mitigation plan is followed.

6.7.1 Impacts on Physical Environment

Impacts on Soil/landscape

Site Selection and Design Stage

- Improper selection of site for construction of new class rooms/health facilities may cause to de-stability of land leading to soil erosion especially in areas with steep slope and colluvium soils.
- Site requiring heavy earth moving (Cutting/filling), may results in destabilization of land and adjacent structure
- The site may not be selected at an area which is prone to floods and/or heavy run-off during rainy seasons as it will result in erosion of foundation soil thus damaging the structure.

Construction Stage

- Excavation for foundations of new rooms/structures and removal of trees, particularly in hilly terrains like district Killa Abdullah may cause destabilization of the soil mass resulting in land sliding and soil erosion due to high velocity winds and run-off.
- Disposal of contaminated construction wastes such as left over concrete, paint, leftover oil and other such contaminated wastes may lead to soil contamination.
- Non-filling and levelling of borrow pits excavated for construction purpose may lead to destabilization of land slope and soil degradation/erosion

Operation Stage

- Open Discharge of Toilets' wastewater to the adjacent lands can contaminate the soil, result in soil erosion and degrade the quality of land.
- Parking, maintenance and washing of Transport Vehicles on non-paved land may lead to contamination of soils and degradation of quality of land.

Mitigation of Impacts on Land and Soil

Site Selection and Design Stage

- ❖ Proper site is selected in order to entail minimal disturbance to the soil and land.
- ❖ If unavoidable, to select a site requiring earthmoving. Economical Design technique may be used for construction as to avoid excessive earth excavation and filling.
- ❖ If it is unavoidable to select site which is flood prone than proper soil erosion control structures may also be constructed so as to safeguard the newly constructed structure.

Construction Stage

- ❖ Removal of vegetation and trees will be avoided to the extent possible. In case of unavoidable circumstances, the exposed soil will be re-vegetated quickly and compensatory plantation, (five trees for each one removed), will be carried out after construction is over.
- ❖ Diggings, if required for foundation, will be carried out only in specified area, as per the engineering drawings and excavated earth material will be used for filling and compaction.
- ❖ Borrow pits will be restored and levelled back to control soil degradation
- ❖ Left over construction materials, excavated soil and waste material produced as a result of construction/ rehabilitation works, many be properly disposed-off in designated areas to avoid soil contamination.

Operation Stage

- ❖ In case of existing system, it will be ensured that toilets and associated systems are maintained in proper working conditions. In case of new constructions, the toilet facilities will be connected to the local sewerage system. Alternately, an appropriately sized septic tank and soaking pit will be constructed for sewage disposal.
- ❖ The parking of transport vehicle will be done on proper paved space so as to avoid soil contamination due to oil leakage etc. and transport vehicle will always be taken to service station for maintenance and washing.

Impacts on Surface Water Resources

Site Selection and Design Stage

- Excessive use of surface water required for civil works, provision of drinking water and sanitation facilities may stress the available water sources.

Construction Stage

- Construction works may use large qualitities of water, generate waste water and may impact the availability of available water sources.

Operation Stage

- During operations, use of water that will be used for drinking water, sanitation and other operations in the hospitals and school can lead to depletion of available water sources.

Mitigation for Impacts on Surface Water Resources

Site Selection and Design Stage

- ❖ Low water consumtion toilets shall be designed for water scarce areas.
- ❖ In case of unavoidable choice, the school design will include wastewater treatment and disposal arrangements.

Construction Stage

- ❖ Minimum quantity of water shall be used to meet the essential construction and rehabilitation requirements. The contractor should ensure to avoid unnecessary use of water for washing of equipment and vehicles during construction.
- ❖ The contractor will dispose the construction wastewater from the work site through a soaking pit of appropriate capacity, which be levelled back after completion of construction work.

Operation Stage

- ❖ Regular maintenance of the septic tank and sewer line will be carried out for safe disposal of toilet wastewater during operation.
- ❖ The local community will be sensitized through health and hygiene sessions to protect the water resources and using them wisely.

Impacts on groundwater resources

Site selection, construction and operations

- Site selection does not pose any direct threats to the groundwater contamination.
- The construction stage activities do not pose any direct threat to ground water contamination however during construction, there will be an increase in water consumption.
- The operation stage activities do not pose any direct threat to ground water contamination however during operation, groundwater consumption will be increased due increased capacity of schools/hospitals

Mitigation for Impacts on ground water resources

- ❖ The contractor and labour will keep the water usage at minimum during construction activities.
- ❖ Periodic testing of drinking water supply source should carried out for timely detection of contamination (if any).

Impacts on water quality

Site selection and design stage

- The construction site may divert waste water into a stream or river located close to school.
- Site for parking of contractor's machinery/transport vehicle can be close to surface water source and may result in contamination from the parking site to the water source.

Construction stage

- Excessive use of water may lead to generate large quantity of wastewater.
- Disposal of Waste material, contaminated water and excavated soil near or in the water resource may result in pollution of water resource.

Operation stage

- Open discharge of the waste water from schools/health facilities into a surface water resource (stream, river, canal, spring, etc. without treatment, during operation phase can deteriorate water quality of resource.
- Dumping of school and hospital waste near water body and/or resource may result in pollution of the water resource in long run.

Mitigation for Impacts on Water Quality

Site Selection and Design Stage

- ❖ Water from construction site should be diverted to proper sewer system of school/health facilities to avoid contamination of surface water sources.
- ❖ In case parking place for vehicles is near surface water resource; than the parking lot may be provided with proper sewerage system to avoid contamination of surface water source.

Construction Stage

- ❖ Minimum quantity of water shall be used to meet the essential construction and rehabilitation requirements. The contractor should ensure to avoid unnecessary use of water for washing of equipment and vehicles during construction.
- ❖ The contractor will dispose the construction wastewater from the work site through a soaking pit of appropriate capacity, which be levelled back after completion of construction work.
- ❖ The water quality inspection shall be carried out periodically during construction phase of the project

Operation Stage

- ❖ Regular maintenance of the septic tank and sewer line will be carried out for safe disposal of toilet wastewater during operation.
- ❖ The local community will be sensitized through health and hygiene sessions to protect the water resources from contamination.
- ❖ The drinking water quality testing shall be done periodically during implementation fo the Project.

Impacts on Drinking Water Quality and Availability

Design & Operations

- School design without safe drinking water facility may lead to compromise health and safety of children's
- Non-functioning of sewage treatment facility in school may lead to contamination of drinking water supplies and results in health hazard problems.
- Contamination of drinking water source can lead to health hazards for school children.

Mitigation for Impacts on Water Quality

- ❖ School and health facilities upgradation and rehab will ensure inclusion of a safe drinking water facility. Design and cost estimates may be prepared and kept in pipe line for financing from government and/or potential donors (if not applicable through project's own financing)
- ❖ For drinking water facilities (hand pump). the surrounding base of hand pump or tube-well is sealed off from the exterior by grouting with cement mortar to control percolation and seepage.
- ❖ Periodic (six-monthly) testing of drinking water supply source at the schools/health facilities will be carried out for timely detection of contamination.
- ❖ Cleanliness of schools and hospitals and regular checking of drinking water quality will be ensured by the management.
- ❖ Working of the sewer line and septic tanks to ensure timely repair to avoid contamination of drinking water source.
- ❖ Awareness raising will be carried out on health and hygiene aspects.

Impacts on Air Quality

Site Selection and Design Stage

- Site selection and design do not have any significant impact on air quality.
- The parking of Transport vehicle/contractor's machinery should be away from the school/health facilities so as to avoid air pollution due to emissions from vehicle.

Construction Stage

- The construction activities, movement of vehicles, land excavations, structure demolitions, and onsite stacking of materials may lead to dust emissions and prolonged suspension of fine particulates (PM_{10}) in the ambient environment.
- Exhaust from vehicles and machinery during construction may deteriorate the local air quality.

Operation Stage

- Dust emissions from movement of vehicles especially transport vehicle in the surrounding of school/health facilities can also create minor adverse impact on air quality in surroundings.

Mitigation for impacts on air quality

Construction stage

- ❖ Stockpiled materials will be covered to control dust emissions
- ❖ It will be included in contractor's code of conduct to reduce speed of vehicles to avoid blowing of dust.
- ❖ Demolition and excavation (if needed) will be carried in batches to minimize dust emissions.
- ❖ Proper lubrication of vehicles and machinery will be ensured to reduce emissions

- ❖ Water sprinkling will be carried out to reduce dust emissions where necessary and feasible.
- ❖ Air quality testing will be done before construction to set the baseline for all implementation measures. Quarterly air quality testing will be done to ensure the air quality levels remain in the permitted limit of National Environmental Quality Standards (NEQs).

Operation stage

- ❖ The exposed soil in surrounding of school will be re-vegetated and landscaped with community participation to control dust blowing.
- ❖ Community will be mobilized to observe low speed limits in the vicinity of schools and health facilities.
- ❖ The transport vehicle shall be switched off when parked near or inside school/health facilities to avoid pollution of surround environment due to vehicular emissions.

Impacts on Solid Waste

Site Selection and Design Stage

- Site selection and design do not have any significant impact on solid waste generation

Construction Stage

- During construction phases of different sub components, general construction wastes will be generated including among others cement bags, used wrapping materials, wood, glass etc. If improperly disposed, general wastes could result in pollution of water bodies, soil and impact on flora and fauna.
- No hazardous waste is anticipated, except for asbestos waste which is strictly banned may be present in some pipes or building material. The products containing asbestos can release small fibres that are airborne and can result in long term damage to health of people around the structures.

Operation Stage

- Solid waste generated by health care facilities and schools will be increased due to increased capacities and increased influx of patients/students. Without proper system of waste segregation and disposal, this may result in issues of health and safety of school children, hospital staff and patients.

Mitigation for Impacts of Solid Waste Generation

Construction Stage

- ❖ While the waste quantities are expected to be limited the contractor will ensure that all waste is stored, handled and disposed of securely to ensure no leakage into the environment. The contractor will properly dispose the construction waste from the work site and will ensure cleaning of debris, cement waste from site after completion of construction work.

- ❖ Waste collection and disposal pathways and sites will be identified for all major waste types expected from demolition and construction activities
- ❖ No hazardous waste is anticipated. Where there are "chance finds" of suspected asbestos containing material, contractor must ensure (where possible) the asbestos containing material appropriately contained and sealed to minimize exposure. The asbestos prior to removal (if removal is necessary) will be treated with a wetting agent to minimize asbestos dust. Asbestos will be handled and disposed by skilled & experienced professionals.

Operation Stage

- ❖ Proper waste segregation, storage and disposal will be done at the facility level (health and education facilities)
- ❖ For health care waste management, a separate HCWMP has been developed which guides on the handling of infectious waste.
- ❖ The local community will be sensitized through health and hygiene sessions for proper waste disposal and avoiding solid waste dumps around schools or hospitals

6.7.2 Impacts on Biological Environment

Impact on natural vegetation

Site Selection and Design Stage

- Improper site selection could lead to removal of natural vegetation and cutting of trees for construction of class rooms/hospital rooms.

Construction stage

- Improper excavation of foundation during construction may lead to removal of natural vegetative cover and trees cutting.

Operation stage

- The operation of schools or hospitals does not pose any direct threats to the trees and vegetation.

Mitigation for Impacts on natural vegetation

Site Selection and Design Stage

- ❖ In case it is unavoidable to construct class room by removing vegetation and/or cutting of tree/ plants than replantation be done (5 trees for every 1 tree cut)

Construction Stage

- ❖ Cutting of trees will be avoided during construction. In case of unavoidable choice, compensatory tree plantation, (five saplings for each tree felled) will be carried out to reduce the impacts.

Impact on wildlife

- The project activities will not be carried out in the designated wildlife sanctuaries, game reserves areas, and hence no significant threats to wildlife are expected to occur during site selection, construction and operation stages of the project.

6.7.3 Socio-economic Impacts

Noise and Vibration

Site Selection and Design Stage

- Siting and designing stage will have no negative impact

Construction stage

- During construction, the use of machinery and steel fabrication activities, particularly during school hours and at night times, can produce unpleasant noise.
- Moving construction vehicles and use of pressure horns around the schools and hospitals could be a source of noise and vibrations.

Operation stage

- Movement of transport vehicle will cause noise and vibration in the school and hospital vicinity.

Mitigation for noise and vibrations impacts

Construction stage

- ❖ The contractor will avoid use of noise generating machinery, equipment's during school/main hospital hours and sleeping time at night so that community disturbance is minimal.
- ❖ Compliance with NEQS and World Bank noise guidelines will be ensured.
- ❖ The contractor will maintain and tune up all the vehicles and equipment's during construction work.
- ❖ The community will be sensitized to observe silence zone in the school and hospital premises.
- ❖ Proper signboard will be installed indicating ban on use of pressure horns by moving vehicles around the school and hospitals.

Operation Stage

- ❖ Timely maintenance of Transport vehicle may be ensured to curb any possibility of noise during vehicle operation.
- ❖ Unnecessary use of pressure horn will be strictly prohibited.

Health and safety impacts

Siting / Designing Stage

- Improper design with poor ventilation and sunlight can lead to behavioural change and health impacts and create difficulties in learning.
- Improper room design with poor ventilation can lead to difficulties for patients.

- Improper designs particularly in flood prone and earthquake sensitive areas - without adopting relevant building codes can lead to increased vulnerability to disasters.
- Sharp edges during designing phase can cause injury to school children or patients.
- Unavailability of emergency exit and ramps in the design of class room/health ward can lead to an adversity.
- Improper design without sanitation facilities can lead to health and hygiene problems

Construction stage

- Open dumping and stockpiling of construction materials, scattered demolition wastes, and placement of debris / materials on nearby open spaces and streets can result in blocking of route and inconvenience for passers-by, and residents.
- Haphazardly placed materials and debris presents higher risks of personal injury and inconvenience to school children and the hospital staff.
- Construction activities pose safety risks to children, teachers, patients, hospital staff construction workers, and nearby communities.
- Ignorance about site specific hazards may pose a potential threat to the health and safety of workers.
- The construction work and equipment may lead to safety hazards for workers and nearby communities.
- The operation of construction machinery and equipment such as excavators, lifters and dumpers by untrained personals may leads to compromise the health and safety of workers at sites.
- Welding and cutting operation during construction poses a serious health and safety risk for workers.

Operation stage

- Choking of sewer line and contamination of drinking water source may negatively impact the health of school children, teachers, hospital staff and patients.
- Non-availability of safe drinking water in school and hospitals can lead to health hygiene problems in school children.
- Non-availability of soap in toilets may lead to health and hygiene problems .
- Exposed electrical wiring and cables in the school and hospital building may pose health and safety risks for school children, teachers, hospital staff and patients.

Mitigation for health and safety impacts

Siting and Designing stage
❖ Appropriate building codes will be followed to designs class rooms to provide ventilation and natural lighting in the class rooms.

- ❖ The class room and hospital design will cater to the needs of people/children with disabilities (such as ramps and hand rails will be provided where needed).
- ❖ Sharp edges in the hospital/school rooms will be cared for to ensure safety of children/patients.
- ❖ Provision of emergency exits and ramps at an appropriate height and place can help safe evacuation of school staff, children, hospital staff and patients during emergency.
- ❖ The electric lines should be properly shielded /insulated against electromagnetic radiation / by installing radiation shields, or insulating through rubber casings. Additionally, proper grounding of the rooms should also be done to curb any possibility of electric shock due to short circuiting.

Construction stage

- ❖ The contractor will ensure safe and covered stockpiling of the construction materials in separate place or corner in the premises of school/hospitals.
- ❖ The contractor will provide personal protective equipment such as gloves and boots to the labourers to avoid worksite hazards and accidents. Protective fencing will be used around the construction sites, excavated areas, and voids.
- ❖ Protective fencing will be used around the construction sites, excavated areas, and voids.
- ❖ Health and safety training shall be provided to all staff working on the site.
- ❖ Properly trained staff shall be deployed to operate machinery and equipment at worksite.
- ❖ Fire extinguishing equipment shall be within 6m (20ft) of all locations where welding and cutting equipment is used.
- ❖ Provision of first aid kit will be necessary for the safety of labour.
- ❖ Construction site near schools/educational facilities will be clearly marked to avoid falling or injuries to children.
- ❖ During construction activities, teachers will be made responsible to keep children away from construction sites during break time, during and after school hours. The school's support staff will also be on guard for children's protection during construction activities.

Operation stage

- ❖ Awareness about personal hygiene will be raised among the students and surrounding community through health and hygiene sessions.
- ❖ The PTSMCs will ensure cleanliness of schools and regular checking of drinking water availability and quality, and working of the sewer line and septic tanks to ensure timely repair.
- ❖ Availability of soap outside the toilets will be ensured.
- ❖ All exposed wiring and cables shall be covered with plastic and labelled as DANDEROUS to avoid contacts.
- ❖ Proper functioning of sewage treatment facilities such as septic tank will be ensured for all educational and health facilities.

Gender Issues/ Exclusion of women/ minorities/ refugees

Operation stage

- Women, minorities and refugees may be excluded from project benefits and services due to lack of information
- Women and minorities and refugees may not be able to access the GRM due to lack of information and lack of access to the mechanism (due to societal norms and barriers).

Mitigation for Exclusion of Women/Minorities/Refugees

- ❖ Project's social mobilization and outreach campaigns will target women, minorities and refugees in particular.
- ❖ Special effort will also be made to ensure that women are consulted during project implementation so that their concerns are addresses.
- ❖ Initial consultations should be conducted to identify any salient issues or concer n impacting women, minorities and refugees. Meetings/consultations will be held to identify their roles in the community and their attitudes towards the project's activities. Women, refugees and minorities will be asked about their safety and security concern, privacy issues due to project's activites and their willingness in relation to influx of construction workers
- ❖ Gender separate consultations will be conducted in order to properly ascertain view of women, minorities and refugees.
- ❖ Use of Local language will be used for ethnic women's access to information and services and their ability to participate actively in consultations
- ❖ At community level, women would be encouraged to become members of Parent Teacher School Management Committees (PTSMCs) to be involved in school activities. Additionally, refugees and minorities will be encouraged to engage in the formation of local community groups.
- ❖ The project will ensure strategies, plans (e.g. management plans, gender action plans) are in place that include gender considerations in the project design and implementation measures.
- ❖ Special effort will be made to ensure that women, minorities and refugees are informed about GRM and other services related to the project.
- ❖ The project will ensure functioning complaint redress mechanisms are in place so that women can report discrimination or harassment. The anonymity of reports will be protected so women can come forward without fear of reprisals. The existence of these mechanisms will be publicized and communities will be largely communicated through display relevant contact information in project areas.
- ❖ Project's social mobilization and outreach campaigns will ensure that refugee populations are accessed and provided the relevant information about project and its GRM system.

- ❖ The refugees will be facilitated and encouraged to make use of the services being provided under the project.

Conflict, security and gender-based violence

The qualitative social assessment done for the project recorded that there have been no incidents of violence of strife between refugees and host communities in Balochistan. Measures to maintain this peace in the project's target areas have been included in the project design (e.g. communications and community engagement campaigns; strengthening community-based citizen engagement groups, engaging community leaders etc.) The project design also has provisions for flexible implementation arrangements that would allow postponing or substituting some activities if the security situation on the ground deteriorates.

One of the social risks associated with the project's activities due to institutional and societal factors include **Gender Based Violence (GBV).** There is also a risk of lack of access to requisite services and support for survivors of GBV, sexual abuse, and violent conflict. However, the risk of GBV due to project's construction related activities is moderate to low as there is no expectation of large-scale influx and deployment of labor. The Social Assessment (SA) conducted for BHCIP focused on both Afghan and host communities (men and women) in the project districts to understand social issues pertaining to exclusion, gender and social mobilization. The analysis also covered an initial mapping of established, good quality, service providers for survivors of GBV and violent conflict. Based on the findings of the social assessment complimented with field consultations during ESMF, requisite mitigation measures and mechanisms to address social risks (including GBV related) will be incorporated in the environmental and social mitigation plan. Relevant health and education facility staff will also be trained to address GBV issues. The World Bank's GBV risk screening tool for Human Development Projects is in the process of being finalized, and the project will reassess the GBV risk using this tool once it become available. If the Bank's HD GBV risk tool assessment suggests a higher risk compared to what is currently assessed in this ESMF, requisite risk mitigation measures will be designed and implemented by the project. Safeguards documents (framework, plans, checklists etc.) will also be updated accordingly.

Construction stage

- Civil/construction works under any project can aggravate GBV risk in a number of ways such as through influx of workers around public schools and health facilities. There may also be a moderate risk of incidents of harassment and abuse between laborers, women and especially minors.
- Male workers working in rural settings may also trigger insecurities among community men who may see the workers interacting or harassing community women which can lead to abusive behaviour within the households of those around the project site.
- Similarly school going children are considered most vulnerable to violence due to labour intensive activities around school. They also may not have the ability express their experience of the abuse.

Operation Phase

- There is also a risk of lack of access to requisite services and support for survivors of GBV, sexual abuse, and violent conflict.
- Risk of victims being unable to express or seek help from the authorities.
- Risk of victims being mentally depressed which can lead to long term health impacts especially for young girls and boys

Mitigation measures to Impacts of GBV

Construction Phase
❖ GBV Action Plan, as required, will be developed and implemented by PMU-Edu and PMU-health ❖ Development of **Workers Code of Conduct (CoC)**. This Code of Conduct will be made part of the Contractor's TORs and agreement. Ensure all works sign (CoC) Training/Sensitization of the contractor's staff will be ensured by the contractor. The Code of Conduct will be developed by the project's safeguards specialist in line with the WB's good practice note guidelines for GBV risk mitigation and under the supervision of the Bank's social safeguards specialists. These codes of conduct will be included in the Contractors ToRs and agreement. These will be developed in time for the bidding and will be in a language (urdu or other local language) that can be understood by the workers. ❖ For both school and health facilities, workers will be confined to the site-areas. A boundary around the site will be drawn and workers will not be permitted to go beyond during operational hours. ❖ Teachers training and sensitization will be ensured for awareness raising regarding protection of children and women during construction activities. ❖ Staff training of Hospitals – training of nurses, doctors and support staff on GBV related risks to implementation. ❖ **Community awareness sessions** prior and during the construction phase. Separate male and female community awareness raising activities that include awareness on GBV related risks to their children and women and the ways in which the community members can safely report concerns. ❖ Anti-harassment awareness and warnings will be ensured through boards and signage.
Operation Phase

- ❖ Develop mechanism for integrating a GBV prevention and child protective interventions in schools' management policies
- ❖ Develop mechanism for integrating a GBV prevention interventions in HF's management policies.
- ❖ Sensitization of School and Hospital staff on risks to children and women associated with GBV.
- ❖ Provide accessible information to schools and health care facilities on services available, the organizations involved for survivors of gender based violence.
- ❖ Develop linkages of the Health facilities with Women Development Department (and their crisis centers) for adequate support to the victims.
- ❖ Gender training to service providers on gender based violence including the health and social workers (community midwives).

7 Environmental and Social Management Framework

The following section describes the key environmental and social issues associated with the proposed project and propose possible mitigation measures. The key issues identified relate to water, land, and general disturbances (noise, air, waste). The proposed mitigations are applicable to all small and medium scale infrastructure and will require adequate implementation of mitigation and monitoring measures.

In general, the project's interventions may individually have minimal adverse environmental and social impacts and can be mitigated with less resources. However, several sub-projects (cluster approach) in combination could have a larger and more significant cumulative impact. This is likely to be true in the case of potential vegetation clearing, groundwater depletion, or surface water pollution.

This is particularly likely to be the case for:

- Deforestation due to the exploitation of forest resources, owing to the use of timber and poles for construction. BHCIP will take necessary measures to ensure that deforestation and use of forest resources which are not sourced from certified sustainable forests is avoided and minimized to the extent possible;
- Groundwater depletion owing to the demand for water for construction; and where surface water is available may also deplete for the same reason.

The avoidance and mitigation of cumulative impacts requires: (i) avoidance and mitigation of the impact of individual projects; and (ii) careful planning based on sound technical knowledge, of the location, size, and material requirements of infrastructural projects.

Potential adverse environmental and social impact for individual (standard) health care and education facilities (that could be applicable to both large or small facility) both during construction and operation phase have been screened that would require specific safeguards for which mitigation measures have been proposed as discussed below.

7.1 Environmental and Social Impacts and Mitigation for Health Care and Education Facilities during construction phase

Table 7.1 provides the potential environmental and social impacts and possible mitigation measures for health care and education facilities. The institutional arrangements and implementation budget are included in following sections.

The environmental impacts during construction include following:

- Air pollution
- Water Resource depletion

- Noise pollution
- Resource consumption
- Solid waste generation and disposal
- Natural Hazards
- Farm land quality and soil erosion
- Biodiversity/ Ecosystem safeguards

The social impacts during construction include following:

- Workers Health and Safety
- Community Health and Safety
- Archaeological Cultural Heritage
- Social Conflicts/ Gender sensitivity and needs for persons with disability (PWD)
- Land Acquisition and Resettlement

Table 7.1: Environmental and Social Impacts and Mitigation Measures for Health and Education Facilities during Construction Phase

A. Environmental Impacts and mitigation measures during construction

B. Social impacts and mitigation measures for health and education facilities at construction phase

A. Environmental impacts and mitigation measures for health and education facilities during construction phase

	Mitigation	Plan		Monitoring	Plan	
Aspect /Impacts	**Proposed Mitigation Measures**	**Responsibility**	**Monitoring Parameters**	**Frequency**	**Responsibility**	**Compliance Criteria**
Air Quality Construction activities using motorized equipment including materials delivery, excavation, concrete works will generate air emissions and dust. Vehicular traffic emissions will bring about air pollution by increasing the fossil fuel emissions into the atmosphere. However, the construction activities are mainly going to be through manual labour and use of hand-held equipment with limited use of mechanized machines whenever necessary.	1. Construction materials (cement, gravel, lime powder and excavated soil) shall be stored at storage yard or tightly covered. On-site mixing of construction material at enclosed space shall be ensured. 2. Construction sites to be water-sprayed on regular basis three times a day, as most sites are expected to be close to residential areas or inside the facility (hospitals, schools etc.). 3. Discrete materials such as sand and soil, and building material must be covered during loading, transportation and unloading, and none of them shall be thrown or spread in the air. 4. Designated routes for transportation vehicles shall be used. Transportation vehicles shall avoid residential areas and other environmentally sensitive areas. 5. The equipment and transportation vehicles shall be regularly maintained to avoid gas emissions 6. Use of non-mechanized (motorized) equipment as much as possible shall be encouraged. 7. Air Quality Monitoring Testing will be done periodically (quarterly or 6 monthly tests)	Project Management Implementation Unit (PMU) Construction Contractor	EQS parameters for ambient air quality PM 10, NOx , SOx and Cox Construction site inspections	Biannual	Environmental Specialist/ Engineering Department Staff /Field Staff	World Bank/IFC applicable Guidelines **(Table 2.3)** Management and EQS for Ambient Air Quality **Annexure 2** EQS Euro II standards for vehicular emissions
Water Deterioration of water bodies due to sewerage and effluent disposal	1. Site/District specific water conservation plans will be needed to regulate water use. 2. A simplified sedimentation tank shall be built on the construction site, through which, the construction wastewater may be collected and settled, and then be used for site sprinkling and other purposes to reduce fugitive dust; 3. The domestic waste water free of sediments and affluent shall be discharged into the existing wastewater pipelines or septic tanks.	Project Management Implementation Unit (PMU) Construction Contractor	EQS parameters for effluent Water Conservation Plan Construction site inspections	Biannual	Environmental Specialist/ Engineering Department Staff /Field Staff	EQS for Effluent EC

Noise Noise and vibration will be generated during construction especially when using motorized equipment. In order to create employment, the project will use manual forms of labour and equipment hence the impacts associated with noise and vibration is expected to be low in nature	1. Principal criterion for selection during the bidding process should include that "Construction contractor shall use advanced equipment and technologies of low noise". 2. The use of high noise generating equipment such as a percussion piling machine or pneumatic hammer shall be prohibited; 3. Good maintenance and proper operation of construction machinery to minimize noise generation shall be ensured. Undertake regular maintenance of generator. 4. The construction contractor shall make reasonable arrangements to ensure that the machinery is not used during peak hospital and school hours and near residential areas. 5. Avoid night time construction when noise is loudest. Avoid night-time construction using heavy machinery, from 22:00 to 6:00 near residential areas. 6. Where possible, ensure non-mechanized construction to reduce the use of machinery.	Project Management Implementation Unit (PMU) Construction Contractor	EQS for Noise levels during day and night time Construction site inspections	Biannual	Environmental Specialist/ Engineering Department Staff /Field Staff	EQS for Noise at residential and commercial areas **(Annexure 2)**
Solid Waste During construction phases of the different general construction wastes will be generated including among others cement bags, used wrapping materials, wood, glass etc. and health care wastes. If improperly disposed, general wastes could result in pollution of water bodies, vector borne diseases, soil and impact on flora and Fauna. The impacts are likely to be high on communities.	1. Site specific waste management plan for construction wastes shall be developed. (Hospital waste management has been prepared separately as part of this assignment). 2. All solid waste from the construction site (including waste from health care facilities) shall be segregated and transported to a specified outside storage yard and transported to designated disposal sites. 3. It shall be ensured that the waste is not burnt in open or dumped into forests, streams or natural water bodies. 4. Construction workers shall be trained on segregation, storage and disposal of domestic and hazardous waste; 5. Hazardous material listed in the World Bank Guidelines and Hazardous Substances Rules 2000 shall not be used in construction	Project Management Unit (PMU) Construction Contractor	Solid Waste Management and Disposal Plan List of hazardous substance Construction site inspections	Biannual	Environmental Specialist/ Engineering Department Staff /Field Staff	Hazardous Substance Rules 2003

Resource Consumption Increase in Water /Electricity / Fuel Consumption.	1. The workers shall be trained on water conservation and sustainable use of water and electricity; 2. Visual inspections shall be carried out regularly for leaks and water usage by the contractor. 3. Solarization of schools and HFs (included in PC-1). 4. New construction shall follow the building design that allows maximum use of daylight and provision of Low Voltage electrical appliances will be made in procurement process	Project Management Unit(PMU) Construction Contractor	Water Conservation Plan Water, electricity and fuel consumption plan Construction site inspections	Biannual	Environmental Specialist/ Engineering Department Staff /Field Staff	Water , Electricity and Fuel Consumption
Natural Hazards Quetta and its neighbouring towns lie in the most active seismic region of Pakistan atop the Chaman and Chiltan faults and have experienced several devastating earthquakes throughout the history. Apart from the major earthquakes occurred in 1935, most recent earthquake of high density occurred in 2013 and 2017 as well. Frequency of flash floods has also increased in southern parts of Balochistan and these may increase in future due to climate change.	1. Building Codes of Pakistan with Seismic provision and international best practices shall be made part of construction contractors agreement for designing buildings that are resistant to earthquake. 2. Inclusion of emergency exits,ramps and alarm system in building design shall be ensured. 3. The contractor obligations should include to design schools and health facilities on a raised plate form where possible (within the budget limit) to reduce future losses from flash floods. 4. Flash water diversions from the facilities through some structural measures will enhance suitability and may be included in budget if possible.	Project Management Unit(PMU) Construction Contractor	Earthquake resistant building design Construction site inspections	At the time of construction/ design	Environmental Specialist/ Engineering Department Staff /Field Staff	Building Codes of Pakistan with Seismic provision

Biodiversity/Ecosystem There are number of biodiversity sensitive areas, endangered species and habitats in the project districts	1. The project will ensure that the construction activities do not take place in protected areas or notified forests; 2. Ensure wood used for construction has not been sourced illegally from protected areas and notified forests; 3. Incorporate technical design measures to minimize unnecessary removal of trees and vegetative cover; 4. Compensatory planting of five trees shall be practices against each fallen tree of similar floral function; 5. Use of invasive/ exotic species for shall be disallowed and native species will be recommended for plantation. 6.	Project Management Unit(PMU) Construction Contractor	List of protected area, endangered species near project sites Construction site inspections	Biannual	Environmental Specialist/ Engineering Department Staff /Field Staff	Balochistan Forest and Wildlife Protection Act Listed protected areas in **section 4.3.4**
Land loss and soil erosion Construction activities using motorized equipment, including materials delivery, excavation, concrete works are likely to lead to soil erosion. Crop land and vegetation may be damaged during transportation and excavation	1. Heavy construction vehicles shall be avoided. 2. Special safe routes shall be designated for transportation to minimize crop land damages and soil erosion. 3. Soil surface work under heavy rain and strong winds conditions shall be avoided. 4. Proper drainage outlets shall be installed connected to main sewer system or local drainage (to avoid standing water inside and outside the facility). 5. Establishment of vegetative cover on erodible surface as early as possible during construction.	Project Management Unit(PMU) Construction Contractor	Balochistan Soil conservation department		Environmental Specialist/ Engineering Department Staff /Field Staff	Balochistan Soil conservation department
B. Social impacts and mitigation measures for health and education facilities at construction phase						
Land Acquisition The project may require extra land for the upgradation of schools and health care facilities	6. As a first preference land owned by the existing school or health facility will be used. 7. If existing land is not available, small parcels of land may be obtained through Voluntary Land Donation (VLD) in accordance with the criteria and procedure laid out in the RPF which is provided in the annex.	Project Management Unit(PMU) Construction Contractor	VLD Checklist	At the time of land acquisition	Social Safeguard Specialist/ Field Staff	**Annexure, 11, 12, 13. 14**

Social Conflicts/ gender aspects/Person with Disability. Due to labour influx and construction work, conflicts may arise among the locals. Women may face difficulty in free movement. Child labour and forced labour may be practices. Person with disability may have difficult access to the health and education facility	1. The construction hours shall be decided in consultation with local communities and staff of health care and school facilities (preferably limited to after school closed for the public and there is less presence of people in health facilities (e.g. after OPD hours). 2. Notables and leaders of the communities shall be engaged prior to start of project implementation through stakeholder engagement framework (chapter 5). 3. Construction area shall be marked with signs in local language. 4. In case of conflicts on land it will be resolved through GRM. 5. It will be ensured through contractual binding with the construction contractor that child and forced labour will not be hired for the proposed construction sites. The contractor will be bound to uphold all national labor standards and also in accordance with the WB standards and requirements. 6. Contractors shall carry-out awareness session with workers to strictly observe cultural sensitivity and necessary measures shall be introduced to respect the local sensitivities with regard to women. 7. Contractors shall ensure that facilities for Person with Disability (PWD) during construction and rehabilitation are disabled friendly (e.g., special pathways and latrines for PWDs shall be part of the construction).	Project Management Unit(PMU)	Complaint Record and redress Construction site inspections	Regularly	Social Safeguard Specialist/ Field Staff	Section 9 grievance redress mechanism

GBV and harassment Women and Children's safety in relation to worker influx into communities	8. Development of **Workers Code of Conduct (CoC).** This Code of Conduct will be made part of the Contractor's TORs and agreement. Ensure all works sign (CoC) Training/Sensitization of the contractor's staff will be ensured by the contractor. Compliance with the CoC will also be ensured and monitored. 9. The construction work will not be carried out during school hours. 10. For both school and health facilities, workers will be confined to the site-areas. A boundary around the site will be drawn and workers will not be permitted to go beyond during operational hours. 11. **Teachers training and sensitization** will be ensured for awareness raising regarding protection of children and women during construction activities. 12. **Staff training of Hospitals –** training of nurses, doctors and support staff on GBV related risks to implementation. 13. **Community awareness sessions** prior and during the construction phase. Separate male and female community awareness raising activities that include awareness on GBV related risks to their children and women and the ways in which the community members can safely report concerns.	Project Management Unit(PMU)	Gender Action Plan	Regularly	Social Safeguard Specialist/ Field Staff	Applicable World Bank gender and development policy framework Guidelines

Workers Health and Safety Use of heavy machinery and handling of chemicals by workers can result in health impacts and accidents.	1. Health kits, first aid kits and emergency medical supplies shall be made available at construction sites. Location of the nearest medical facility to the construction sites and accessibility shall be ensured. 2. First aid kits shall be kept at randomly moving vehicles\machinery. 3. Provision of useful Personal Protective Equipment (PPE) will be given to workers such as clothing, gloves, vests, hard-hats, masks etc. 4. Use of lead-based paints shall be strictly prohiobited for new rehabilitation works. If there found to be used lead-based paints/asbestos in any of the facility, it will be reported to the PIU staff and to the bank. Appropraaite handling procedures with High efficiency risprators shall be used in case of dealing with lead based paints and any hazardous material including asbestos. 5. Provision of clean drinking water shall be ensured for the construction crew. 6. Hygiene inspections will be carried out to avoid disease epidemic. 7. The construction crew shall be trained on important aspects of workplace/confined space safety. 8. Construction machinery operators and drivers shall be trained to avoid associated accidents with inappropriate use of machines and vehicles. 9. Construction Contractor must prepare a site specific Fire Safety Plan. In case of unlikely incidents (fire, vandalism) the workers will be evacuated and emergency response and law enforcement agencies will be engaged. 10. Fire extinguisher shall be placed at construction sites, whereas, fire safety and emergency response trainings will be conducted. 11. Flammables and other toxic materials shall be marked and stored at secured location.	Project Management Unit(PMU) Construction Contractor	Complaint / Accident Record Health and Safety Management Plan and trainings Annual medical record of workers EQS parameters for drinking water Construction site inspections Incident reporting	Biannual	Social Safeguard Specialist/ Field Staff	World Bank general OHS Guidelines;

Public health and safety The project is not going to finance large scale infrastructure like dams ets. However the construction activities and movement of heavy vehicles may impact public safety. Similarly emissions and noise from the site may impact the health of residing communities	1. Contractor shall ensure train drivers operating heavy vehicles on road for pedestrian safety. Set appropriate speed limits to avoid accidents. Appropriate Signage in local language shall be placed at all construction sites. 2. If schools, hospital and communities are present near construction sites, use of heavy vehicles on public roads will be avoided. 3. Alternate routes for use by the public shall be marked in local language and placement of construction and diversion signage, in local language, particularly at sensitive/accident-prone spots, in accordance with a Public Safety Plan. 4. The local police and law enforce agencies shall be informed prior to the start of the project activities. 5. For project staff and construction work, if possible, locals shall be given preferences. 6. Child work shall be prohibited and where the cultural norms allow, women workers shall be included in the crew in accordance with national and international labor standards. 7. The workers will be confined to a construction site. Movement of construction workers will be restricted to their sites.	Project Management Unit(PMU) Construction Contractor	Public Safety Plan Construction site inspections	Biannual	Environmental Specialist/ Field Staff	World Bank general OHS Guidelines
Archaeological, Religious and Cultural Sites The project sites may include religiously and culturally important sites. Excavation work during construction may result in the uncovering of ancient sites or artifacts.	1. The construction work will be stopped at the time of the funeral and burial at the grave yard. 2. Construction staff will be trained and informed on identifying the evidence of archaeological/historic remains; 3. No additional land for project will acquired near existing archaeological sites. 4. In case evidence of archaeological remains is found during construction activities, the actions listed below shall be undertaken. Detailed procedure for Archaeological Chance Find is included in **Annexure 8** - Excavation work in the vicinity of the find will be stopped; - Assistance will be sought from the nearest office of the Department of Archaeology and Museums to identify the remains; If the department decides to salvage the remains, PMU will provide assistance	Project Management Unit(PMU) Construction Contractor	List of archaeological, Religious and Cultural Sites near each project site Construction site inspections	At the start of Construction	Environmental Specialist /Field Staff	Baseline **section 4.5.15**

7.2 Potential Environmental and Social Impacts and Mitigation Measures for Health Care and Education Facilities during Operation Phase

Table 7.2 provides the potential environmental and social impacts and mitigation measures along with the compliance criteria at operational stage. The institutional arrangements and implementation budget are included in following sections. The environmental impact of the health facility operation is moderate to high due to likely generation of hazardous wastes for which a separate health care waste management plan is proposed. The environmental impact of school operations is low, while the social impact is moderate.

General environmental and social issues during operation include:

- Lack of functional sanitation facilities (often not functioning due to improper sewerage facilities or standard latrine structures);
- Improper disposal of wastewater (e.g. construction of infrastructure may dispose wastewater in pits or water streams or rivers);
- Improper management of solid waste including hospital waste generated by the project (and other potential sources). This usually results in the accumulation of waste on or around the subproject premises/area.
- Health and safety risks associated with lack of adequate safety measures in place (e.g. life and fire safety plan, emergency preparedness, etc.).
- Access of Person with Disability to health and school facilities and latrines are not sufficiently addressed (need consideration during construction phase).

Table 7.2: Environment and Social impacts and mitigation measures for Health Care and Education facilities at operation stage

Aspect /Impacts	Proposed Mitigation Measures
Air Quality Decline in ambient air quality due to emissions from vehicles and generators dropping school kids	• No mitigation required • The impacts are likely to be low since only urban areas have access to vehicles whereas children in rural area children walk to school. • School are not using backup generators
Waste Water and sanitation Deterioration of water bodies due to poor sewerage disposal	• It will be ensured that the sewerage is directed into municipal drains or dry pits. • The water channels will be cleaned. • Sewerage water will not be drained on soil surfaces.
Solid waste (Schools) There will be increase in solid waste generated from the schools.	• Segregation of solid waste at source with labelled dust bins for paper, food, glass and recyclable products. • Segregation of solid waste and disposal of solid waste to the designated areas. • Composing of biodegradable food waste to be included in the school activity. • Solid waste will not be allowed to dump randomly on open area. Clearance of reusable and recyclable waste to certified recycling companies.
Heath care waste The provision of essential medicine, equipment and rehabilitation of health care facilities under the project once operational will generate wastes, which	• Health care waste management plan for disposal of health care wastes is part of the project. • Provide PPE to workers within the health facilities. • Provide waste disposal receptors on site (bins) classified according to type of waste. • Provide training and orientation to workers on health care waste

Aspect /Impacts	**Proposed Mitigation Measures**
may impact on the environment through contamination of soils, water bodies as well as flora and fauna if inadequately disposed. Health care wastes may also lead to occupational risks (workers) and community health and safety if improperly disposed.	management. • Provide health care waste management facilities as part of the equipment (incinerators, sharp boxes) etc.
Gender based Violence	• Develop mechanism for integrating a GBV prevention and child protective interventions in schools management policies • Develop mechanism for integrating a GBV prevention interventions in hospital's management policies. • Sensitization of School and Hospital staff on risks to children and women associated with GBV. • Provide accessible information to schools and health care facilities on services available, the organizations involved and to survivors of gender based violence. • Develop linkages of the Health facilities with Women Development Department (and their crisis centers) for adequate support to the victims. • Gender training to service providers involved in gender based violence including the health and social workers (community midwives)
Conflicts /Gender issues The conflict may arise among parents, teachers, community. Similarly gender issue become hurdle for young girl school education.	• PTMC will be made functional. • Girls will be encouraged to attend the school through availability of basic necessities, social mobilization and focus on girls' education in the project. • Separate arrangements will be made for enabling girls and women to attend schools such as provision of WASH facilities for girls, sanitary pads, health and hygiene awareness sessions to girls to address their issues and concerns • Teachers will be trained to handle gender-based violence and harassment issues. Teacher will be trained on acquiring the information reporting the incident and resolving through parent teacher management committees and school administration. • GRM will be used for conflict resolution.

8 Health Care Waste Management Framework

8.1 Introduction

Health facilities to be rehabilitated and upgraded by the project will require detailed healthcare waste management plan because these will generate infectious waste categorized in the WB guidelines on health care waste management (Refer to **Table 2.3)**. A detailed HCWMP will be prepared as part in line with ESMF to mitigate the specific environmental impacts of health facilities. This section the boarder healthcare waste management framework.

Area of Impact

The immediate area of impact for the above mentioned project activities is limited to 5 km to 15 km radius (depending on scale of construction) of the health care facilities. Environmental and social issues associated with health care facilities include the following: ·

- Solid Waste
- Emissions in air
- Wastewater discharges
- Staff/Public Health and Safety hazards

Table 8.1 provides summary of health care waste management potential impacts and proposed mitigation measures for the component 1 of the proposed project. A detailed HCWMP is being prepared separately under the assignment.

Table 8.1: Health Care Waste Management Framework

Potential Impacts	Proposed Mitigation Measures	Monitoring Parameters	Compliance Criteria
Solid Waste Waste from health care facilities (HCF) can be divided into domestic and hazardous waste. Improper HC waste disposal can result in increased air pollution through burning of waste, vector borne diseases, contamination of land and water sources and ambient aesthetics for surrounding communities. The impacts are likely to be high and requires special attention for hazardous waste. These wastes include sharps (needles, razors, and scalpels), pathological waste, other potentially infectious waste, pharmaceutical waste, biological waste, hazardous chemical waste, and waste from microbiological laboratories.	The hospital facilities selected for the proposed project will be screened according to the equipment and hospital waste management plan will be prepared. Broad outline of the health care waste management plan (HCWMP) will include following components 1. Waste Minimization, Reuse, and Recycling 2. Waste Segregation Strategies 3. On-site Handling, Collection, Transport and Storage 4. Transport to external facilities using waste disposal vehicles. Two waste disposal vehicles are proposed for each district under the project. 5. Feasible treatment and disposal options include: ▪ Incineration (already proposed in PC-1) ▪ Chemical disinfection ▪ Wet thermal treatment ▪ Microwave irradiation ▪ Land disposal ▪ Measures to prevent vapours from escaping into the atmosphere /air (contamination) 6. Four incinerators are proposed (in PC-1) – one for each district. The location of the incinerators will be selected according to the land availability and distance from sensitive receptors. 7. Training will be conducted for hospital waste handling, segregation, treatment, and disposal. 8. During consultation, it was found that only one incinerator is functional at Bolan Medical complex and two other are non-functional incinerators in Quetta. These can be upgraded and used for disposal. 9. Incinerators may potentially produce a secondary waste stream which could affect local population and also needs to be taken into consideration. For example, toxic flue gases (including dioxins and furans; level varies) are emitted. Currently there is no accepted level of emission for dioxins and furans, however EU standards provide a good basis for comparison and shall be considered. 10. In smaller facilities, methods of disposal are mainly open pit/land burning within the facility premises. In some facilities, waste is collected by municipality and disposed of in landfills/garbage dumps. This practice should be avoided and a proper pit burning guidelines including standard pit design.be proposed in HCWMP.	Amount of total waste, Segregation of infectious waste, domestic waste and hazardous waste Onsite inspections	Hazardous Substance Rules 2003 WB OHS Guidelines WB health care waste management guidelines

Potential Impacts	Proposed Mitigation Measures	Monitoring Parameters	Compliance Criteria
Non-hazardous Solid waste Most of the waste generated in the healthcare facilities can be treated as ordinary municipal solid waste. These would require normal treatment but necessary to avoid soil, air and water pollution.	1. Segregation of solid waste at source with labelled dust bins for paper, food, glass and recyclable products. 2. Segregation of solid waste and disposal of solid waste to the designated areas. 3. Composting of biodegradable food waste shall be encouraged. 4. Solid waste will not be allowed to dump randomly on open area. 5. Engaging certified recycling companies for clearance of reusable and recyclable waste.	Amount of total waste, Segregation of infectious waste, domestic waste and hazardous waste Onsite inspections	Hazardous Substance Rules 2003 WB OHS Guidelines WB health care waste management guidelines
Air Emissions Emissions may include exhaust from medical waste incineration if this waste management option is selected by the facility. In addition, air emissions may result from combustion related to power generation. Air quality deterioration can take place by open burning of the HCW. Of particular concern are dioxins which are produced by burning of the plastic and polyethylene products. The dioxins are carcinogenic. Impact is High.	6. Application of waste segregation and selection including removal of the following items from waste destined for incineration: halogenated plastics (e.g. PVC), pressurized gas containers, large amounts of active chemical waste, silver salts and photographic / radiographic waste, waste with high heavy metal content (e.g. broken thermometers, batteries), and sealed ampoules or ampoules containing heavy metals. 7. If incinerators is selected as an option for hospital waste management only then separate ESMP will be prepared for Incinerators 8. With exception of designated sites open disposal of hospital waste including infectious and biological in undesignated waste disposal sites is strictly prohibited under section 19 of environmental protection act . The hospital waste has to disposed at designated functioning sites using hospital's waste disposal trucks. 9. Awareness raising of the healthcare staff and public will be carried out regarding the hazards of dioxins and other toxic gases which are produced as a result of open burning and improper incineration.	In case of incinerator flue gas emission EQS Onsite inspections	WB general OHS and health care waste Management Guidelines **(Table 2.3)** and EQS for Ambient Air Quality **Annexure 2**

Potential Impacts	Proposed Mitigation Measures	Monitoring Parameters	Compliance Criteria
Waste Water Improper sewage disposal at the healthcare facility can also contaminate water resources. These include direct burial of infectious wastes within the facility premises, or at the municipal waste dumpling site if the healthcare waste is disposed along with the municipal waste. Open burning of infectious waste can also potentially cause water contamination.	1. If wastewater is discharged to sanitary sewage treatment systems, the HCF should ensure that wastewater characteristics are in compliance with all applicable permits, and that the municipal facility is capable of handling the type of effluent discharged. 2. In cases where waste water is not discharged to sanitary sewage systems, HCF operators should ensure that waste water receives on-site primary and secondary treatment, in addition to chlorine disinfection; These include lining the burial pit for infectious waste, waste segregation and not sending the infectious waste to municipal waste dumping sites, and using appropriate disposal/treatment arrangement such as septic tank for sewage disposal.	EQS for effluent Onsite inspections	EQS for Effluent WB general OHS and health care waste Management Guidelines **(Table 2.3)**
Resource Consumption Increase in Water /Electricity / Fuel /Sui gas Consumption.	1. Grid connectivity will be ensured and where the facility is not connected to Grid, solar panels will be installed for the facility and necessary safeguard measures will be ensured e.g., trained electrician, distance from residential and urban places (budgeted in PC-1). 2. Water conservation plan including reuse, recycle, and treatment will be developed for huge infrastructures in selected districts. 3. Solar fans and High voltage rechargeable emergency lights will be installed at hospitals emergency area (could be covered as part of the infrastructure cost for RHC).	Onsite inspections	Water, Electricity and Fuel Consumption

Potential Impacts	Proposed Mitigation Measures	Monitoring Parameters	Compliance Criteria

Health Safety hazards may affect health care providers, cleaning and maintenance personnel, and workers involved in waste management handling, treatment, and disposal. Specific hazards include the following: ▪ Exposure to infections and diseases ▪ Exposure to hazardous materials / waste ▪ Exposure to radiation ▪ Fire safety	1. Health and Safety Management Plan will be prepared for the selected health care facilities. 2. Staff members will be trained on various aspects of personal safety and exposure. Visitors will be provided information in the form of action photos and information material in local language; 3. Personal hygiene trainings including hand washing and sanitizing will be given to the staff. Reference material on health safety hazards will be shared with patients and visitors in local language. 4. Use of personal protective equipment for staff will be mandatory 5. Designated staff will be trained to handle the segregated waste by type and secure disposal of waste. 6. Vaccination (hepatitis A and B and tetanus) of medical, administrative, janitorial and other working staff is compulsory.	Incident reporting Accidents reporting	EQS WB general OHS and health care waste Management Guidelines **(Table 2.3)**
Public Grievance /complaints	Grievance redress mechanism is explained in following sections	GRM Register Number of complaints Onsite inspections	**Section 9** GRM and WB GRM

9 ESMF Implementation Arrangements

The overall responsibility of the ESMF rests with the two PMUs. The ESS officers in the two PMUs will be responsible for the operationalization of the ESMF and will also be responsible for the safeguards implementation of BHCIP under the existing institutional arrangement.

9.1 The PMUs

At the operational level, the implementation arrangements will build on systems and capacities already available in the two departments. There are already established Project Management Units (PMUs) in the two departments working on other projects. The same PMUs will be utilized to implement the project. The two PMUs (PMU-Education and PMU- Health) will be responsible for the following;

- Ensure annual work plans are prepared on time and approved by the PCC and concurred by the PSC;
- Ensure that implementation of the Project is in line with the project design (i.e., financing agreements, PAD and POM) and procedures and guidelines agreed;
- Support implementation of the project including coordination of various activities, facilitation of implementation, and communication to create awareness about the project;
- Ensure effective implementation and monitoring of social and environmental safeguards
- Identify any bottlenecks and mitigate them
- Monitor all project activities and report on progress;
- Carry out procurement activities and ensure maintenance of assets for implementing the project;
- Open and maintain Designated Accounts (DA), and carry out financial management of the project funds in accordance with the GoB rules and regulations as well as the World Bank policies and procedures;
- Ensure that all administrative matters are managed in an effective manner to facilitate smooth functioning of the Project;
- Participate and represent the PMU in the PCC and PSC.

PMU – Health

A PMU was established by the Government for implementation of the Bank supported nutrition project. The same PMU will be converted to PMU-Health and will be staffed with the following personnel.

#	Position	Number
1	Project Director	1
2	Deputy Project Director	1
3	Health Specialist	1

4	Health and Nutrition Education Specialist	1
5	M&E Specialist	1
6	Financil Management Specialist	1
7	Procurement Specialist	1
8	Health Officers/District Focal Person	4
9	Procurement officer	1
10	Finance Officer	1
11	MIS Officer	1
12	Environment and Social Safeguard Officer	1
13	Administration Officer	1
14	Drivers	4
15	Support Staff	3
16	Security Guard	2

PMU – Education

A PMU was established by the Government for implementation of the Bank and other donor support education projects. The same PMU will manage this project, with following staffing.

#	Position	Number
1	Project Director	1
2	Education Specialist / Manager	1
3	Infrastructure Development Specialist / Manager *	1
4	M&E Specialist / Manager	1
5	Financial Management Specialist / Manager	1
6	Procurement Specialist / Manager	1
7	Education Officers	2
8	School Development Engineer*	2
9	Procurement officer	1
10	Finance Officer	1
11	MIS Officer	1
12	M&E Officer	1
13	Program Officer	1
14	Environment and social safeguard officer	1
15	Sr. HR Officer	1
16	Sr. Administration and Logistics Officer	1
17	Communications Officer	1
18	Drivers	4
19	Support Staff	2
20	Security Guard	2

9.2 ESS Management

The two ESS officers in the two PMUs will be responsible for all ESS issues within the overall ESMF and for ensuring that ESMF is operationalized at the field level through proper ESMPs. The ESS officers will develop the overall implementation schedule,

develop the training manuals and provide training in the PMU and the four districts to relevant staff, PTSMCs, construction contractors and the social mobilization firm/NGO.

In addition, they will be responsible for the following tasks;

- Develop quarterly ESS reports analyse quarterly monitoring reports from the third part monitoring firm.
- All the ESMPs developed by the Environment and Social Safeguard Officer will be reviewed by them to ensure that the correct procedures are followed and that ESMPs includes all necessary information.
- Coordinate with all stakeholders at the provincial and district levels for all ESMF related issues.
- Monitor a sample of the sub-projects for the implementation of the ESMPs.
- Develop a system for regular community engagement.
- Effective implementation of the GRM.

9.2.1 Environmental and Social Management Plan (ESMP) Preparation

The ESMP spells out action plan that will be used to mitigate/minimize negative impacts of the proposed projects and recommend mitigation measures, with monitoring and reporting details. Site specific ESMPs will be prepared by the PMU's Environment and Social Safeguard Officer. The ESMPs will then be approved by the ESS officer. The engineers will also be responsible for selecting the sub-project site, completing the ESS checklist, identifying potential adverse impacts and mitigation measures and developing the environmental component of the ESMP. However, the ESS officer will develop the social component of the ESMP, which he/she will consolidate in the overall ESMP.

9.3 Capacity Building

The PC-1 has allocated specific capacity building provisions of the responsible staff at field level, PMU, PTSMCs and other stakeholders throughout the project lifecycle, to effectively implement this ESMF. This will include finalizing the ESS training manual and holding training workshops. Training modules will also be prepared for relevant staff members in community mobilization firms, key community actors and contractors, which will be led by the ESS officers. As part of the capacity building efforts, exposure visits abroad could also be organized in order to learn and benefit from the experiences and achievements made by other programs. All ESS training materials will be available into local languages in order to increase their comprehension by the target audience at various levels. Various topics to be covered in ESS trainings include but are not limited to the following:

- Citizen Engagement
- Environment and Social Management Framework, including Policies, guidelines, procedures, and codes of practice,
- World Bank Safeguards Policies

- Relevant national and principal Laws and Policies
- Environmental Impact Assessment and Social Impact Assessment techniques, including Transect Walk. Screening, Scoping and Mitigations, Developing Abbreviated RAPs and strip plans.
- Development and Implementation Environmental and Social Mitigation Measures
- Environmental Monitoring and Evaluation
- Trainings on social safeguards including Land acquisition/land management, Conflict management, Public consultation, Participatory consultative techniques, Physical Cultural Resources, Policies, guidelines, procedures, and codes of practice

9.3.1 Monitoring & Evaluation

The overall responsibility for the enforcement of this ESMF rests with two PMUs. In order to ensure compliance, the PMUs will be tasked with regularly monitoring the implementation of the ESMP during the construction phase. The two ESS officers in the two PMUs will be responsible for all ESS related monitoring activities. They will be assisted by the engineering staff at the PMU and the third party monitoring firms. Monitoring of the implementation of mitigation measures related to significant impacts during the operation of sub-projects shall be mainly the responsibility of monitoring firms who will report on the quarterly basis. In addition community organizations, such as PTSMCs will be trained in the community participatory monitoring and will be encouraged to report on it. The ESS officers will also periodically conduct monitoring of subprojects as an overall overseeing function. The following table summarizes the overall ESS monitoring roles and responsibilities;

Role	Responsibilities	Deliverable	Reporting line	Frequency
Third Party Monitoring Firms	1. Quarterly field monitoring 2. Conduct independent environmental audits; Submit ESS compliance/monitoring reports to the ESS Officers. 3. Need based monitoring	Quarterly TPM ESS Compliance & Monitoring Report	ESS Officer - PMU	Quarterly & need based
ESS Officers	1. Need based and sample based monitoring visits. 2. Review of quarterly compliance and monitoring report from the TPM firm. 3. Development of project's own quarterly ESS report (based on data and reports provided by TPM and own field visits)	Development of quarterly project ESS report	PD - PMU	Quarterly & need based
Project Directors	1. Responsible for the overall ESMF management and compliance. 2. Monitor site activities on sample basis. 3. Review and submission of quarterly ESS report	Review and submission of quarterly project ESS report	World Bank & PSC	Quarterly & need based

The monitoring firm will have an ESS expert and shall develop relevant practical indicators to enable effective monitoring. Environmental monitoring information,

together with observations of project activities based on the ESMP, will be reported quarterly to the ESS officers. These will include;

- Safeguards implemented issues (land acquisition, ESMP),
- Number of ESS trainings conducted with gender separation,
- Record of grievance applications and grievance redress dealt with
- Monitoring data on environmental and social measures detailed in ESMPs

The ESS officers will develop their quarterly report based on this data and their own monitoring and observations data.

Table 9.1: Capacity Building and Training Framework Health

1.	**Training Module**	**Contents**	**Total**	**Frequency**	**Responisbility**	**Participants**
2.	Environment and Social Management Framework	Objectives, need and use of ESMF; Legal requirements Management of environmental and social issues and mitigation strategies as per ESMF at construction site; VLD Mechanissm RFP Mechanisam Monitoring Mechanism Documentation and reporting procedures.	5	Annual along with bi annual refreshers	HCWMS PMU Health	PMU construction contractor
3.	District Level E&S construction specific trainings	ESMF with special focus on mitigation measures during construction stage; Community and occupational Health and Safety , conflict resolution and gender sensitivity	4	Biannual for 2 years during construction	HCWMS PMU Health	Helth department staff, contractors subcontractors and field staff
4.	Provincial Level Health Care Waste management training	HCWMF and ESMF implementation; GRM Community engagement; Mitigation approach	5	Annual along with bi annual refreshers	HCWMS PMU Health	PMU and DHQ,BHU,RHC staff
5.	District Level E&S (Health) hospital waste manegment and solid waste management training trainings	HCWMF and HCWMP implementation;	20	Quaterly	HCWMS PMU Health	DHQ,BHU,RHC, DHC, DHMT, department and district staff
6.	Capacity building on HCWM inclduing infectious waste at RHCs	HCWMF and HCWMP mitigation approach	10	Biannual	HCWMS PMU Health	RHC staff
7.	Capacity building hospital waste management at BHUs	HCWMF and HCWMP implementation	10	Biannual	HCWMS PMU Health	DHQ,BHU,RHC staff
8.	Material on waste management protocols	Booklets and penaflix				DHQ,BHU,RHC,MNCH, MCH
9.	Communication and awarness material for healthcare	booklets /penflix				

	penaflix					

Table 9.2: Capacity Building and Training Framework Education

	Training Module	**Total**	**Contents**	**Frequency**	**Responisbility**	**Participants**
1.	ESMF Training for PMU staff	10	Objectives, need and use of ESMF; Legal requirements Management of environmental and social issues and mitigation strategies as per ESMF at construction site; VLD Mechanissm RFP Mechanisam Monitoring Mechanism Documentation and reporting procedures.	Biannual	E&S Safeguard Officer PMU	PMU Education and field faciltators
2.	Provincial Level E&S safeguard trainings	5	ESMF implementation; Community engagement; Mitigation approach	Annual	E&S Safeguard Officer PMU	SED district staff
3.	District Level E&S safeguard trainings	5	ESMF implementation; Community engagement; Mitigation approach	Annual	E&S Safeguard Officer PMU	SED district staff
4.	Construction specific District Level E&S trainings	4	ESMF with special focus on mitigation measures during construction stage; Community and occupational Health and Safety , conflict resolution and gender sensitivity	Biannual two years	E&S Safeguard Officer	department staff, contruction contractors subcontractors and field staff
5.	Training on nutrition, environemnt, clean up campaigns for schools, WASH and DRR	10	Nurtrion promotion, enviroment, health and hygiene, plantation, and DRR	Biannaul	Resource persons	SED staff , students, teachers
6.	Communication and awarness material for education facilities communities	10 /100 booklets and penaflix		Annual	PMU	SED and selected schools

10 Citizen Engagement

On the demand side, a comprehensive citizen engagement will be developed which will be a two-way communication channel between citizens and the government. The channel will allow the government to raise awareness, increase access, increase utilization and will also provide the communities (both refugees and host) an informed say in the decisions and thus help improve the development outcomes of the project. Within the HEP citizen engagement is based on interaction and dialogue between government and citizens in the four districts. While initial stakeholder consultations have been undertaken for the development of this documents, it is anticipated that the process will be continued and further enhanced throughout project implementation to facilitate learning and feedback and smooth adjustments to sub projects as necessary. Key elements of citizen engagement within BHCIP include community mobilization, awareness campaigns, stakeholder consultations and feedback and the effective implementation of a Grievance Redress Mechanism.

10.1 Community Mobilization, Awareness & Consultations

In order to ensure that target communities are made aware of the planned project, have the opportunity to comment on it and reduce possible misinformation about proposed activities, it is vital that a communication strategy is put in place early in the project's preparation. As a first step, BHCIP will develop a communications strategy for effective communication, awareness and citizens' engagement.

Its key objectives are to:

- Provide relevant and up-to-date information to affected communities about the project through appropriate communication channels
- Facilitate a meaningful two-way exchange of information with different groups of stakeholders throughout the lifetime of the project
- Build trust between project staff and communities and promoting collaboration among all stakeholders.
- Facilitate collaborative relationships with local and national government departments other development agencies

The two PMUs will be responsible for the effective implementation of the strategy. The two Safeguard officers in the two PMUs will assess community and other stakeholders' access to, and use of communication means and explore how the most appropriate means and channels might be used to raise awareness of the project. Some of the key tasks for effective awareness raising and communication will be,

- Preparation and translation into local languages (Pashtu, Balochi & Dari) of relevant and clear information on resettlement policy and procedures.
- Distribution of easily understandable information to all affected communities
- Communication through locally relevant channels. For education it will be PTSMCs and the local NGO engaged for community mobilization. For health, it will be CMWs and the local NGO engaged for community mobilization. Appropriate budget provisions for all these components have been built into the

PC-1. Additionally, for Afghan Refugees inside the camp, the already established community organizations by CAR will be revitalized and trained for reaching out to all the refugees.

- BHCIP will identify ways in which different groups within communities, particularly poor and vulnerable groups, receive and communicate information (e.g. Village meetings, mosque, existing community organization, women organizations and staff of the local NGOs hired for community mobilization) and will make use of these channels to convey and receive information, consult and hold dialogues with the different groups through the life of the project.
- The Safeguards staff in the two PMUs will meet and make presentations to, and hold briefing sessions, with the senior staff members in health, education and P&D departments on regular basis. They will be invited to participate in ongoing consultation processes to ensure transparency and accountability and gain public support.
- Where possible, Safeguards staff will participate in regional NGO meetings to inform local NGOs about the work and explore possible areas of synergy with the BHCIP for community level work.

Some of the methods of consultation will include, but not limited to:

- Records of minutes and notes of BHICP and social mobilization (SM) firm/NGOs consultation and awareness activities with community, local authorities and amongst each other;
- Focus group discussions to collect views and opinions as client of the two services.
- Household consultations – discussions with the same household before, during and after Project implementation / construction, to establish level of compliance versus impact;
- Investigate grievances reported to project level GRM and during community discussions;

10.2 Grievance Redress Mechanism (GRM)

The BHCIP will have **two separate complaints mechanisms**; a grievance procedure for health care component and one for education to ensure that the people affected by project activities are able to lodge complaints or share their concerns without cost, with the assurance of a timely and satisfactory resolution of the issue. The procedures also ensure that the system will be accessible to all intended beneficiaries of the project.

10.2.1 Objectives of Grievance Redress Mechanism

Effective grievance/complaint redress mechanism gives an opportunity to the project to implement a set of specific measures to ensure good governance and accountability, by improving the effectiveness of the project activities, increasing transparency and managing/mitigating risks of fraud and corruption. It includes measures to:

- Ensure effective implementation of the project elements directly relevant to Improving governance and accountability,
- Guard against and reduce fiduciary risks, especially those of fraud and corruption,
- Enable beneficiary and general citizen to receive and provide information about the project transactions and performance,
- Safeguard the credibility of implementing agencies

10.2.2 Grievance Redress Mechanism for Education Component

Since the project will leverage the use of an existing government established PMU of the Balochistan Education Project (BEP) to manage BHCIP, Grievance/Complaint Redress Mechanism (GRM) established for BEP will be used for **complaints management of the Education Interventions by the BHCIP.** This GRM is functioning satisfactorily. Requisite redress committees are in place and complaints have been addressed in accordance with the established protocol. A record of complaints and their resolution has also been maintained. Under the PMU-Education BHCIP, the Project Director (PD) will be made responsible for the compliance of GRM under the project, assisted by the M&E Section (PMU) and the field level staff. A detailed description and step-by-step Grievance/Complaint Redress mechanism for PMU-education is given in the following paras.

Assessment of complaints: Any grievance/complaint, before entering into the proceedings, must be assessed to examine whether the grievance/complaint qualifies or is rejected for the proceedings. The PMU cannot encourage any imaginary or ridiculous grievance until it is legitimate and logical to be proceeded. The Grievance Redressal Committees (GRCs) will assess the grievance/complaint by all the possible means available on the ground/field for declaring its qualification to be proceeded or rejected. The grievance/complaint will only be proceeded if it is declared qualified. The grievance/complaint rejected after the assessment process will be filed with the reason of disqualification or rejection into proceedings.

Complaint/Grievance Redress Committees (GRCs)

Committee One (GRC-1) – Services: Committee one will be evaluating and assigning the task to the concerned section for resolving/addressing all the cases related to the "services" which will comprise of the following members:

i-	Add. Secretary (Dev) Secondary Education	Chairman
ii-	Manager M&E, PMU	Secretary /Member
iii-	Manager Education, PMU	Member
iv-	Manager Finance, PMU	Member

The grievance/complaint can be launched by the party which has direct stake in the procurement processes/competition of "services" and has grievance/complaint against the authority at PMU. The grievance/complaint shall be launched within one week of the procurement activity process initiation. The grievance/complaint submitted after a week of the activity completion shall be considered void.

Committee Two (GRC-II) – Goods & Works: Committee two will be evaluating and assigning the task to the concerned section for resolving/addressing all the cases related to the "goods & works" which will comprise of the following members:

i-	Project Director BHCIP- Edu	Chairman
ii-	Manager M&E, PMU	Member
iii-	Finance Manager, PMU	Member
iv-	Any other co-opted member	

The grievance/complaint can be launched by the party which has direct stake in the procurement processes/competition in "goods & works" and has grievance against the competent authority at PMU. The grievance shall be launched within one week of the procurement activity process initiation. The grievance submitted after a week of the activity completion shall be considered void.

Committee Three (Complaint Redressal Cell (CRC)): Secondary Education Department has formed District Recruitment Committee-DRC for the recruitment of the teachers. Committee three will be evaluating and disposing of all the complaints related to teacher's recruitments through abovementioned notified District Recruitment Committee. This Complaint Redressal Cell at Divisional level is constituted to redress genuine complaints with following composition:

i-	Commissioner	Chairman
ii-	Divisional Director of Education	Member
iii-	Principals of the College for Male	Member
iv-	Female at Div. HQ	

The above complaints cell is bound to dispose of the complaints within 60 Days of a decision of the recruitment Committee.

Grievances/Complaints will be addressed through 2-different processes based on their types. The complaints/grievances will be categorized into two types.

Minor Complains/Grievances: The complaints/Grievances which could be resolved within a period of two working days by taking one to three immediate actions, and having low intensity of impact on the performance of the project activities or stake of the aggrieved persons/parties or do not involve any financial embezzlement.

Step-1: Aggrieved communities/parties will launch written complaints/grievances to Parent Teacher School Management Committee (PTSMCs) or directly to PMU. The PTSMCs will discuss the issues and their solution in the Larger Community Meeting (LCM). It will be a facilitating body towards resolution of grievances/complaints but not authorized to make any decision. It will help in exploring the options for solutions of the complaints/grievances. The PTSMCs may seek advice of the Representative from PMU in suggesting actions for resolving the issues. PTSMCs will pass on complaints/grievances to PMU with suggested actions if the grievance/complaint does not get redressed in the LCM even with the help of the PMU Representative.

Step-2: PMU M&E Section will pass on complaints/grievances to concerned provided committee pertaining to the issue for further process keeping in carbon copy the

PD office. PMU can differ/agree on the actions suggested by the PTSMCs. The concerned committee, after assessing the complaint/grievance, will further direct a sub-committee or an officer to proceed the resolving of the grievance/complaint if it qualifies for the proceedings.

Step-3: In case the complaint/grievance qualifies, the responsible committee will appraise the complaints/complaints with the help of PTSMCs, PMU Representative and Third Party Monitoring firm to ensure immediate actions to redress them within two weeks.

Major Complaints/Grievances: Complaints/Grievances which would take more than five working days to resolve and having high intensity of impact on the performance of the project activities or stake of the aggrieved persons/parties or involve financial embezzlement.

Step-1: In case of major complaints/grievances, aggrieved communities/parties will be encouraged to share their grievances/complaints with the PTSMCs in writing. The PTSMCs will discuss the issues and their solution in the Larger Community Meeting (LCM). PTSMC will be a facilitating body towards resolution of grievances/complaints but not authorized to make any decision. It will help in exploring the options for solutions of the complaints/grievances. The PTSMCs may seek advice of PMU Representative in suggesting actions for resolving the issues. PTSMCs will pass on complaints/grievances to PMU with suggested actions.

Step-2: PMU M&E Section will pass on complaints/grievances to PD office for further direction. PMU can differ/agree on the actions suggested by the PTSMCs. PD will further direct/convey concerned committee to assess the complaint/grievance and proceed the proceedings if the complaint/grievance qualifies or dismiss it in case the complaint/grievance is rejected.

Step-3: The responsible committee will appraise the qualified complaint within a possible minimum time period and will submit the report to the Project Director with their report mainly consists of findings and recommendations. The Project Director will have sole discretion to make the final decision.

General Complaints/Grievances at Public Affairs Cell

All the general complaints/grievances in regard to the field activities will be handled by the Education Section. The complaints will be submitted in the complaint box at public affairs cell at PMU and will be forwarded to Education Section for the response. The public affairs cell will be supervised by communication officer with assistance of program associate from admin section. Following steps will be followed to handle general complaints.

Step 1: Program Associate will receive the complaints via snail mail/postal service

Step 2: Program Associate will log the complaint/query into the MIS mentioning the priority of the complaint to determine the Turnaround Time (TaT) for the resolution of the problem.

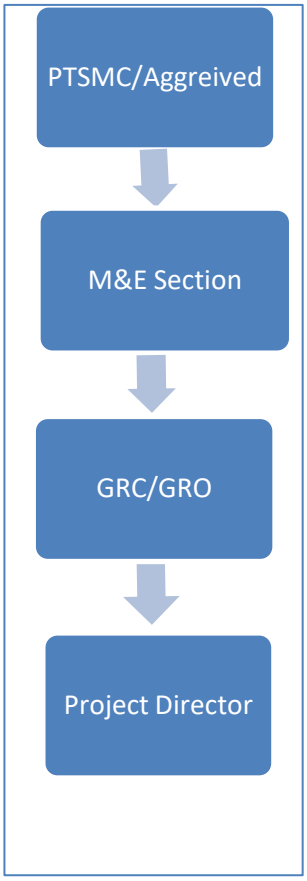
Step 3: The Education and M&E sections will be alerted automatically and given the timeline to resolve the issue.

Step 4: Once the issue is resolved, the Program Associate will communicate the information provided by the relevant departments to the complainant.

Procedure for Registering Complaint/Grievance and Redressing Complaint/ Grievance

Any citizen can make a complaint regarding implementation of PMU project by making an application to the PTSMC, in writing or verbal in English or Urdu. Through following means:

GRIEVANCE REDRESS



Complaint/ Grievance Registering Means

- Written (application / form) through Letters, SMS's, Phone Calls, Emails
- Complaints on phone calls can only be entertained between 9am to 5pm on working days of the week.
- Email: **complaints.bhcip.edu@gmail.com**
- Landline Phone Number for calls: **+92 81 2864293**
- Cellphone Number for SMS: **+92 333 2335339**
- Office Address for letters: BHCIP PMU Chaman Housing Scheme, Quetta.
-

Complaint/Grievance registration method.

- Name, address and contact number of the complainant/aggrieved
- Date of receipt
- Details of the Grievance-Complaint/subject/issue
- What redressal does the aggrieved/complainant wants?

Record Keeping and Status of the Field Complaint/Grievance

Soon after receiving the application, the PMU should check thoroughly regarding applicant name, address of the applicant and contents of the application. A unique code will be given to each complaint/grievance which will help the complainant/aggrieved party to easily monitor the status of its complaint through project office or telephone inquiry.

Complain/Grievance Record and Registration Tool

#	Name of complainant	Address with Phone Number	Details of Complaint	Time Fixed for Disposal	Whether Complaint/Grievance Redressed or No (Y/N)	If Yes give Details	If Rejected Give Reason

10.2.3 Grievance Redress Mechanism for Health Component

The complaints redressal mechanism for health component of BHCIP will build on strengthening the existing complaints redress system of the Provincial Health Department. The Provincial Health Department of Balochistan operates a complaint cell, which has been operational since 2017. The social Assessment for BHCIP suggests that the cell is currently manned by two persons, and equipped with a phone line and a computer facility to receive messages and to alert concerned officials of complaints. The BHCIP will use the existing Provincial "Complaint Cell" of Health department for receiving of complaints which will be entered in a centralized database/MIS system. The complaints cell will also be equipped with text message receiver for complaints through SMS. Records of all complaints will be maintained at the provincial health department and at PMU. At the PMU-Health BHCIP level, the Project Director (PD) will be made responsible for the compliance of GRM under the project, assisted by the M&E Section (PMU) and the field level staff. Apart from this, for resolution of grievances, a three-tiered mechanism will be used where the complaints regarding concerned departments/facilities will be forwarded to and resolved by respective departments: a) health care facilities/ units; ii) district health department and iii. Provincial health department.

This GRM for BHCIP-Health component provides guidance for the management of complaints and grievances due to project's activities to provide a suitable, centralized mechanism at the provincial level for BHCIP. The GRM outlines a process for documenting and addressing project grievances (and complaints) that may be raised by affected persons or community members regarding specific project activities. The following section describes the procedural steps and specifies roles and responsibilities of the parties involved.

Grievance Redress Committee (at Project level)

The Grievance Redress Committee will be evaluating and assigning the task to the concerned sections/departments for resolving/addressing all the cases related to the **project** which will comprise of the following members:

i-	Project Director BHCIP- PMU Edu	Chairman
ii-	Manager M&E, PMU	Member
iii-	Any other co-opted member	

The grievance/complaint forwarded by the complaint that deals with project's interventions on health services such as complaint against construction activities or has grievance against any competent authority at PMU. The grievances will be taken up by the M&E manager at PMU and assisted by field staff in resolution. PD will be the final authority on actions against the grievance.

Assessment of Grievance/Complaint

Any grievance/complaint, before entering into the proceedings, must be assessed to examine whether the grievance/complaint qualifies or is rejected for the proceedings. The complaint cell will do a first level check on the legitimacy and logic of the complaints to be proceeded. The complaints will be forwarded to the project level

Grievance Redressal Committee (GRC) who will further assess and scrutinize the grievance/complaint by all the possible means available on the ground/field for declaring its qualification to be proceeded or rejected. The grievance/complaint will be forwarded to the concerned department by the GRC for timely resolution. The grievance/complaint rejected after the assessment process will be filed with the reason of disqualification or rejection into proceedings.

Reponses to Grievances – Project Related

Aggrieved communities/parties will launch written or telephonic complaints/grievances to Provincial Health Complaint Cell. The DRC will assess the project related grievances and forward to the respective PMU section for resolution. With the complaints against facility and district level activities, the DRC will refer the grievances to the districts/facilities for proper complaint redressal. For project related activities, PMU M&E Section will pass on complaints/grievances to PD office for further direction. PD will further direct/convey concerned committee to assess the complaint/grievance and proceed the proceedings if the complaint/grievance qualifies or dismiss it in case the complaint/grievance is rejected. The DRC will appraise the qualified complaint within a possible minimum time period and will submit the report to the Project Director with their report mainly consists of findings and recommendations.

Reponses to Grievances – Facility, District & Provincial level

i- Response at Community/Health Facility Level; The Lady Health Supervisor & Health Facility Staff (at BHUs) are responsible for responding to the complaints lodged against LHWs and CMWs staff with regard to the provision of services. The maximum time to respond to the complaints will be one week. Registry of the complaints resolution will be made at the facility level and response forwarded to the PMU. DRC will review and share the response with the complainant within the stipulated time. The resolution will be shared with the Complaint cell for feeding into the central MIS.

ii- District Level; At the district level, the DHQ staff and the DHOs will be responsible to respond to the complaints of the communities/stakeholders or any other with regard to the provision of health services. The complaints will be resolved within a week of receiving the complaint. Registry of the complaints resolution will be made at the district health office and forwarded to the PMU. DRC will review and share the response with the complainant within the stipulated time. The resolution will be with the Complaint cell for feeding into the central MIS.

iii- Provincial level; at province level, the DoH is responsible to address the complaints lodged against the district level issues including provision of health services at the district level, complaints of the stake holders and any issues of implementation will be forwarded to the DoH and will be resolved within one week of the complaint received. The resolution will be recorded at the complaint cell.

Procedure for Registering Grievances and Redressing Complaint/ Grievance

Any citizen can make a complaint regarding implementation of PMU project by making an application the provincial health department in writing or verbal in English or Urdu. Through following means:

Complaint/ Grievance Registering Means

- Written (application / form) through Letters, SMS's, Phone Calls, Emails
- Email: **cmbalochistan.complaintcell@gmail.com**
- Landline Phone Number for calls: 081-922550/9201798, fax No. 081-9202752,
- Cell phone Number for SMS: 0333-7801043
- Office Address for letters:

Complaint/Grievance registration method

- Name, address and contact number of the complainant/aggrieved
- Date of receipt
- Details of the Grievance-Complaint/subject/issue
- What redressal does the aggrieved/complainant want?

Record Keeping and Status of the Field Complaint/Grievance

Soon after receiving the application, the Complaint cell should check thoroughly regarding applicant name, address of the applicant and contents of the application. A unique code will be given to each complaint/grievance which will help the complainant/aggrieved party to easily monitor the status of its complaint through project office or telephone inquiry.

Complain/Grievance Record and Registration Tool

#	Name of complainant	Address with Phone Number	Details of Complaint	Time Fixed for Disposal	Whether Complaint/Grievance Redressed or No (Y/N)	If Yes give Details	If Rejected Give Reason

10.3 Risks and Mitigation to Community Engagement

Some of the risks associated with the above processes, and mitigation strategies, are discussed in the beneath table;

Risk (Description)	Risk Category	Mitigation Strategy	Responsibility
The information channel is not effective in reaching out to all intended audience - vulnerable population might be missed	Moderate Risk	• All the communication channels will be identified through a survey of representative samples in each district. • The SM firm must show their outreach through simple GIS based maps. • The monitoring firms will ensure that the targeting is universal in the selected districts and tehsils. • The midterm evaluation will also ensure that the coverage is assessed through a representative sample.	PMU - with assistance from social mobilization firm & third party monitors
The information is not comprehended/absorbed by the recipient	Low Risk	• Apart from Urdu, all the information will also be transmitted in Pashtu, Balochi & Dari • All key communication messages and dissemination methods will be piloted before scaling it up. The pilot will be monitored by both the PMUs and the third party monitoring firms.	PMU - with assistance from social mobilization firm & third party monitors
Awareness regarding GRM is limited	Moderate Risk	• All the communication channels (staff, SM firm, PTSMCs and CMWs will be asked to inform the communities about the GRM. Specific trainings for all of them have been budgeted in the PC-1. • The third party monitoring firm will regularly assess the awareness regarding GRM in the target communities.	PMU - with assistance from social mobilization firm & third party monitors
Communities may not have means (phone and internet) to record their grievance	Low Risk	• Apart from Phone and Email, GRM registers will also be placed in all the HFs and schools and with PTCMs. The beneficiaries will be informed about the GRM and the GRM registers through boards and staff members. • All the communication channels (staff, SM firm, PTSMCs and CMWs will be asked to inform the communities about the GRM. Specific trainings for all of them have been budgeted in the PC-1.	PMU - with assistance from social mobilization firm & third party monitors

11 Implementation Budget

Approximate implementation cost of ESMF is given as **Table 11.1**.

Table 11.1: ESMF Implementation Budget for Five Years

#	Description	Unit	Quantity	Unit Rate PKR	Total PKR	Source
	***Construction related mitigation Budget**					
1.	Building design measures (Will be covered by the contractor)	No. of hospitals	4	Covered in infrastructure budget	0	Aligned with the budget given in PC-1
2.	Water conservation (Will be covered by the contractor)	No. of hospitals	18	Covered in infrastructure budget	0	Aligned with the budget given in PC-1
3.	Construction waste management (Will be covered by the contractor)	No. of hospitals	18	Covered in infrastructure budget	0	Aligned with the budget given in PC-1
4.	Wastewater management (Will be covered by the contractor)	No. of hospitals	18	Covered in infrastructure budget	0	Aligned with the budget given in PC-1
5.	Construction waste disposal (Will be covered by the contractor)	No. of hospitals	18	Covered in infrastructure budget	0	Aligned with the budget given in PC-1
6.	Building design measures (Will be covered by the contractor)	No. of schools	56	Covered in infrastructure budget	0	Aligned with the budget given in PC-1
7.	Water conservation (Will be covered by the contractor)	No. of schools	56	Covered in infrastructure budget	0	Aligned with the budget given in PC-1
8.	Construction waste management (Will be covered by the contractor)	No. of schools	56	Covered in infrastructure budget	0	Aligned with the budget given in PC-1
9.	Wastewater management (Will be covered by the contractor)	No. of schools	56	Covered in infrastructure budget	0	Aligned with the budget given in PC-1
10.	Construction waste disposal (Will be covered by the contractor)	No. of schools	56	Covered in infrastructure budget	0	Aligned with the budget given in PC-1

#	Description	Unit	Quantity	Unit Rate PKR	Total PKR	Source
	Operations related Mitigation Budget					
11.	Hospital PPEs (Is covered under the "Medicines, commodities and supplies for all HFs in the cluster" line item)	Number	100 sets /hospital	Covered in Hospital supplies budget	0	Aligned with the budget given in PC-1
12.	Hopital waste management– miscellaneous items(extra bags for non- sharp medical waste, safety boxes for sharps, extra staff needed for managing the waste and transport, short-term training, etc)	Number	18	100000	1,800,000	Aligned with the budget given in PC-1. (Is covered under the "Medicines, commodities and supplies for all HFs in the cluster" line item)
13.	Waste Bins (Is covered under the "Medicines, commodities and supplies for all HFs in the cluster" line item)	Number	360	Covered in Hospital supplies budget	0	Aligned with the budget given in PC-1
14.	Hospital waste diposal equipment (tolleys) (Is covered under the "Medicines, commodities and supplies for all HFs in the cluster" line item)	Number	18	Covered in Hospital supplies budget	0	Aligned with the budget given in PC-1
15.	Drinking water WHO testing (Will be part of the construction budget)	Number	5	Covered in infrastructure budget	0	Aligned with the budget given in PC-1
16.	Tree Plantation	Number	TBD	100	TBD	For each tree cut due to construction a replacement tree will be planted. The cost of tree plantation will be covered from the construction related budget line items
17.	Emergency fire extinguisers /alarms (Is covered under the "Medicines, commodities and supplies for all HFs in the cluster" line item)			36	90,000	Covered in PC-1

#	Description	Unit	Quantity	Unit Rate PKR	Total PKR	Source
	Trainings (Health)					
18.	ESMF Training for PMU staff (including materials, logistics, venue)	Training Sessions	3	100,000	300,000	Covered in PC-1
19.	District Level E&S construction specific trainings for department staff, contractors subcontractors and field staff	Training Sessions	4	150,000	600,000	Covered in PC-1
20.	Provincial Level Health Care Waste management training	Taining sessions	5	80,000	400,000	Covered in PC-1
21.	District Level E&S (Health) trainings for department staff, Field staff and technical resource persons on hospital waste manegment	Training Sessions	20	50,000	10,00,000	Covered in PC-1
22.	Capacity building waste management at RHCs	Training Sessions	10	20,000	200,000	Covered in PC-1
23.	Capacity building hospital waste management at BHUs	Training Sessions	10	20,000	200,000	Covered in PC-1
	Education					
24.	ESMF Training for PMU staff (including materials, logistics, venue)	Training Sessions	2	100,000	200,000	Covered in PC-1
25.	District Level E&S construction specific trainings for department staff, contractors subcontractors and field staff	Training Sessions	4	150,000	600,000	Covered in PC-1
26.	Provincial Level Trainings	Taining sessions	5	80,000	400,000	Covered in PC-1
27.	District Level PTSCMCs Trainings	Training Sessions	16	50,000	800,000	Covered in PC-1

#	Description	Unit	Quantity	Unit Rate PKR	Total PKR	Source
	Awareness raising material					
28.	Material on waste management protocols	Booklets and penaflix	(500/book)	Will be covered in the communications & awarness firm contract	0	Covered in PC-1, under the line item "Communication"
29.	Communication and awarness material for healthcare	booklets /penflix	10 /100	Will be covered in the communications & awarness firm contract	0	Covered in PC-1, under the line item "Communication"
30.	Communication and awarness material for healthcare	booklets /penflix	10 /100	Will be covered in the communications & awarness firm contract	0	Covered in PC-1, under the line item "Communication"
	Staff					
31.	Environment and Social Safeguard Officer - Health	Months	60	100,000	7,326,120	Aligned with the budget given in PC-1
32.	Environment and Social Safeguard Officer - Education	Months	60	100,000	7,326,120	Aligned with the budget given in PC-1
	Third Party Validation TPV/ Monitoring					
33.	External Monitors (Is covered under the Third Party Monitoring Contracts)	Reports		Covered under the Third Party Monitoring Contracts	0	Aligned with the budget given in PC-1
34.	Air, Noise & Water Testing (Bi-annual in three districts)	Tests	30	50,000	1,500,000	There is enough room available in line item " ESMP Training and Implementation" in both Health and Education Budget (PC-1). Hence, this cost will be covered under "ESMP Training and Implementation".
	Total				22,742,240	

12 Disclosure

Once finalized and cleared by the World Bank the Safeguard documents including ESMF, EHCWMP and the RPF will be disclosed on the websites of the Government of Balochistan and on the World Bank Image Bank. Hard copies of this SG documents will also be shared with the Provincial EPA, project stakeholders, contractors, Civil Society Organizations etc. A Copy of each SG document will be placed in the Project Management Units for public access. The Urdu translation of the Executive Summary of the SG documents will also be distributed to all relevant stakeholders, especially to the beneficiary communities in the project areas. The purpose will be to inform them about the project activities, negative environmental and social impacts expected from the project and proposed mitigation measures.

The executive summary of the RAP (if prepared for any sub-project) will be translated in the local language, which is understandable to all project affected persons and local community and will be provided to all PAPs as well.

The Project office (PMU) and social safeguards officer will keep the PAPs informed about the impacts and entitlement of compensation and facilitate in addressing grievance (s). The ESMF study team has made an endeavour to hold consultative and scoping sessions with these stakeholders to bring forth their views on the proposed Project, inter-alia, their opinions, suggestions and understanding on various issues and concerns.

13 References

- Roberts, T.J., 1991. The Birds of Pakistan Vol. 1, Oxford University Press Karachi, Pakistan. 617 pp.
- 1998 District Census Report of Kill Abdullah, Sep 2000, Population Census Organization, Statistics Division, GoP.
- 1998 District Census Report of Killa Saifullah, Aug 2000, Population Census Organization, Statistics Division, GoP
- 1998 District Census Report of Pishin, Aug 2000, Population Census Organization, Statistics Division, GoP
- 1998 District Census Report of Zhob, Jul 2000, Population Census Organization, Statistics Division, GoP
- 1998 Provincial Census Report of Balochistan, Nov 2001, Population Census Organization, Statistics Division, GoP.
- Balochistan – Multiple Indicator Cluster Survey 2010, Nov 2011, Planning & Development Department, GoB, UNICEF.
- Balochistan Needs Assessment – Development Issues and Prospects, Part II – Fisheries, Jan 2013, World Bank, Report No: ACS2258v4.
- Balochistan Strategy - a road map to inclusive socio-economic development for the province, 2013, Pakistan Poverty and Alleviation Fund (PPAF).
- Chagai - District Development Profile, July 2011, Planning & Development Department, GoB, UNICEF.
- Cox, C. B. and Moore, P. D., 1993. Biogeography: An Evolutionary Approach. London: Blackwell Scientific.
- Development Statistics of Balochistan 2014-15, 2016, Planning & Development Department, Bureau of Statistics, GoP.
- Development Statistics of Balochistan 2015-16, 2017, Planning & Development Department, Bureau of Statistics, GoP.
- ESIA – Promoting Girls Education in Balochistan (PGEB) Project, Aug 2012, Secondary Education Department, GoB.
- Government of Pakistan. 2000. *Biodiversity Action Plan for Pakistan*; A Framework for conserving our natural wealth, pp 79.
- Grimmett, R., Roberts, T. and Inskipp, T. 2006. *Birds of India.* Christopher Helm, A & C Black Publishers Ltd. 38 Soho Square, London W1D 3HB 387 pp.
- Grimmett, R., Roberts, T. and Inskipp, T. 2008. *Birds of Pakistan*. Christopher Helm Publishers Ltd, 38 Soho Square, London W1D 3HB. 256 pp.
- http://www.pbs.gov.pk/sites/default/files//DISTRICT_WISE_CENSUS_RESULTS_CENSUS_2017.pdf. 2018.
- http://www.statistics.gov.pk/assets/publications/Population_Results.pdf. Assessed April 2 2018.

- Khan, M. S. and Khan, W. A. 2018. *Field Guide to Amphibians of Pakistan* (In Press). Pakistan Wildlife Foundation,
- Khan, M.S. 2006. *Amphibians and reptiles of Pakistan*. Krieger Publishing Company, Malabar, Florida. pp 311.
- Khan, M.S. 2006. *Amphibians and reptiles of Pakistan*. Krieger Publishing Company, Malabar, Florida. pp 311.
- Killa Abdullah - District Development Profile, July 2011, Planning & Development Department, GoB, UNICEF.
- Killa Saifullah - District Development Profile, July 2011, Planning & Development Department, GoB, UNICEF.
- Mastung - District Development Profile, July 2011, Planning & Development Department, GoB, UNICEF.
- Minton, S. A. 1966. A contribution to the herpetology of W. Pakistan. *Bull. Am. Mus. Nat. Hist.,* **134**(2): 28-184.
- Mirza, Z. B., 1998. *Illustrated Handbook of Animal Diversity of Pakistan*. Center for Environmental Research and Conservation, F-10/3, Islamabad, Pakistan. 99 pp.
- Mirza, Z. B., 2011. *Ecosystems of Pakistan*: Vol. 1; *Ecozones of Pakistan*. Urdu Science Board, 299 Upper Mall, Lahore, Pakistan. 247 pp.
- Mirza. Z. B. 2007. *A Field Guide to Birds of Pakistan,* WWF Pakistan, PO Box 5180, Ferozepur Road, Lahore, Pakistan. 366 pp.
- Nushki - District Development Profile, July 2011, Planning & Development Department, GoB, UNICEF.
- Pakistan Social and Living Measurement Survey (PSLM) 2014-15, Mar 2016, Pakistan Bureau of Statistics, Statistics Division, GoP
- Pishin - District Development Profile, July 2011, Planning & Development Department, GoB, UNICEF.
- Rafique, M., Nawaz, M. A. and Asif, M. 2010. Mammalian Fauna of the Chagai Desert and Adjoining Areas, *Proc. Pakistan Acad. Sci*. **47**(1):19-24.2010
- Roberts, T. J. 1997 Mammals of Pakistan. Revised edition. Ernest Benn Ltd., London
- Roberts, T. J. 1997. *Mammals of Pakistan*. Revised edition. Ernest Benn Ltd., London
- Roberts, T. J. 2005 Field Guide to the Large and Medium Sized Mammals of Pakistan. Oxford University Press, Karachi.
- Roberts, T. J. 2005 Field Guide to the Small Mammals of Pakistan. Oxford University Press, Karachi.
- Roberts, T.J., 1992. The Birds of Pakistan Vol. 2, Oxford University Press Karachi, Pakistan. 598 pp.
- Rubina, A. and Mirza, S. N. 2000. Arid Steppes of Balochistan, Pakistan, *Secheresse*, **17**(1-2):203-9

- Sherani - District Development Profile, July 2011, Planning & Development Department, GoB, UNICEF.
- Smith, S. A. 1943. The Fauna of British India Ceylon and Burma including the whole of Indo-Chinese sub-region, vol. III. Taylor & Francis, London. 240 pp.
- The IUCN Red List of Threatened Species. Version 2017-3. (www.iucnredlist.org). Downloaded on 08 May 2018.
- Udvardy, M. D. V. 1975. A classification of the biogeographical provinces of the world. IUCN Occasional Paper 18. Morges.
- Zhob - District Development Profile, July 2011, Planning & Development Department, GoB, UNICEF.
- http://www.pbscensus.gov.pk/sites/default/files/bwpsr/balochistan/ZHOB_SUMMARY.pdf. 2018.
- http://www.pbscensus.gov.pk/sites/default/files/Files/BALOCHISTAN.pdf. 2018
- http://pdma.gob.pk/?p=39. Assessed on April 12 2018.
- http://balochistan.gov.pk/index.php?option=com_content&view=article&id=113&Itemid=164. Assessed on April 12 2018.
- http://emis.gob.pk/website/#. Assessed on April 09 2018.
- http://emis.gob.pk/website/SchoolSections.aspx#. Assessed on April 09 2018.
- http://emis.gob.pk/website/CollegeSections.aspx. Assessed on April 09 2018.

Annexure 1: IEE/EIA Regulations

Annexure 2: EQS Balochistan

Annexure 3: List of Mammals, Reptiles, Birds and Amphibians of the Project Districts

Annexure 4: Baseline Survey Schools Checklist

Annexure 5: Public Consultation Questionnaire

Annexure 6: Record of Institutional Stakeholder Consultations

Annexure 7: Checklist of Likely Environmental and Social Impacts of Sub-projects

Annexure 8: Physical Cultural Resource (PCR) Management Framework/Chance Find Procedure

Annexure 9: Health Care Waste Management Plan Checklist for BHUs/ RHCs/ THQ/ DHQs

Annexure 10: Specialists Terms of Reference

Annexure 11: Resettlement Policy Framework

Annexure 12: Land Acquisition and Resettlement Screening Checklist

Annexure 13: VLD/ Due Diligence Screening Checklist

Annexure 14: Sample Agreement for VLD

Annexure 15: Outline of Resettlement Action Plan

Annexure 1: IEE/EIA Regulations

IEE/EIA Regulation 2000

SCHEDULE I

(See Regulation 3)

List of projects requiring an IEE

A. Agriculture, Livestock and Fisheries

12. Poultry, livestock, stud and fish farms with total cost more than Rs.10 million
13. Projects involving repacking, formulation or warehousing of agricultural products

B. Energy

14. Hydroelectric power generation less than 50 MW
15. Thermal power generation less than 200 KW
16. Transmission lines less than 11 KV, and large distribution projects
17. Oil and gas transmission systems
18. Oil and gas extraction projects including exploration, production, gathering systems, separation and storage
19. Waste-to-energy generation projects

C. Manufacturing and processing

1. Ceramics and glass units with total cost more than Rs.50 million
2. Food processing industries including sugar mills, beverages, milk and dairy products, with total cost less than Rs.100 million
3. Man-made fibres and resin projects with total cost less than Rs.100 million
4. Manufacturing of apparel, including dyeing and printing, with total cost more than Rs.25 million
5. Wood products with total cost more than Rs.25 million

D. Mining and mineral processing

Commercial extraction of sand, gravel, limestone, clay, Sulphur and other minerals not included in Schedule II with total cost less than Rs.100 million

6. Crushing, grinding and separation processes 9

7. Smelting plants with total cost less than Rs.50 million

E. Transport

Federal or Provincial highways (except maintenance, rebuilding or reconstruction of existing metaled roads) with total cost less than Rs.50 million

8. Ports and harbour development for ships less than 500 gross tons

F. Water management, dams, irrigation and flood protection

Dams and reservoirs with storage volume less than 50 million cubic meters of surface area less than 8 square kilometres

Irrigation and drainage projects serving less than 15,000 hectares

Small-scale irrigation systems with total cost less than Rs.50 million

G. Water supply and treatment

Water supply schemes and treatment plants with total cost less than Rs.25 million

H. Waste disposal

Waste disposal facility for domestic or industrial wastes, with annual capacity less than 10,000 cubic meters

I. Urban development and tourism

Housing schemes

Public facilities with significant off-site impacts (e.g. hospital wastes)

Urban development projects

J. Other projects

Any other project for which filing of an IEE is required by the Federal Agency under sub-regulation (2) of Regulation 5

SCHEDULE II

(See Regulation 4)List of projects requiring an EIA

A .Energy

Hydroelectric power generation over 50 MW

9. Thermal power generation over 200 MW
10. Transmission lines (11 KV and above) and grid stations
11. Nuclear power plans
12. Petroleum refineries

B. Manufacturing and processing

Cement plants

Chemicals projects

13. Fertilizer plants
14. Food processing industries including sugar mills, beverages, milk and dairy products, with total cost of Rs.100 million and above
15. Industrial estates (including export processing zones)
16. Man-made fibres and resin projects with total cost of Rs.100 M and above
17. Pesticides (manufacture or formulation)
18. Petrochemicals complex
19. Synthetic resins, plastics and man-made fibres, paper and paperboard, paper pulping, plastic products, textiles (except apparel),printing and publishing, paints and dyes, oils and fats and vegetable ghee projects, with total cost more than Rs.10 million
20. Tanning and leather finishing projects

C . Mining and mineral processing

Mining and processing of coal, gold, copper, sulphur and precious stones

Mining and processing of major non-ferrous metals, iron and steel rolling

Smelting plants with total cost of Rs.50 million and above

D .Transport

Airports

Federal or Provincial highways or major roads (except maintenance, rebuilding or reconstruction of existing roads) with total cost of Rs.50 million and above

Ports and harbour development for ships of 500 gross tons and above

Railway works

E .Water management, dams, irrigation and flood protection

Dams and reservoirs with storage volume of 50 million cubic meters and above or surface area of 8 square kilometres and above

Irrigation and drainage projects serving 15,000 hectares and above

Water supply and treatment Water supply schemes and treatment plants with total cost of Rs.25 million and above

F .Waste Disposal

Waste disposal and/or storage of hazardous or toxic wastes (including landfill sites, incineration of hospital toxic waste)

Waste disposal facilities for domestic or industrial wastes, with annual capacity more than 10,000 cubic meters

G .Urban development and tourism

Land use studies and urban plans (large cities)

Large-scale tourism development projects with total cost more than Rs.50 million

H .Environmentally Sensitive Areas

All projects situated in environmentally sensitive areas

I Other projects

Any other project for which filing of an EIA is required by the Federal Agency under sub-regulation (2) of Regulation 5.

Any other project likely to cause an adverse environmental effect

Annexure 2: EQS Balochistan

Table 1: Environmental Quality Standards (EQS) 2000 for Effluent Discharge

#.	PARAMETERS	EQS
1	Temperature	40 ^{O}C =≤3 deg.
2	pH	6 – 9
3	BOD5	80 mg/l
4	Chemical Oxygen Demand (COD)	150 mg/l
5	Total Suspended Solid (TSS)	200 mg/l
6	Total Dissolved Solids	3500 mg/l
7	Grease and Oil	10 mg/l
8	Phenolic compounds (as phenol)	0.1 mg/l
9	Ammonia	40 mg/l
10	Chlorine	1.0 mg/l
11	Chloride	1000.0 mg/l
12	Sulphate	600 mg/l
13	Manganese	1.5 mg/l
14	Fluoride	10 mg/l
15	Cyanide (as CN') total	1.0 mg/l
16	An-ionic detergents (as MB As)	20 mg/l
17	Sulphide (S-2)	1.0 mg/l
18	Pesticides	0.15 mg/l
19	Cadmium	0.1 mg/l
20	Chromium trivalent and hexavalent	1.0 mg/l
21	Copper	1.0 mg/l
22	Lead	0.5 mg/l
23	Mercury	0.01 mg/l
24	Selenium	0.5 mg/l
25	Nickel	1.0 mg/l
26	Silver	1.0 mg/l
27	Total Toxic metals	2.0 mg/l
28	Zinc	5.0 mg/l
29	Arsenic	1.0 mg/l
30	Barium	1.5 mg/l
31	Iron	8.0 mg/l
32	Boron	6.0 mg/l

Table 2: EQS for Gaseous Emission (mg/Nm^3, Unless Otherwise Defined)

#	Parameter	Source of Emission	Existing Standards	Revised Standards
1.	Smoke	Smoke Opacity not to exceed	40% or Ringlemann Scale	240% or 2 Ringlemann Scale or equivalent smoke number
2.	Particulate Matter (I)	(a) Boilers and Furnaces		
		Oilfired	300	300
		Coalfired	500	500
		CementKilns	200	200
		(b) Grinding, crushing, clinker coolers and Related processes, Metallurgical Processes, converter, blast furnaces and cupolas.	500	500
3.	Hydrogen Chloride	Any	400	400
4.	Chlorine	Any	150	150
5.	Hydrogen Fluoride	Any	150	150
6.	Hydrogen Sulphide	Any	10	10
7.	Sulphur Oxide [2] [3]	Sulfuric acid/ Sulphonic acid plants		
		Other plants except power plants operating on oil and coal	400	1700
8.	Carbon Monoxide	Any	800	800
9.	Lead	Any	50	50
10.	Mercury	Any	10	10
11.	Cadmium	Any	20	20
12.	Arsenic	Any	20	20
13.	Copper	Any	50	50
14.	Antimony	Any	20	20
15.	Zinc	Any	200	200
16.	Oxides of Nitrogen (3)	Nitric acid manufacturing unit.		
		Other plants except power plants operating on oil or coal:		
		Gas fired	400	400
		Oil fired	-	600
		Coal fired	-	1200

Explanations:-

1. Based on the assumption that the size of the particulate is 10 micron or more.

2. Based on 1 percent sulphur content in fuel. Higher content of Sulphur will case standards to bepro-rated.
3. In respect of emissions of sulphur dioxide Nitrogen oxides, the power plants operating on oil and coal as fuel shall in addition to Environmental Quality Standards (EQS) specified above, comply with the following standards.

Table 3: EQS, 2009 for Vehicular Emission

#	Parameter	Standard (Maximum permissible Limit)	Measuring Method	Applicability
1	Smoke	40% or 2 on the Ringlemann Scale during engine acceleration mode.	To be compared with Ringlemann Chart at a distance of 6 meters or more	Immediate effect
2	Carbon Monoxide (CO)	6%	Under idling condition: Non-dispersive infrared detection through gas analyzer.	
3	Noise	85 dB(A)	Sound Meter at 7.5 meters from the source	

Table 4: EQS, 2010 for Noise

#	Category of Area / Zone	Effective from 1st July, 2010		Effective from 1st July, 2013	
		Limit in dB (A) Leq*			
		Daytime	Night-time	Daytime	Night-time
1	Residential Area (A)	65	50	55	45
2	Commercial Area (B)	70	60	65	55
3	Industrial Area (C)	80	75	75	65
4	Silence Zone (D)	55	45	50	45

Note:

1. Daytime hours: 6:00 a.m. to 10:00p.m.
2. Night-time hours: 10:00 p.m. to 6:00a.m.
3. Silence Zone: Zones which are declared as such by the competent authority. An area comprising not less than 100 meters round hospitals, educational institutions and courts.
4. Mixedcategoriesofareasmaybedecidedasoneofthefourabovementionedcategoriesbythecompetentauthority.

**dB (A) Leq: Time weighted average of the level of sound in scale "A" which is relatable to human hearing.*

Table 5: EQS 2010 for Drinking Water

#	Properties/Parameters	Standard Values for Pakistan	WHO Standards	Remarks
BACTERIAL				
1	All water is intended for drinking (E.Coli or Thermotolerant Coliform bacteria)	Must not be detectable in any 100ml sample	Must not be detectable in any 100ml sample	Most Asian Countries also follow WHO Standards
2	Treated water entering the distribution system (E.Coli or Thermotolerant Coliform and total Coliform bacteria)	Must not be detectable in any 100ml sample	Must not be detectable in any 100ml sample	Most Asian Countries also follow WHO Standards
3	Treated water entering the distribution system (E.Coli or Thermo tolerant Coliform and total Coliform bacteria)	Must not be detectable in any 100ml sample. In case of large supplies, where sufficient samples are examined, must not be present in 95% of the samples taken throughout any 12-month period.	Must not be detectable in any 100ml sample. In case of large supplies, where sufficient samples are examined, must not be present in 95% of the samples taken throughout any 12-month period.	Most Asian Countries also follow WHO Standards
PHYSICAL				
4	Colour	≤15 TCU	≤15 TCU	
5	Taste	Non Objectionable/ Acceptable	Non Objectionable/ Acceptable	
6	dour	Non Objectionable/ Acceptable	Non Objectionable/ Acceptable	
7	Turbidity	<5 NTU	<5 NTU	
8	Total hardness as $CaCO_3$	<500mg/l	---	
9	TDS	<1000	<1000	
10	pH	6.5-8.5	6.5-8.5	
RADIOACTIVE				
11	Alpha Emitters bq/L or pCi	0.1	0.1	
12	Beta Emitters	01	01	
CHEMICAL				
Essential Inorganics		mg/litre	mg/litre	
13	Aluminum (Al) mg/l	≤0.2	0.02	
14	Antimony (Sb)	≤0.005	0.02	
15	Arsenic (As)	≤0.05	0.01	Standard for Pakistan similar to most Asian developing Countries

#	Properties/Parameters	Standard Values for Pakistan	WHO Standards	Remarks
16	Barium (Ba)	0.7	0.7	
17	Boron (B)	0.3	0.3	
18	Cadmium (Cd)	0.01	0.003	Standard for Pakistan similar to most Asian developing Countries
19	Chloride (Cl)	<250	250	
20	Chromium (Cr)	≤0.05	0.05	
21	Copper (Cu)	2	2	
Toxic Inorganics		mg/litre	mg/litre	
22	Cyanide (CN)	≤0.05	0.07	Standard for Pakistan similar to most Asian developing Countries
23	Fluoride (F)	≤1.5	1.5	
24	Lead (Pb)	≤0.05	0.01	Standard for Pakistan similar to most Asian developing Countries
25	Manganese (Mn)	≤0.5	0.5	
26	Mercury (Hg)	≤0.001	0.001	
27	Nickel (Ni)	≤0.02	0.02	
28	Nitrate (NO_3)	≤50	50	
29	Nitrite (NO_2)	≤3	3	
30	Selenium (Se)	0.01	0.01	
31	Residual Chlorine	0.2-0.5 at consumer end 0.5-1.5 at source	---	
32	Zinc (Zn)	5.0	3	Standard for Pakistan similar to most Asian developing Countries
Organics				
33	Pesticides mg/L	---	PSQCA No. 4629-2004, Page No.4, Table No. 3, Serial No. 20-58 may be consulted	Annex-II
34	Phenolic Compounds (as Phenols) mg/L	---	≤0.002	
35	Poly nuclear aromatic hydrocarbons (as PAH) g/L		0.01 (By GC/MS method)	

***PSQCA: Pakistan Standards Quality Control Authority

Table 6: EQS 2010 for Ambient Air

Pollutants	**Time-weighted average**	**Concentration in Ambient Air**		**Method of Measurement**
		Effective from 1st July 2010	Effective from 1st January 2013	
Sulphur Dioxide (SO_2)	Annual Average*	80µg/m^3	80µg/ m^3	Ultraviolet Fluorescence Method
	24 hours**	120µg/m^3	120µg/m^3	
Oxides of Nitrogen as (NO)	Annual Average*	40µg/m^3	40µg/m^3	Gas Phase Chemiluminescence
	24 hours**	40µg/m^3	40µg/m^3	
Oxides of Nitrogen as (NO_2)	Annual Average*	40µg/m^3	40µg/m^3	Gas Phase Chemiluminescence
	24 hours**	80µg/m^3	80µg/m^3	
Ozone (O_3)	1 hour	180µg/m^3	130µg/m^3	Non disperse UV absorption method
Suspended Particulate Matter (SPM)	Annual Average*	400µg/m^3	360µg/m^3	High Volume Sampling, (Average flow rate not less than 1.1m^3/minute)

Annexure 3: List of Mammals, Reptiles, Birds and Amphibians of the Project Districts

Mammalian species in Project Area

#	Common Name	Zoological Name	Order	Distribution
1	Afghan Hedgehog	*Hemiechinus auritus*	Insectivora	Killa Abdullah, Pishin, Quetta
2	Persian desert shrew	*Crocidura zarudnyi*	Insectivora	Killa Abdullah, Pishin, Chagai
3	Greater Horseshoe bat	*Rhinolophus ferrumequinum*	Chiroptera	Killa Abdullah, Pishin, Chagai
4	Cape Hare	*Lepus capensis*	Lagomorpha	Killa Abdullah, Pishin, Chagai, Quetta
5	Afghan Pika	*Ochotona rufescens*	Lagomorpha	Killa Abdullah, Quetta, Pishin
6	Indian crested porcupine	*Hystrix indica*	Rodentia	Killa Abdullah, Chagai, Quetta, Pishin
7	Balochistan Pygmy Jerboa	*Salpingotus michaelis*	Rodentia	Chagai
8	Small five-toed jerboa	*Allactaga elater*	Rodentia	Killa Abdullah, Chagai, Pishin
9	Hotson's five-toed jerboa	*Allactaga hotsoni*	Rodentia	Chagai
10	Greater three-toed Jerboa	*Jaculus blanfordi*	Rodentia	Chagai
11	Forest Dormouse	*Dryomys nitedula*	Rodentia	Pishin
12	House Rat	*Rattus rattus*	Rodentia	Killa Abdullah, Chagai, Quetta, Pishin
13	House Mouse	*Mus musculus*	Rodentia	Killa Abdullah, Chagai, Quetta, Pishin
14	Short-tailed Mole Rat	*Nesokia indica*	Rodentia	Pishin
15	Migratory Hamster	*Cricetulus migratorius*	Rodentia	Killa Abdullah, Quetta, Pishin
16	Balochistan Gerbil	*Gerbillus nanus*	Rodentia	Chagai
17	Cheesman's Gerbil	*Gerbillus cheesmani*	Rodentia	Chagai
18	Indian Gerbil	*Tetera indica*	Rodentia	Chagai
19	Persian Jird	*Meriones persicus*	Rodentia	Killa Abdullah, Quetta, Pishin
20	Libyan Jird	*Meriones libycus*	Rodentia	Killa Abdullah, Chagai, Pishin
21	Indian Desert Jird	*Meriones hurrianae Jerdon*	Rodentia	Quetta
22	Sundevall's Jird	*Meriones crassus*	Rodentia	Killa Abdullah, Chagai, Pishin
23	Giant Day Jird	*Rhombomys opimus*	Rodentia	Pishin
24	Indian Wolf	*Canis lupus*	Carnivora	Killa Abdullah, Chagai, Quetta, Pishin
25	Asiatic jackal	*Canis aureus*	Carnivora	Chagai, Quetta, Pishin
26	Sand cat	*Felis margarita*	Carnivora	Chagai
27	Common Leopard	*Panthera pardus*	Carnivora	Quetta, Pishin
28	Jungle cat	*Felis chaus*	Carnivora	Killa Abdullah, Chagai, Pishin

#	Common Name	Zoological Name	Order	Distribution
29	Sand fox	*Vulpes ruepelli*	Carnivora	Killa Abdullah, Pishin
30	King Fox	*Vulpes cana*	Carnivora	Chagai, Quetta, Pishin
31	Common Red Fox	*Vulpes vulpes pusillus*	Carnivora	Quetta
32	Stone Marten	*Martes foina*	Carnivora	Quetta
33	Marbled Polecat	*Vormela peregusna*	Carnivora	Quetta, Pishin
34	Striped Hyaena	*Hyaena hyaena*	Carnivora	Killa Abdullah, Chagai, Quetta, Pishin
35	Chiltan Markhor	*Capra aegagrus chialtanensis Lydekker*	Pholidota	Quetta
36	Suleman Markhor	*Capra falconeri megaceros Hume*	Pholidota	Quetta
37	Gad / Urial	*Ovis vignei*	Artiodactyla	Quetta
38	Persian or Goitred Gazelle	*Gazella subgutturosa*	Artiodactyla	Killa Abdullah, Pishin
39	Chiltan Wild Goat	*Capra aegagrus*	Artiodactyla	Chagai

Reptiles found in Project Area

#	Zoological Name	Common Name	Order	Family	Distribution
1	*Agrionemis horsfieldii*	Afghan Tortoise	Chelonia	Testudinidae	Killa Abdullah, Quetta, Pishin
2	*Laudakia fusca*	Rock Agama	Squamata	Agamidae	Killa Abdullah, Chagai, Quetta
3	*Laudakia melanura*	Black Rock Agama	Squamata	Agamidae	Killa Abdullah, Quetta, Pishin
4	*Phrynocephalus clarkorum*	Afghan toad Agama	Squamata	Agamidae	Chagai, Quetta
5	*Phrynocephalus luteoguttatus*	Yellow toad Agama	Squamata	Agamidae	Chagai , Quetta
6	*Phrynocephalus maculatus*	Whip-tailed toad Agama	Squamata	Agamidae	Chagai, Quetta
7	*Phrynocephalus ornatus*	Striped toad Agama	Squamata	Agamidae	Chagai, Quetta, Pishin
8	*Phrynocephalus scutellatus*	Banded toad Agama	Squamata	Agamidae	Chagai, Quetta
9	*Trapelus agilis*	Common Field Agama	Squamata	Agamidae	Chagai, Quetta
10	*Trapelus megalonyx*	Ocellate Ground Agama	Squamata	Agamidae	Chagai, Quetta
11	*Trapelus ruderatus*	Spotted Ground Agama	Squamata	Agamidae	Quetta, Pishin
12	*Agama nupta fusca*	Yellow headed rock agama	Squamata	Agamidae	Quetta
13	*Agama rudeta boluchiana*	Roughtail rock agama	Squamata	Agamidae	Quetta, Chagai
14	*Agama caucasia caucasia*	Agamid Lizard	Squamata	Agamidae	Quetta, Pishin

#	Zoological Name	Common Name	Order	Family	Distribution
15	*Eublepharis macularius*	Fat-tailed Gekko	Squamata	Eublepharidae	Killa Abdullah, Chagai, Quetta, Pishin
16	*Agamura persica*	Persian spider Gekko	Squamata	Gekkonidae	Chagai, Quetta, Pishin
17	*Bunopus tuberculatus*	Tuberculated Desert Gekko	Squamata	Gekkonidae	Chagai
18	*Crossobamon orientalis*	Yellow-tailed Sand Gekko	Squamata	Gekkonidae	Chagai
19	*Cyrtopodion scabrub*	Tuberculate ground Gekko	Squamata	Gekkonidae	Chagai
20	*Cyrtopodion watsoni*	Spotted ground Gekko	Squamata	Gekkonidae	Killa Abdullah, Pishin
21	*Hemidactylus persicus*	Persian House Gekko	Squamata	Gekkonidae	Killa Abdullah, Pishin
22	*Rhinogekko femoralis*	Pointed-tailed spider Gekko	Squamata	Gekkonidae	Chagai
23	*Teratoscincus scincus*	Turkish sand Gekko	Squamata	Gekkonidae	Chagai
24	*G.scaber*	Common rough woodlouse	Squamata	Gekkonidae	Quetta
25	*Acanthodactylus cantoris*	Blue-tailed sand lizard	Squamata	Lacertidae	Chagai, Quetta, Pishin
26	*Erimias acutirostris*	Lesser reticulate desert lizard	Squamata	Lacertidae	Killa Abdullah, Pishin
27	*Erimias persica*	Persian sand lizard	Squamata	Lacertidae	Killa Abdullah, Quetta, Chagai, Pishin
28	*Erimias scripta*	Vermiculate sand lizard	Squamata	Lacertidae	Chagai, Pishin
29	*Mesalina watsonana*	Spotted leserta	Squamata	Lacertidae	Chagai
30	*Ablepharus grayanus*	Snake-eyed skink	Squamata	Scincidae	Chagai, Quetta, Pishin
31	*Ophiomorus tridactylus*	3-toed Sand Swimer	Squamata	Scincidae	Chagai, Quetta, Pishin
32	*Ophiomorus blanfordii*	Old world skink	Squamata	Scincidae	Chagai
33	*Eumeces schneiderri*	Berber skink	Squamata	Scincidae	Quetta
34	*Ablepharus pannonicus*	Asian snake-eyed skink	Squamata	Scincidae	Quetta, Chagai, Pishin
35	*Uromastyx asmussi*	Spiny-tailed Lizard	Squamata	Uromastycidae	Pishin
36	*Varanus bengalensis*	Bengal monitor lizard	Squamata	Varanidae	Killa Abdullah, Chagai, Quetta, Pishin
37	*Varanus griseus*	Caspian monitor lizard	Squamata	Varanidae	Killa Abdullah, Chagai, Quetta, Pishin
38	*Eryx johnii*	Common sand boa	Squamata	Boidae	Pishin
39	*Eryx tataricus*	Tartary sand boa	Squamata	Boidae	Chagai
40	*Boiga melanocephala*	Cat snake	Squamata	Colubridae	Killa Abdullah, Chagai, Pishin
41	*Coluber karelini*	Banded desert racer	Squamata	Colubridae	Chagai, Quetta
42	*Coluber rhodorachis*	Braid snake	Squamata	Colubridae	Quetta

#	Zoological Name	Common Name	Order	Family	Distribution
43	*Coluber ventromaculatus*	Gray's rat snake	Squamata	Colubridae	Quetta
44	*Coluber ravergieri*	Spotted whip snake	Squamata	Colubridae	Quetta
45	*Lycodon aulicus*	Wolf snake	Squamata	Colubridae	Quetta, Pishin
46	*Lycodon striatus striatus* *Lycodon striatus bicolor*	Wolf snake	Squamata	Colubridae	Quetta
47	*Lytorhynchus maynardi*	Balochi awl-head sand snake	Squamata	Colubridae	Chagai
48	*Platyceps rhodorachis*	Cliff racer	Squamata	Colubridae	Killa Abdullah, Chagai, Pishin
49	*Hemorrhois ravergieri*	Mountain racer	Squamata	Colubridae	Pishin
50	*Psammophis lineolatus*	Steppe ribbon snake	Squamata	Colubridae	Killa Abdullah, Chagai, Quetta, Pishin
51	*Psammophis schokari*	Sahar-Sindian ribbon snake	Squamata	Colubridae	Chagai, Quetta, Pishin
52	*Lytorhynchus ridgewayi*	Afghan awl-head sand snake	Squamata	Colubridae	Pishin
53	*Pseudocyclophis persicus*	Dark head dwarf racer	Squamata	Colubridae	Chagai, Pishin
54	*Ptyas mucosus*	Rope snake	Squamata	Colubridae	Quetta, Pishin
55	*Spalerosophis diadema*	Blotched diadem snake	Squamata	Colubridae	Killa Abdullah, Chagai, Quetta, Pishin
56	*Spalerosophis schirazianus*	Persian diadem snake	Squamata	Colubridae	Chagai, Pishin
57	*Naja oxiana*	Brown cobra	Squamata	Elapidae	Quetta
58	*Echis carinatus*	Saw-scaled viper	Squamata	Viperidae	Killa Abdullah, Quetta, Pishin
59	*Eristocophis macmahonii*	Leaf-nose viper	Squamata	Viperidae	Killa Abdullah, Chagai, Pishin
60	*Macrovipera lebetina*	Levantine viper	Squamata	Viperidae	Killa Abdullah, Quetta, Pishin

Amphibians found in the Project districts

#	Zoological Name	Common Name	Order	Family	Distribution
1	*Bufo stomaticus*	Indus valley toad	Anura	Bufonidae	Killa Abdullah, Chagai, Pishin
2	*Bufo olivaceus*	Olive toad	Anura	Bufonidae	Chagai
3	*Bufo viridis zugmayeri*	Baloch Gauk	Anura	Bufonidae	Killa Abdullah, Chagai, Quetta, Pishin
4	*Bufo surdus*	Iranian Gauk	Anura	Bufonidae	Chagai, Quetta, Pishin
5	*Euphlyctis cyanophlyctis*	Skittering frog	Anura	Ranidae	Killa Abdullah, Chagai, Pishin
6	*Paa sternosignata*	Karez Frog	Anura	Ranidae	Killa Abdullah, Quetta, Pishin

Bird species found in the selected four districts of Balochistan

#	English Names	Zoological Names	Category	Status IUCN 2018
Order Galliformes				
Family Phasianidae				
1	Common Quail	*Coturnix coturnix*	Irregular year-round visitor	Least Concern
2	See-see Partridge	*Ammoperdix griseogularis*	Resident	Least Concern
3	Chukar Partridge	*Alectoris chukar*	Resident	Least Concern
Order Piciformes				
Family Picidae				
4	Eurasian Wryneck	*Lynx torquila*	Irregular year-round visitor	Not Evaluated
5	Brown-fronted Woodpecker	*Dendrocopos auriceps*	Resident	Least Concern
6	Sind Woodpecker	*Dendrocopos assimilis*	Resident	Least Concern
Order Coraciiformes				
Family Upupidae				
7	Common Hoopoe	*Upupa epops*	Summer Breeder	Least Concern
Family Coraciidae				
8	Indian Roller	*Coracias benghalensis*	Summer Breeder	Least Concern
Family Halcyonidae				
9	Common Kingfisher	*Alcedo atthis*	Summer Breeder	Least Concern
Family Meropidae				
10	European Bee-eater	*Merops apiaster*	Summer Breeder	Least Concern
11	Blue-cheeked Bee-eater	*Merops persicus*	Summer Breeder	Least Concern
Order Cuculiformes				
Family Cuculidae				
12	Eurasian Cuckoo	*Cuculus canorus*	Summer Breeder	Least Concern
Order Psittaciformes				
Family Psittaculidae				
13	Rose-ringed Parakeet	*Psittacula krameri*	Summer Breeder	Least Concern
Order Apodiformes				
Family Apodidae				
14	House Swift	*Apus affinis*	Summer Breeder	Least Concern
15	Alpine Swift	*Tachymarptis melba*	Summer Breeder	Least Concern
16	Common Swift	*Apus apus*	Summer Breeder	Least Concern
Order Strigiformes				
Family Strigidae				
17	Spotted Owlet	*Athene brama*	Resident	Least Concern
18	Little Owl	*Athene noctua*	Resident	Least Concern
19	Pallid Scops Owl	*Otus brucei*	Summer Breeder	Least Concern
20	Eurasian Scops Owl	*Otus scops*	Summer Breeder	Least Concern

#	English Names	Zoological Names	Category	Status IUCN 2018
21	Eurasian Eagle Owl	*Bubo bubo*	Resident	Least Concern
22	Tawny Owl	*Strix aluco*	Winter visitor	Least Concern
Order Caprimulgiformes				
Family Caprimulgidae				
23	Sykes's Nightjar	*Caprimulgus mahrattensis*	Resident	Least Concern
24	Eurasian Nightjar	*Caprimulgus europaeus*	Summer Breeder	Least Concern
Order Columbiformes				
Family Columbidae				
25	Rock Pigeon	*Columba livia*	Resident	Least Concern
26	Common Wood Pigeon	*Columba palumbus*	Resident	Least Concern
27	Laughing Dove	*Streptopelia senegalensis*	Summer Breeder	Least Concern
28	Eurasian Collared Dove	*Streptopelia decaocto*	Summer Breeder	Least Concern
29	European Turtle Dove	*Streptopelia turtur*	Irregular year-round visitor	Vulnerable
Order Gruiformes				
Family Rallidae				
30	Common Moorhen	*Gallinula chloropus*	Resident	Least Concern
31	Common Coot	*Fulica atra*	Winter visitor	Least Concern
32	Water Rail	*Rallus aquaticus*	Irregular year-round visitor	Least Concern
33	Little Crake	*Porzana parva*	Irregular year-round visitor	Least Concern
34	Demoiselle Crane	*Grus virgo*	Irregular year-round visitor	Least Concern
35	Common Crane	*Grus grus*	Irregular year-round visitor	Least Concern
36	Purple Swamp Hen	*Porphyrio porphyrio*	Summer Breeder	Least Concern
Order Pteroclidiformes				
Family Pteroclididae				
37	Pin-tailed Sand grouse	*Pterocles alchata*	Winter visitor	Least Concern
38	Spotted Sand grouse	*Pterocles senegallus*	Irregular year-round visitor	Least Concern
39	Black-bellied Sand grouse	*Pterocles orientalis*	Winter visitor	Least Concern
40	Crowned Sand grouse	*Pterocles coronatus*	Resident	Least Concern
Order Charadriiformes				
Family Scolopacidae				
41	Little Stint	*Calidris minuta*	Irregular year-round visitor	Least Concern
42	Common Sandpiper	*Actitis hypoleucos*	Winter visitor	Least Concern
43	Green Sandpiper	*Tringa ochropus*	Irregular year-round visitor	Least Concern

#	English Names	Zoological Names	Category	Status IUCN 2018
44	Marsh Sandpiper	*Tringa stagnatilis*	Irregular year-round visitor	Least Concern
45	Common Snipe	*Gallinago gallingo*	Irregular year-round visitor	Not Evaluated
Family Recurvirostridae				
46	Black-winged Stilt	*Himantopus himantopus*	Summer Breeder	Least Concern
47	Pheasant-tailed Jacana	*Hudrophasianus chirurgus*	Summer Breeder	Not Evaluated
Family Charadriidae				
48	Red-wattled Lapwing	*Vanellus indicus*	Summer Breeder	Least Concern
49	White-tailed Lapwing	*Vanellus leucurus*	Irregular year-round visitor	Least Concern
50	Northern Lapwing	*Vanellus vanellus*	Winter visitor	Near threatened
Family Laridae				
51	Cream-colored Courser	*Cursorius cursor*	Winter visitor	Least Concern
52	Black-headed Gull	*Larus ridibundus*	Winter visitor	Least Concern
53	Brown-headed Gull	*Larus brunnicephalus*	Irregular year-round visitor	Least Concern
Order Accipitriformes				
Family Accipitridae				
54	Black-shouldered Kite	*Elanus caeruleus*	Resident	Least Concern
55	Black Kite	*Milvus migrans*	Summer breeder	Least Concern
56	Egyptian Vulture	*Neophron percnopterus*	Summer breeder	Endangered
57	Eurasian Griffon Vulture	*Gyps fulvus*	Summer breeder	Least Concern
58	Cinereous Vulture	*Aegypius monachus*	Winter visitor	Near threatened
59	Shikra	*Accipiter badius*	Summer breeder	Least Concern
60	Eurasian Sparrow Hawk	*Accipiter nisus*	Summer breeder	Least Concern
61	Hen Harrier	*Circus cyaneus*	Winter visitor	Least Concern
62	Long-legged Buzzard	*Buteo rufinus*	Winter visitor	Least Concern
63	Common Buzzard	*Buteo buteo*	Winter visitor	Least Concern
64	Golden Eagle	*Aquila chrysaetos*	Resident	Least Concern
65	Steppe Eagle	*Aquila nepalensis*	Winter visitor	Endangered
66	Booted Eagle	*Hieraaetus pennatus*	Winter visitor	Least Concern
67	Common Kestrel	*Falco tinnunculus*	Winter visitor	Least Concern
68	Merlin	*Falco columbarius*	Winter visitor	Least Concern
69	Saker Falcon	*Falco cherrug*	Winter visitor	Endangered
70	Peregrine Falcon	*Felco peregrinus*	Winter visitor	Not Evaluated
Order Podicipediformes				
Family Podicipedidae				
71	Little Grebe	*Tachybaptus ruficollis*	Resident	Least Concern

#	English Names	Zoological Names	Category	Status IUCN 2018
72	Black-necked Grebe	*Podiceps nigricollis*	Winter visitor	Least Concern
Order Ciconiiformes				
Family Ardeidae				
73	Little Egret	*Egretta garzetta*	Irregular year-round visitor	Least Concern
74	Great Egret	*Casmerodius albus*	Winter visitor	Least Concern
75	Black-crowned Night Heron	*Nycticorax nycticorax*	Summer breeder	Least Concern
76	Grey Heron	*Ardeola cineria*	Irregular year-round visitor	Not Evaluated
77	Little Bittern	*Ixobrychus minutus*	Irregular year-round visitor	Least Concern
78	Great Bittern	*Botaurus stellaris*	Winter visitor	Least Concern
Family Phoenicopteridae				
79	Greater Flamingo	*Phoenicopterus ruber*	Irregular year-round visitor	Least Concern
Family Threskiornithidae				
80	Glossy Ibis	*Plegadis falcinellus*	Irregular year-round visitor	Least Concern
81	Eurasian Spoonbill	*Platalea leucorodia*	Irregular year-round visitor	Least Concern
Family Ciconiidae				
82	White Stork	*Ciconia ciconia*	Irregular year-round visitor	Least Concern
83	Black Stork	*Ciconia nigra*	Irregular year-round visitor	Least Concern
Family Pelecanidae				
84	Great White Pelican	*Pelecanus onocrotalus*	Irregular year-round visitor	Least Concern
85	Dalmatian Pelican	*Pelecanus crispus*	Winter visitor	Near threatened
Order Passeriformes				
Family Laniidae				
86	Bay-backed Shrike	*Lanius vittatus*	Summer breeder	Least Concern
87	Southern Grey Shrike	*Lanius meridionalis*	Summer breeder	Vulnerable
88	Long-tailed Shrike	*Lanius schach*	Summer breeder	Least Concern
89	Rufous-tailed Shrike	*Lanius isabellinus*	Summer breeder	Least Concern
Family Corvidae				
90	Black-headed Jay	*Garrulus lanceolatus*	Resident	Least Concern
91	Black-billed Magpie	*Pica pica*	Resident	Least Concern
92	Spotted Nutcracker	*Nucifraga caryocatactes*	Resident	Least Concern
93	Red-billed Chough	*Pyrrhocorax pyrrhocorax*	Resident	Least Concern
94	Brown-necked Raven	*Corvus ruficollis*	Resident	Least Concern

#	English Names	Zoological Names	Category	Status IUCN 2018
95	Common Raven	*Corvus corax*	Resident	Least Concern
Family Dicruridae				
96	Eurasian Golden Oriole	*Oriolus oriolus*	Summer breeder	Least Concern
Family Muscicapidae				
97	Blue Rock Thrush	*Monticola solitarius*	Winter visitor	Least Concern
98	Dark-throated Thrush	*Turdus ruficollis*	Winter visitor	Least Concern
99	Mistle Thrush	*Turdus viscivorus*	Winter visitor	Least Concern
100	Spotted Flycatcher	*Muscicapa striata*	Summer breeder	Least Concern
101	Red-Throated Flycatcher	*Ficedula parva*	Irregular year-round visitor	Least Concern
102	Blue Throat	*Luscinia sevecia*	Irregular year-round visitor	Not Evaluated
103	Rufous-tailed Scrub Robin	*Cercotrichas galactotes*	Summer breeder	Least Concern
104	Rufous-backed Redstart	*Phoenicurus erythronota*	Winter visitor	Least Concern
105	Black Redstart	*Phoenicurus ochruros*	Summer breeder	Least Concern
106	Pied Bushchat	*Saxicola caprata*	Resident	Least Concern
107	Common Stonechat	*Saxicola torquata*	Irregular year-round visitor	Least Concern
108	Hume's Wheatear	*Oenanthe alboniger*	Winter visitor	Least Concern
109	Northern Wheatear	*Oenanthe oenanthe*	Summer breeder	Least Concern
110	Finsch's Wheatear	*Oenanthe finschii*	Winter visitor	Least Concern
111	Variable Wheatear	*Oenanthe picata*	Summer breeder	Least Concern
112	Pied Wheatear	*Oenanthe pleschanka*	Irregular year-round visitor	Least Concern
113	Rufous-tailed Wheatear	*Oenanthe xanthoprymna*	Winter visitor	Least Concern
114	Desert Wheatear	*Oenanthe deserti*	Winter visitor	Least Concern
115	Isabelline Wheatear	*Oenanthe isabelina*	Summer breeder	Not Evaluated
Family Sturnidae				
116	Rosy Starling	*Sturnus roseus*	Irregular year-round visitor	Least Concern
117	Common Myna	*Acridotheres tristis*	Resident	Least Concern
Family Sittidae				
118	Kashmir Nuthatch	*Sitta cashmirensis*	Resident	Least Concern
119	Eastern Rock Nuthatch	*Sitta tephronota*	Resident	Least Concern
Family Certhiidae				
120	Bar-tailed Tree creeper	*Certhia himalayana*	Resident	Least Concern
Family Aegithalidae				
121	Rufous-naped Tit	*Parus rufonuchalis*	Resident	Least Concern
122	Great Tit	*Parus major*	Winter visitor	Least Concern
123	White-cheeked Tit	*Aegithalos leucogenys*	Resident	Least Concern

#	English Names	Zoological Names	Category	Status IUCN 2018
Family Hirundinidae				
124	Plain Martin	*Riparia paludicola*	Summer breeder	Least Concern
125	Eurasian Crag Martin	*Hirundo rupestris*	Summer breeder	Least Concern
126	Rock Martin	*Hirundo fuligula*	Resident	Not Evaluated
127	Barn Swallow	*Hirundo rustica*	Summer breeder	Least Concern
128	Red-rumped Swallow	*Hirundo daurica*	Summer breeder	Not Evaluated
Family Pycnonotidae				
129	White-eared Bulbul	*Pycnonotus leucotis*	Resident	Least Concern
Family Cisticolidae				
130	Streaked Scrub Warbler	*Scotocerca inquieta*	Resident	Least Concern
Family Sylviidae				
131	Lesser White Throat	*Sylvia curruca*	Summer breeder	Least Concern
132	Desert Warbler	*Sylvia nana*	Winter visitor	Least Concern
133	Orphean Warbler	*Sylvia hortensis*	Summer breeder	Least Concern
134	Blyth's Reed Warbler	*Acrocephalus dumetorum*	Irregular year-round visitor	Least Concern
135	Clamorous Reed Warbler	*Acrocephalus stentoreus*	Winter visitor	Least Concern
136	Booted Warbler	*Hippolais caligata*	Summer breeder	Least Concern
137	Plain Leaf Warbler	*Phylloscopus affinis*	Summer breeder	Least Concern
138	Sulphur-bellied Warbler	*Phylloscopus griseolus*	Summer breeder	Least Concern
139	Greenish Warbler	*Phylloscopus trochiloides*	Irregular year-round visitor	Least Concern
Family Timaliidae				
140	Common Babbler	*Turdoides caudatus*	Resident	Least Concern
141	Streaked Laughing Thrush	*Garrulax lineatus*	Resident	Least Concern
Family Alaudidae				
142	Bar-tailed Lark	*Ammomanes cincturus*	Resident	Least Concern
143	Crested Lark	*Galerida cristata*	Resident	Least Concern
144	Greater Hoopoe Lark	*Alaemon alaudipes*	Resident	Least Concern
145	Bimaculated Lark	*Melanocorypha bimaculata*	Winter visitor	Least Concern
146	Greater Short-toed Lark	*Calandrella brachydactyla*	Winter visitor	Least Concern
147	Hume's Short-toed Lark	*Calandrella acutirostris*	Summer breeder	Least Concern
148	Eurasian Sky Lark	*Alauda arvensis*	Winter visitor	Least Concern
149	Oriental Sky Lark	*Alauda gulgula*	Summer breeder	Least Concern
Family Passeridae				
150	House Sparrow	*Passer domesticus*	Summer breeder	Least Concern
151	Spanish Sparrow	*Passer hispaniolensis*	Irregular year-round visitor	Least Concern
152	Dead Sea Sparrow	*Passer moabiticus*	Winter visitor	Least Concern

#	English Names	Zoological Names	Category	Status IUCN 2018
153	Eurasian Tree Sparrow	*Passer montanus*	Resident	Least Concern
154	Rock Sparrow	*Petronia petronia*	Winter visitor	Least Concern
155	Citrine Wagtail	*Motacilla citreola*	Summer breeder	Least Concern
156	Yellow Wagtail	*Motacilla flava*	Irregular year-round visitor	Least Concern
157	Grey Wagtail	*Motacilla cineria*	Summer breeder	Not Evaluated
158	Paddy Field Pipit	*Anthus rufulus*	Summer breeder	Least Concern
159	Long-billed Pipit	*Anthus similis*	Resident	Least Concern
160	Red Throated Pipit	*Anthus cervinus*	Irregular year-round visitor	Least Concern
161	Water Pipit	*Anthus spinoletta*	Irregular year-round visitor	Least Concern
162	Black-throated Accenter	*Prunella atrogularis*	Winter visitor	Least Concern
Family Estrildidae				
163	Indian Silverbill	*Lonchura malabarica*	Resident	Least Concern
164	Red Avadavat	*Amandava amandava*	Summer breeder	Least Concern
165	Chaffinch	*Fringilla coelebs*	Winter visitor	Least Concern
166	Brambling	*Fringilla montifringilla*	Winter visitor	Least Concern
167	Fire-fronted Serin	*Serinus pusillus*	Resident	Least Concern
168	Eurasian Gold Finch	*Carduelis carduelis*	Winter visitor	Least Concern
169	Eurasian Linnet	*Carduelis cannabina*	Winter visitor	Least Concern
170	Desert Finch	*Rhodospiza obsoleta*	Resident	Least Concern
171	Trumpeter Finch	*Bucanetes githagineus*	Resident	Least Concern
172	Mongolian Finch	*Bucanetes mongolicus*	Winter visitor	Least Concern
173	Common Rose Finch	*Carpodacus erythrinus*	Summer breeder	Least Concern
174	Red-mantled Rose Finch	*Carpodacus rhodochlamys*	Resident	Least Concern
175	Hawfinch	*Coccothraustes coccothraustes*	Winter visitor	Least Concern
176	White-winged Grosbeak	*Mycerobas carnipes*	Resident	Least Concern
177	Pine Bunting	*Emberiza leucocephalos*	Winter visitor	Least Concern
178	Rock Bunting	*Emberiza cia*	Winter visitor	Least Concern
179	Grey-necked Bunting	*Emberiza buchanani*	Summer breeder	Least Concern
180	White-capped Bunting	*Emberiza stewarti*	Summer breeder	Least Concern
181	House Bunting	*Emberiza striolata*	Resident	Least Concern
182	Black-headed Bunting	*Emberiza melanocephala*	Irregular year-round visitor	Least Concern
183	Red-headed Bunting	*Emberiza bruniceps*	Irregular year-round visitor	Least Concern
184	Reed Bunting	*Emberiza schoeniclus*	Winter visitor	Least Concern
Family Otididae				
185	Houbara bustard	*Chlamydotis undulata*	Irregular year-round	Vulnerable

#	English Names	Zoological Names	Category	Status IUCN 2018
			visitor	
Family Anatidae				
186	Graylag Goose	*Anser anser*	Irregular year-round visitor	Least Concern
187	Common Shelduck	*Tadorna tadorna*	Irregular year-round visitor	Least Concern
188	Ruddy Shelduck	*Tadorna ferrugenia*	Irregular year-round visitor	Not Evaluated
189	Gadwall	*Anas strepera*	Winter visitor	Least Concern
190	Eurasian Wigeon	*Anas penelope*	Winter visitor	Least Concern
191	Mallard	*Anas platyrhynchos*	Winter visitor	Least Concern
192	Common Teal	*Anas crecca*	Winter visitor	Least Concern
193	Northern Pintail	*Anas acuta*	Winter visitor	Least Concern
194	Northern Shoveler	*Anas clypeata*	Winter visitor	Least Concern
195	Marbled Duck	*Marmaronetta angustirostris*	Winter visitor	Vulnerable
196	Common Pochard	*Aythya ferina*	Winter visitor	Vulnerable
197	Tufted Duck	*Aythya fuligula*	Irregular year-round visitor	Least Concern
198	Common Merganser	*Mergus merganser*	Winter visitor	Least Concern

Annexure 4: Baseline Survey Schools Checklist

Date:_____ Time:_____ Surveyor:_____
District:_____ Tehsil/Village:_____
School Name:_____ Primary/Secondary/ Middle /HS:_____
Latitude: _____Longitude:_____
Interviewer Name: _____Cell Number:_____

Questions	Response
General Information (School)	
1. Total area of the school covered/ open?	
2. Amount of plantation area present at school?	
3. Number of students enrolled male and female?	
4. Number of disabled students enrolled in the school?	
5. Type of disabilities in children enrolled?	
6. Number of staff members working in school? (Teachers, administration, Janitor etc.)	
7. How many subject trained teachers are present in the school?	
8. What type of educational training was given to the teachers in past?	
9. Do you have adequate teaching and learning materials in schools in the district?(Books, Library)	
10. What types of teaching/ learning materials are readily available in schools in the district?	
11. Number of drop outs per year?	
12. What are the main reasons for leaving school?	
13. How many children walk to school?	
Infrastructure Utilities Baseline	
14. How many rooms are present in the school?	
15. Does every room have enough light and ventilation for children?	
16. What are the ways of cooling in summers and	

Questions	Response
heating in winters for children?	
17. What is the electricity source of the school? (National grid)	
18. How much electricity consumed per month / year in the school? KwH	
19. What is the water source of the school (municipal supply or ground water)(photograph)	
20. How much water is used in the school (litres /day or gallons /month)?	
21. How much natural /Sui gas is consumed at schools?	
Environmental and Social Baseline	
22. Availability of waste bins in schools?	
23. What type of solid waste generated from the school? (laboratory, computer, municipal, plastic etc.)	
24. How much solid waste (Kg) is generated from school?	
25. What is existing sanitation system at school?	
26. List of chemicals used in school laboratory?	
27. Mention any hazardous chemical used at school laboratory?	
28. Safety measures adopted by school administration for laboratory work?	
29. Water quality of drained waste water/ effluent from schools (testing report)?	
30. Air emission sources from the school?(cars, cooking area)	
31. Number of vehicles visiting schools for pick and drop of children and teachers?	
32. What is existing noise levels at school? (High or low based on visual and hearing observation)	
33. What is the existing drinking water quality at schools? if any testing carried out attach report please	
34. What are the solid waste management practices at	

Questions	Response
present (collection, segregation and disposal)?	
35. Where is solid waste disposed-off at present?	
36. IS there any existing waste water disposal system at school?	
37. Is there any existing drainage system in schools to avoid stagnant water at school play grounds?	
38. Have teachers been informed/ trained on environmental safeguards?	
Health and Safety Baseline	
39. Have teachers been informed on self /children safety in the past?	
40. Type of common diseases in encountered children?	
41. Types of swings installed at school?	
42. Are ramps, handrail and emergency exists in the school?	
43. Children safety practices adopted for accidents at swings and walkways?	
44. In case of medical emergency how children are treated at school?	
45. What is the distance from the nearest medical facility or doctor in case of medical emergency?	
46. In case fire, criminal activity and terrorism what are existing procedures?	
47. Has fire safety equipment installed at schools?	
48. Have contact numbers of fire Brigade and local law enforcement agencies (Police , Rescue 15 , Edhi) displayed at school?	
49. Are medical emergency kits available at schools?	
50. Number of guards in the school?	
51. Are staff member trained in fire safety and emergency procedures? If yes how many	
52. Are there any medical officer deputed at schools?	
53. Number of accidents happened in the past/year of	

Questions	Response
children injured in daily routine?	
54. Are there any incidents of criminal activity in the past?	
55. Are there any incidents of terrorism in past?	
56. What are the general health problems in the community? Malaria, TB, Diarrhoea, Coughing, Vomiting, Skin rashes, Hepatitis, Other	
Water and Sanitation Baseline	
57. Is there functional hand washing area present in the school?	
58. Is there a drinking water facility?	
59. What type of toilet (pour/dry pit) installed in schools?	
60. Number of dysfunctional washrooms?	
61. What is existing water drainage system at school?	
62. How many staff member are deployed for cleaning?	
63. Are children given education on personal hygiene?	
64. How many washrooms are present at school /check cleanliness and photograph?	
Grievance Redress Baseline	
65. Do the schools invite complaints and feedback? Yes___ No___ If No, why?	
66. If yes, how are the complaints documented/recorded?	
67. Is community aware of the GRM System?	
68. Do communities know where to lodge complaint?	
69. How are these complaints recorded/documented?	
70. How long does it take to respond back to the registered complaint?	
71. Do communities use any government systems? i.e. helplines, complaint boxes etc.	
72. Do communities complain to other systems i.e.	

Questions	Response
Ombudsman, Pakistan Citizens Portal?	
73. Does the school respond to the complaints by community/students /parents?	
74. Is there a grievance manual for staff?	
75. Have there been any complaints in past handled by the police and court?	
76. Are inquiries and responses to all grievances recorded?	
77. Can the grievance mechanism be accessed free of charge?	
78. What ways are used by the organization to resolve grievances?	
79. Does the organization provide training on grievance management to staff?	
Voluntary Land Donation Baseline	
80. Will land be donated voluntarily? Yes/No	
81. If No, explain how land will be obtained (e.g. state-owned land, required land already available with the facility, any other)	
82. If yes, does the owner been made aware of VLD nature and procedure?	
83. Has the landowner agreed to sign the VLD documents?	
84. Can the owner produce land title deeds/documents of ownership?	
85. Are there any tenants on the land?	
86. If yes, describe the number of tenants, gender and type of tenancy and length of residence.	
87. If yes, are tenants willing to move?	
88. Will there be adverse impacts on tenants? Describe in remarks column.	
89. Are there people using the land for livelihoods, cultural activities? Yes/No	
90. If yes, how many people? Gender? Type of activity?	

Questions	Response
91. How will voluntary land donation effect people using the land?	
Community Socioeconomic Baseline	
92. What are the major economic activities of people?	
93. What are the income sources?	
94. What is the cost of sending a child to school per year/term?	
95. Type of access roads in the community? Main roads and connecting street roads Kaccha /paccha	
96. Means of transportation used in the area? Cars, donkey carts etc	
97. Is there any agricultural activity or fruit orchards?	
98. How do locals send their children to school?	
99. Number of mosques and cultural heritage sites present near the school?	
100. Have there been cases of gender based violence reported in the school?	
101. What kind of cases was reported in the past?	
102. Do you feel any threat of gender based violence you may encounter due to the project?	

Photographic Evidence

Observations/Suggestions:-

1	6
2	7
3	8
4	9
5	10

Annexure 5: Public Consultation Questionnaire

Name:_____ Age: _____ Gender:_____
Date: _____ Time: _____ Village: _____
District:_____ Tehsil: _____
Latitude: _____ Longitude: _____
Interviewer Name: _____ Language:_____

Section 1: Environment & Social Safeguard

1) How do you think the Project would help improve utilization of quality health and education services to local communities?

2) The Project will involve construction and rehabilitation work, what are your concerns regarding environmental and social impacts?

3) The Project is likely to upgrade the existing facilities; what are your suggestions regarding Project interventions?

4) What are your suggestions about the proposed Project so as to maximize benefits?

_____

_____

_____

_____

Section 2: Gender Based Violence

1) Do you feel that that there is risk of Gender-based violence (GBV) or harassment during construction?

_____
_____
_____

2) Will there be restriction on mobility of students and teachers during construction?

If yes, how?

_____

If no, why?

_____

3) What are the disturbances caused to teachers and students during construction?

_____
_____
_____

4) Will the continuous noise caused by construction an issue to teachers/students?

If yes, how?_____

If no, why?

_____

5) What sort of Risk Mitigating Measures do they want in order to maintain safety and security during construction?

_____
_____
_____

Annexure 6: Record of Institutional Stakeholder Consultations

Group1: Education

Stakeholder(s):	1. University of Balochistan 2. Secondary Education Department 3. WESS
Date:	November 21, 2019
Time:	10:00 am
Meeting Venue:	Metro Hotel, Gurdat Singh Road, Quetta, Balochistan
Attended by:	1. Ms. Bushra Batool, Chairperson Department of Education, University of Balochistan 2. Mr. Asif Ali, Deputy Secretary, Secondary Education Department 3. Mr. Syed Samiullah, Project Manager, WESS 4. Miss Urooj Fatima, Business Development Officer, Associates in Development Pvt. Ltd. 5. Kiran Mushtaq, PMU-BESP 6. Mr. Muhammad Shafiq, Field Staff 7. Mr. Mir Waqas, Field Staff
Conducted by:	Ms Nazia Zakir Ahmed, Environmental Practitioner Ms. Urooj Fatima, Business Development Officer – Associates in Development Pvt. Ltd.
Recorded by:	Urooj Fatima
Language:	English, Urdu
Information Provided:	The discussion started with the introduction of the Stakeholder Consultation Meeting team. Ms. Nazia Zakir Ahmed briefed the participants about the purpose of the meeting and gave a comprehensive description of the project with the help of presentation. The participants raised queries during presentation. At the end of the informative session, Ms. Nazia encouraged the participants to express or share their concerns. The issues/concerns raised are discussed below with responses given by Ms. Nazia.

No.	*Issues Raised*	*By*	*Response Provided*
1.	There are service related issues in Balochistan. Service delivery is weak, however, government gives allowances to doctors who are giving their services in the far flung areas of Balochistan but still the staff is not present in the hospitals.	Asif Ali	There will be proper monitoring systems proposed in PC1 for ensuring that staff is present in the hospital.
2.	Make health committee who will work with health department to ensure the presence of staff and medicines.	Kiran Mushtaq	project committees will ensure that the staff hired under the project report at their location.
3.	The veterinary medicines are given to people of Balochistan. There are expired edibles in utility stores. Who will keep a check on the expired medicines?	Bushra Batool	People will be trained and taught about the damage they are causing to the patients with veterinary medicines. There will be a proper

No.	*Issues Raised*	*By*	*Response Provided*
			monitoring system on the supply of medicines. The store would be sealed if caught providing expired medicines.
4.	It is difficult in Balochistan to differentiate between Refugees and host population.	Bushra Batool	The project areas are selected on the basis of having large number of refugee population.
5.	Chagai has a dispersed population. The doctors who belong to Chagai and are hired to work in this district, do not stay in there. Urbanization has been a major issue of this area.	Bushra Batool	Doctors will be given different incentives to stay in the district. Urbanization, however, is a global issue.
6.	On district level, tests are not conducted properly in RHCs. Same machines are kept in the same hospitals for 15 years.	Asif Ali	There will be proper training of lab staff. Already kept machines and equipment will be replaced with the new ones if needed.
7.	Technicalities of using a machine is hard to grasp for people. People are not allowed to touch the machines since they are expensive. The machines are just kept in the hospitals unused, non-functional or out of order.	Bushra Batool	The machines will be used after giving proper training to the staff.
8.	The hierarchical system of Balochistan is not very efficient. The relevant departments of districts do not report properly to its other respective departments which is why the information gets lost in between. There is a communication gap since the districts are very far away from one another.	Asif Ali	There would be different focal persons for better coordination, exchange of information and reducing the communication gaps within departments.
9.	There is a complete lack of awareness and ownership in communities of Balochistan.	Asif Ali	Awareness would be raised in the communities.
10.	Small medical stores are raided sometimes and sealed because of selling/keeping expired medicines, however, in big hospitals if medicines expire, the hospital sends it back to the company who manufactures/sells it. The company changes the date of the same medicines and sends them to that big hospital.	Bushra Batool	The project will purchase medicines from patent suppliers
11.	The students of schools should be allowed to go to labs and playgrounds. There is no library period in schools. Students should be encouraged to go to the libraries. There should be a library assistant to assist students in reading books and storytelling.	Bushra Batool	It can be proposed in schools' teacher's and management's training.
12.	There should an assignment of planting a tree be assigned to students in each class. It must be mandatory and students must not pass without doing this assignment.	Bushra Batool	Noted.
13.	Government officials should also be given	Kiran Mushtaq	Noted. However, the budget would be kept in

No.	*Issues Raised*	*By*	*Response Provided*
	incentives for planting trees.		mind for providing the incentives at this stage.
14.	Books related to Environment, DRR and WASH should be included in the syllabus of students.	Syed Samiullah	Will be advised.
15.	Teachers in Balochistan do not know what environment is.	Syed Samiullah	It is important to train teachers in this regard.
16.	Plants that require less watering should be planted because the districts already lack water facility.	Syed Samiullah	Noted .
17.	Politicians should be trained and told the importance of the safeguarding environment they live in. They should be fully involved in it.	Syed Samiullah	Will be proposed.
18.	In terms of better schools, Pishin is second in the list after Quetta.	Syed Samiullah	Acknowledged.
19.	There's amazing infrastructure of hospitals but no doctors are there in Pishin to deliver their services.	Syed Samiullah	Doctors would be given incentives/allowance.
20.	Involve Revenue Department in Voluntary Land Donation process.	Asif Ali	Noted.
21.	Awareness should be raised about GRM among community members.	Mir Waqas	There will be awareness sessions to inform communities about how and where to lodge their complaints.
22.	There should be a focal person on district level to take complaints on District level.	Asif Ali	Noted.
23.	RHC Orangzai in Pishin must be upgraded. It has a big number of refugees' population.	Syed Samiullah	The list is under consideration based on specific criteria.
24.	Boys Primary School in Killa Abdullah named Killa Joi Kuluck must also be upgraded.	Syed Samiullah	The list is finalized.

Group 2 Health and Education

Stakeholder(s):	1. PMU 2. BESP PMU 3. Health Department 4. NCHD
Date:	November 21, 2019
Time:	2:00 PM
Meeting Venue:	Metro Hotel, Gurdat Singh Road, Quetta, Balochistan
Attended by:	1. Engineer Abdul Latif, SDE PMU 2. Mr. Fazal Kakar, Senior EO, PMU 3. Mr. Muhammad Ashraf, SDE, PMU 4. Engineer Abdul Jalil, Development Specialist, BESP PMU 5. Ms. Kiran Mushtaq, ESO, PMU-BESP 6. Mr. Shoukat Ali Baloch, Public Health Specialist, Department of Health 7. Mr. Sikandar Jillani, Director Operations, NCHD
Conducted by:	Ms Nazia Zakir Ahmed, Environmental Practitioner Ms. Urooj Fatima, Business Development Officer – Associates in

	Development Pvt. Ltd.
Recorded by:	Urooj Fatima
Language:	English, Urdu
Information Provided:	The discussion started with the introduction of the Stakeholder Consultation Meeting team. Ms. Nazia Zakir Ahmed briefed the participants about the purpose of the meeting and gave a comprehensive description of the project with the help of presentation. The participants raised queries during presentation. At the end of the informative session, Ms. Nazia invited the participants to express or share their concerns. The issues/concerns raised are discussed below with responses given by Ms. Nazia.

No.	*Issues Raised*	*By*	*Response Provided*
1.	There should be a child friendly atmosphere in schools to attract students to come to schools. i.e. Students should be allowed to play in sports area.	Abdul Jalil	While construction, this aspect will be kept in mind. i.e. play grounds and swings for the children.
2.	Some schools are in the far flung areas of Balochistan. Teachers and drivers do not go to these schools because they can't afford the transportation cost. In Balochistan, except for Quetta, there should be rooms made for teachers' stay in order to reduce their cost of coming to schools for teaching.	Fazal Kakar	The teachers who are providing their services to the far flung areas will be given some incentives.
3.	Facilities including proper security should be given to teachers.	Shoukat Ali	Noted.
4.	Menstrual Health and WASH related facilities should be given to girls. There should be separate washrooms for girls in schools and hospitals.	Shoukat Ali	Separate washrooms would be made for girls in schools and hospitals.
5.	Enrolment in schools increases due to child friendly atmosphere.	Abdul Jalil	Acknowledged.
6.	One of the schools should be made a child friendly centre in each district or one of the schools could be used as a child friendly centre after school hours for out of school children.	Shoukat Ali	Can be proposed.
7.	Schools should be made for second chance learners.	Sikandar Jillani	Noted.
8.	There should be proper training of people for using solar panels.	Sikandar Jillani	Training sessions will be conducted.
9.	Solar heaters should be proposed with solar panels.	Sikandar Jillani	Solar heaters will be proposed.
10.	VLD is an issue in Balochistan. There was an archaeological site in district Bolan which was 3000 year older than Moen Jo Daro. It was called the Mother of Civilizations. Two claimers of the same land had fight over the land and they destroyed the entire civilization. This unfortunate incident was notified in UNESCO.	Sikandar Jillani	It has already been decided by the health and education department that they will provide those lands which are easily available in the vicinity of project areas. And if the land is acquired through VLD then only those lands will be acquired which have lesser conflicts to resolve.

11.	It is easier to have a proper GRM in schools.	Sikandar Jillani	GRM will be formed in schools.
12.	There are some functional committees to lodge complaints. There is also a CMS where an online complaint can be lodged.	Sikandar Jillani	Project has developed/ ESMF has proposed a GRM that will ensure such complaints are registered, monitored and resolved.
13.	In health department, there is a complaint cell of every department on provincial level. There is no proper complaint system. Complaints can be lodged writing a letter to DHO.	Shoukat Ali	Project has developed/ ESMF has proposed a GRM that will ensure such complaints are registered, monitored and resolved.
14.	There is a PM portal as well where complaints can directly be sent to the Prime Minister. But the issue here is that people can bring out their personal grudges by using this portal.	Shoukat Ali	PM Portal can be used to take the complaints. However, the issue of bringing personal grudges can be addressed if the staff can justify the reasons and provide proofs of not being at fault.
15.	DHMC (District Health Management Committee) should be revamped for taking complaints. There should be monthly meeting for this cause.	Shoukat Ali	Noted.
16.	There should be departmental coordination between Education and Health.	Shoukat Ali	Noted. Quarterly meetings can be suggested for better coordination.
17.	There should be a joint venture of both health and education departments.	Sikandar Jillani	Noted.
18.	A referral system for serious cases should be formed.	Sikandar Jilani	Noted.
19.	There should be three tiers of health and education for lodging a complaint. i.e. VHC, DHC and Court of law in health and PTSMC, DCR and DEC in education.	Sikandar Jillani	Noted.
20.	PM portal in Balochistan is copied from the KP government. It has proved to be effective.	Sikandar Jillani	PM portal is an effective mode of lodging the complaints.
21.	VLD will cause trouble in Balochistan. It is advised that once the land is donated, start construction as soon as possible because there is a mafia of claimers who would claim that the land belong to them even if it does not.	Sikandar Jillani	The advice is noted, however, it has already been decided by the health and education department that they will provide those lands which are easily available in the vicinity of project areas. If the land is acquired through VLD

			then only those lands will be acquired which have lesser conflicts to resolve.
22.	People must be told before that they would not be getting anything as a reward of donating lands. People in past have got jobs in exchange of donating their lands.	Sikandar Jillani	People will be told before that this is a voluntary land donation which will not reward in anything.
23.	There should be a forum where DHEMT (District Health Education Management Team) will come in order to have an effective coordination. A strict action should be taken against the members who don't attend it.	Shoukat Ali	Noted.
24.	There should be 2 PMUs and one DMU on provincial levels to implement Environmental Plan. There should also be an Environmental Specialist, and then a Safeguard Specialist and finally District officers / District focal persons to implement environmental plan.	Shoukat Ali, Sikandar Jillani	The team hierarchy is noted and will be advised.
25.	There should be a single person in both health and education department to coordinate and supervise. On district level, there would be 4 people for this task. These people should be from the permanent staff. They should be given role to perform. In education department, staff from administration department can play this role.	Shoukat Ali	Noted and will be communicated. Here possible existing staff will be used for project implementation.

Group 3

Organization(s):	1. PMU-SED 2. BESP
Date:	November 22, 2019
Time:	10:00 AM
Meeting Venue:	PMU
Attended by:	1. Mr. Muhammad Rafay Durrani, M&E Officer 2. Mr. Habitan Umer, EO 3. Mr. Aftab Ahmed, EO 4. Mr. Gulzaman Alizai, EO 5. Mr. Fareedullah Khan, Manager Development 6. Mr. Abdul Basit, School Development Engineer 7. Mr. Abdul Wahab, Development Coordinator 8. Mr. Latif, Engineer SDE 9. Mr. Dilawar Khan, SDE 10. Mr. Noman Razzaq, M&CC 11. Ms. Kiran Mushtaq, ESO 12. Ms. Safia Noor, Education Specialist 13. Mr. Muhammad Ashraf, School Development Engineer
Conducted by:	Ms Nazia Zakir Ahmed, Environmental Practitioner Ms. Urooj Fatima, Business Development Officer – Associates in Development Pvt. Ltd.

Recorded by:	Urooj Fatima
Language:	English, Urdu
Information Provided:	The discussion started with the introduction of the Focus Group Discussion team. Ms. Nazia Zakir Ahmed briefed the participants about the purpose of the meeting and gave a comprehensive description of the project with the help of presentation. The participants raised queries during presentation. At the end of the informative session, Ms. Nazia invited the participants to express or share their concerns. The issues/concerns raised are discussed below with responses given by Ms. Nazia.

No.	*Issues Raised*	*By*	*Response Provided*
1.	Waste output specifically the liquid waste is expected to be very low in schools. Thus, a treatment plant may not be required in schools. Schools are completely deprived of water including water for drinking and washroom purposes. Installation of the treatment plant would not be a feasible plan.	Fareedullah Khan	Water treatment plant will not be proposed for schools.
2.	Children in schools bring their water bottles with them. It is advised that the children must be asked to water the plants with the remaining water in bottles when leaving for home.	Safia Noor	Noted.
3.	GRM already exists in schools in the form of PTC. Teachers are given trainings on how to resolve conflicts among themselves, children and parents.	Safia Noor	Parent-teacher meeting is one of the aspects of the project. Parents and teachers will further be trained on lodging their complaints and getting their issues resolved through PTC.
4.	In order to lodge complaints, there exist a Grievance Redress Mechanism and committees on district level but the local community members are not aware of it.	Fareedullah Khan	Communities will be given awareness about the GRM.
5.	Voluntary Land Donation would be a challenge in a province like Balochistan as it has unsettled lands and a single land has multiple owners.	Safia Noor	It has already been decided by the health and education department that they will provide those lands which are easily available in the vicinity of project areas. I the land is acquired through VLD then only those lands will be acquired which have lesser conflicts to resolve.
6.	There should be more trainings for engineers on Environment Safeguard and the Education team must be trained on Social Safeguard.	Kiran Mushtaq	Noted.
7.	There should be solar fans in schools which will be operated on Direct Current (DC). If solar panels are installed then one of the natives of the community, who possesses the sense of	Habitan Umer	Solarization is proposed in the project

No.	*Issues Raised*	*By*	*Response Provided*
	ownership, must be trained to operate it properly.		
8.	Ownership of all sort of investments including the ownership of infrastructure should be given to the community members with an involvement of PTMC.	Muhammad Rafay Durrani	Noted. This can be proposed.
9.	There has never been any budget assigned for environment safeguards.	Habitan Umer	It is important to train the authorities on environmental impacts and its safeguard in order to bring their attention to this important neglected global issue.
10.	There are no water pipe connections or bore water. Schools are deprived of water facilities. One of the major reasons of girls' drop out is that the school does not have water facilities. It is advised that there must be bore water even if the project has to reduce the cost invested in construction of classrooms due to providing the bore water facility.	Habitan Umer	Proposing Solar bores where water is unavailable.
11.	Where there is bore water facility, there is greenery found in the vicinity of that specific area. If not all, at least the High and Middle schools should have the bore water facility to resolve the issue of WASH.	Habitan Umer	Acknowledged.
12.	Due to lack of awareness in students and sometimes teachers, expired medicines in first aid kits are used. Medicines should not be put in the first aid kit. High schools' students should be given tablets and middle schools' students should be given the syrups.	Muhammad Raffay Durrani	Edible medicines must be placed in the principal's office. First aid training for teachers and staff will be organised at each school. Bandage and related medical supplies can only be kept with teachers..
13.	There should be material i.e colourful pictures, action pictures pasted on the walls of schools to raise awareness amongst students. Colours and diagrams are a source of fascination for children which they find hard to resist and eventually read what the material is all about.	Muhammad Raffay Durrani	Most of the schools have colourful charts and action pictures pasted on the walls. However, if not, the school management can be advised on practicing it.

Group 4: Health

Stakeholder(s):

1. EPI Balochistan
2. Lady Health Worker
3. EPI PHQ
4. PPHI Balochistan
5. SCAP Balochistan
6. PHS Health

	7. DGHS 8. Health Department 9. MNCH – DOH
Date:	November 22, 2019
Time:	01:00 PM
Meeting Venue:	Secretariat
Attended by:	1. Mr. Sanjay Kumar, Financial Management Specialist, EPI Balochistan 2. Dr. Imdad Achakzai, Deputy Program Coordinator, Lady Health Worker 3. Dr. Ishaq Panezai, DPC, EPI Balochistan 4. Mr. Muhammad Akbar Khan, Director Monitoring, Evaluation & Reporting 5. Mr. Shoaib Menegal, Admin Officer, SCAP Balochistan 6. Ms. Zarish Sharaf, Program Officer, SCAP Balochistan 7. Mr. Shoukat Ali, PHS Health 8. Mr. Shokat Ali, Director Public Health, DGHS 9. Mr. Amin Khan, Director Health Department 10. Dr. Sarmad Khan, DPC, MNCH DOH 11. Dr. Saeed, DHO Quetta, Health Department 12. Dr. Shakar Baloch, DG Health Department 13. Mr. Abdul Rasool Zehri, Chief Planning Officer, Health Department
Conducted by:	Ms Nazia Zakir Ahmed, Environmental Practitioner Ms. Urooj Fatima, Business Development Officer – Associates in Development Pvt. Ltd.
Recorded by:	Urooj Fatima
Language:	English, Urdu
Information Provided:	The discussion started with the introduction of the Stakeholder Consultation Meeting team. Ms. Nazia Zakir Ahmed briefed the participants about the purpose of the meeting and gave a comprehensive description of the project with the help of presentation. The participants raised queries during presentation. At the end of the informative session, Ms. Nazia invited the participants to express or share their concerns. The issues/concerns raised are discussed below with responses given by Ms. Nazia.

No.	*Issues Raised*	*By*	*Response Provided*
1.	There are incinerators in hospitals already but they are non-functional. The incinerator was also installed in Fatima Jinnah Women University and it is non-functional as well.	Amin Khan	People will be trained about how to use the incinerators properly. They will be told the importance of using it. A proper check would be kept on whether the incinerators are in use or not.
2.	If new staff is hired and trained, they are used throughout the project but as the project ends, the staff is gone. It leaves a big impact on project's sustainability.	Amin Khan	The existing staff will be used in the project. Those who are permanent and non-

No.	*Issues Raised*	*By*	*Response Provided*
			transferable.
3.	Highlight Political Impacts with Environmental Impacts in this project.	Amin Khan	Will be proposed.
4.	There is no ambulance in Balochistan that has ventilation in it.	Amin Khan	Ambulances with the ventilation will be proposed.
5.	PMU of Education & Health should be one.	Amin Khan	The education and health are complete separate entities. However, the suggestion can be put forward.
6.	Install incinerators in DHQs.	Abdul Rasool Zehri	Noted.
7.	Incinerators cannot work in Chagai since the district doesn't have electricity and gas facilities.	Abdul Rasool Zehri	Solar incinerators will be proposed.
8.	There are no lady doctors in the far flung areas of Chagai that is why ladies have to move to other districts for major or critical operations and surgeries.	Abdul Rasool Zehri	Local lady doctors will be proposed for hospital in far flung areas like Chagi.
9.	THQs (Tertiary Head Quarters) are very less in Chagai. Vehicles can be used to rotate in Chagai and collect wastage from there. This can be done through outsourcing or using a contractor.	Abdul Rasool Zehri	EHCWMP is being prepared
10.	There should be one incinerator in one DHQ at least.	Abdul Rasool Zehri	Noted.
11.	Sheikh Zahid Hospital in Quetta can be used as a spot where all the waste will reach. It is a huge hospital and can cover 3 to 4 hospitals. The hospital needs updation though.	Abdul Rasool Zehri	During project executingon existing incineration in the district will also be eavluaued for waste disposal
12.	VLD would be difficult in Quetta.	Abdul Rasool Zehri	Acknowledged.
13.	If incinerator is not installed in DHQ, install it in RHC. An RHC named Panjpai is suggested.	Abdul Rasool Zehri	Noted.
14.	Use DC(Direct Current) in solar panels.	Shoukat Ali	Noted.
15.	Provide electricity all day to three critical units of hospitals i.e. EPI room, gyni and emergency rooms	Shoukat Ali	Generators would be given to these units.
16.	There should be separate PMUs of Education & Health.	Abdul Rasool Zehri	Already proposing it.
17.	Provide bore water facility to DHQs and provide connectivity through it to other connected areas.	Abdul Rasool Zehri	Proposing solar bores.

Annexure 7: Checklist of Likely Environmental and Social Impacts of Sub-projects

This Form is to be used by the Engineers and Environmental and Social Focal Persons (ESFPs) in screening subproject applications/proposals for which ESMPs are not required. This checklist is designed to cover social and environmental impacts of upgradation/rehabilitation of schools and health facilities.

Note: This form and accompanying documentation to be maintained in the office of the relevant implementing agency/PMU

a. Name of Sub-project:
b. Sub-project location:
c. Sub-project objective:
d. Sub-project Location:
e. Infrastructure to be rehabilitated/upgraded:

Issues	**Yes**	**No**	**Mitigation Measures proposed**	**Monitoring for compliance**
Zoning and Land Use Planning				
Will the subproject involve significant land disturbance or site clearance?				
Will the subproject land be subject to potential encroachment by urban use?				
Water and Soil Contamination				
Will the subproject require large amounts of raw materials or construction materials?				
Will the subproject generate large amounts of residual wastes, construction material waste or cause soil erosion?				
Will the subproject result in potential soil or water contamination (e.g., from oil, grease and fuel from equipment yards)?				
Will the subproject lead to contamination of ground and surface waters				
Will the subproject involve the use of chemicals or solvents?				
Will the subproject lead to the destruction of vegetation and soil in the				

right-of-way, borrow pits, waste dumps, and equipment yards?				
Will the subproject lead to the creation of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors?				
Noise and Air Pollution Hazardous materials				
Will the subproject increase the levels of harmful air emissions?				
Will the subproject increase ambient noise levels?				
Will the subproject involve the storage, handling or transport of hazardous substances?				
Fauna and Flora				
Will the subproject involve the disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes)?				
Will the subproject lead to the disruption/destruction of wildlife habitat due to noise-related problems?				
Destruction/Disruption of Land and Vegetation				
Will the subproject lead to unplanned use of the infrastructure being developed?				
Will the subproject lead to erosion of lands?				
Cultural Property				
Will the proposed project constrain access to cultural sites for the communities?				
Will the subproject have an impact on archaeological or historical sites, including historic urban areas?				
Will the subproject have an impact on religious monuments, structures and/or cemeteries?				
Social Disturbance				
Will the subproject involve demolition of existing structures?				
Will the subproject lead to induced settlements by workers and others causing social disruption?				
Will the subproject lead to environmental and social disturbance by construction camps?				
Is the proposed project likely to				

negatively affect the income levels or employment opportunities of vulnerable groups?				
Social Equity and Equality				
Would the proposed subproject have environmental and social impacts that could affect vulnerable groups?				
Is the subproject likely to negatively impact women?				
Is the proposed subproject likely to directly or indirectly increase social inequalities now or in the future?				
Will the proposed project have variable impacts on women and men, different ethnic groups, social classes?				
Have there been challenges in engaging women and other certain key stakeholder groups in preliminary discussions for this project?				
Is the project likely to attract forced labor and/or child labor?				
Demographics				
Would project likely to cause overload of social infrastructure in the project area (e.g. health facilities, schools, water supply)?				
Would the proposed project result in involuntary resettlement of populations?				

Construction Site issues

Does the subproject require land acquisition? * *[Note: Fill in the land acquisition form if YES] Refer to Resettlement Action Plan Framework*				
Is the sub project located on land with contested ownership?				
Is the sub project located in an area with security problems?				
Is the subproject located in an area with designated natural reserves?				
Is the subproject located close to groundwater sources, surface water bodies, water courses or wetlands**?**				
Is the project located in an area where IDPs/refugees are temporarily settled?				
Is the subproject located near a waste dump?				
Does the subproject have access to potable water?				

Is the subproject located in an area with a wastewater network?				
Is the subproject located far (1-2 kms) from accessible roads?				

Prepared by Field Engineer

Name:

Date:

Signature:

Verified by Environmental Safeguard Focal Person

Name:

Date:

Signature:

Annexure 8: Physical Cultural Resource (PCR) Management Framework/Chance Find Procedure

A. The PCR Management Framework

The PCR Management Plan can constitute a section of the Environmental Management Plan, if one is required. The Management Plan should clearly:

- Schedule the implementation of the proposed PCR mitigating measures and PCR monitoring, if any, taking into account the weather pattern, and identify roles and responsibilities for such implementation;
- Identify procedures for handling chance finds, including the role and responsibilities of the cultural authorities and the contractor; and
- Identify procedures for addressing PCR impacts which may occur during implementation but were not predicted in the impact assessment.

The following are the main considerations guiding the preparation of the PCR Management Plan.

1. Policy, Legal and Regulatory Framework

This section should contain reference to the following, including identification of any implications for the PCR component of the ESMP, such as special standards or requirements:

- The World Bank's EA policy OP/BP 4.01 and the PCR policy OP/BP 4.11;
- Sections of national EIA laws, regulations and guidelines relating to PCR;
- Sections of the national environmental conservation strategy, if any, relating to PCR;
- Legislation and regulations relating to:
  - Antiquities, including sale and export;
  - Procedures for addressing chance finds, in terms of ownership and requirements by the contractor and cultural authorities;
  - Archaeology, including the issue of permits.
- Relevant authorities charged with PCR identification, protection and management, their powers, the legal basis for their authority, and their actual capacity;
- PCR-related conventions and treaties to which the borrower country is signatory;
- Sites in the borrower country currently listed by other international agency in the field of PCR such as the World Monuments Fund, or ICOMOS, as being of national or international importance;
- Any national or provincial registers of PCR maintained by accredited authorities in the borrower country.

2. Project Description

The project description should detail construction and operation phases, including maps, diagrams and plans of planned activities. The description should take into consideration any potential impacts on PCR of planned activities, construction/rehabilitation processes, transport arrangements, etc.

3. Analysis of Alternatives

In cases where there are major PCR issues, the analysis of alternatives should consider alternative project sites or technologies that could specifically avoid or minimize those impacts on PCR.

4. Baseline Data

The baseline data should begin with an investigation and inventory of PCRs likely to be affected by the project. The data should consider all types of PCR that might be impacted, covering:

- Living-culture PCR, as well as historical, archaeological and paleontological PCR;
- Natural and human-made PCR;
- Movable and immovable PCR;
- Unknown or invisible PCR.

The data collection activity should involve consultations with concerned parties and potentially affected communities. Potential data sources might include cultural authorities, national or provincial PCR registers, universities and colleges, public and private PCR-related institutions, religious bodies and local PCR NGOs. Sources at the community level typically include, for example, community leaders and individuals, schools, religious leaders, scholars, PCR specialists, and local historians. The baseline data section should include maps showing PCR baseline data within the potential impact areas. In addition, data should detail the cultural significance or value attributed by the concerned or affected parties to the PCR identified in the baseline. Consultation is a particularly important means of identifying PCR and documenting their presence and significance. This will normally not be expressed in monetary terms, but rather should explain the nature of the cultural significance, for example whether it is religious, ethnographic, historic, or archaeological. In the case of PCR of archaeological, architectural, paleontological or other scholarly or scientific value, the PCR Management Plan should provide an assessment of the relative importance of the PCR in this regard locally, nationally and/or internationally.

5. Impact Assessment

PCR should be included in the impact matrix and PCR impacts for each project stage – construction/rehabilitation, operation, etc. – should be detailed. The PCR Management Plan should specifically describe the nature and extent of the potential impacts and state precisely why they are considered to be significant or insignificant. The impact assessment should also consider the possibility of accidents during construction/rehabilitation and operations which might affect PCR, especially in urban settings, which might call for special precautionary measures.

6. Mitigation Measures

It is particularly important that consultations with concerned and affected parties are conducted on the proposed mitigation measures relating to PCR impacts. Agreements must be reached and evidence of such agreements should be included in PCR Management Plan. It should be checked whether the recommended mitigation measures might themselves have environmental impacts (e.g. archaeological excavations). PCR Management Plan should detail the cost of implementing and the timing of the recommended PCR mitigation measures.

B. Chance Find Procedures

Chance find procedures which will be used during this Project are as follows:

- Stop the construction activities in the area of the chance find;
- Delineate the discovered site or area;
- Secure the site to prevent any damage or loss of removable objects. In cases of removable antiquities or sensitive remains, a night guard shall be present until the responsible local authorities and the Ministry in charge of Department of Archaeology take over;
- Notify the supervisory Engineer who in turn will notify the responsible local authorities and the Ministry immediately (within 24 hours or less);
- Responsible local authorities and the Ministry in charge of Department of Archaeology would be in charge of protecting and preserving the site before deciding on subsequent appropriate procedures. This would require a preliminary evaluation of the findings to be performed by the archaeologists of the Department of Archaeology and Museums (within 72 hours). The significance and importance of the findings should be assessed according to the various criteria relevant to cultural heritage; those include the aesthetic, historic, scientific or research, social and economic values;
- Decisions on how to handle the finding shall be taken by the responsible authorities and the Ministry in charge of Department of Archaeology. This could include changes in the layout (such as when finding an irremovable remain of cultural or archaeological importance) conservation, preservation, restoration and salvage;
- Implementation for the authority decision concerning the management of the finding shall be communicated in writing by the Ministry in charge of Department of Archaeology; and
- Construction work could resume only after permission is given from the responsible local authorities and the Ministry in charge of Department of Archaeology concerning safeguard of the heritage.

These procedures must be referred to as standard provisions in construction contracts, when applicable. During project supervision, the Site Engineer shall monitor the above regulations relating to the treatment of any chance find encountered or observed.

Annexure 9: Health Care Waste Management Plan Checklist for BHUs/ RHCs/ THQ/ DHQs

DISTRICT---------- Tehsil ---------- Date----------
HOSPITAL/BHU/RHC/DHQ ----------No of beds ----------
Name of In -charge----------Cell Number----------
Catchment Population----------Interviewers Name: ----------

S/N	Activities /linked	Yes	No	Remarks
1 -PLAN AND ACTION FRAMEWORK				
1.1	Hospital waste management plan has been prepared			
1.2	A dedicated Hospital waste management committee and its notification (DHQ and RHC) & Focal person at BHU			
1.3	Hospital waste management review meeting is conducted once a month (minutes of meetings available)			
1.4	Daily waste generation record is maintained.			
1.5	Training of healthcare/ Sanitary workers & evidence training on HCWM			
1.6	Refresher trainings of Health Care Professional (HCP) and Sanitary workers HCWM			
1.7	Has health Committee notified for health care units			
1.8	Evidence of Health Committee meetings (minutes are available; participation record is maintained)			
2 -PERSONAL PROTECTION				
2.1	Health care workers are wearing proper PPE.			
2.2	Mask			
2.3	Gloves			
2.4	Head Covers at critical times			
2.5	Gowns & shoe covers			
2.6	Hard sole long boots			
3 -WASTE COLLECTION/SEGREGATION& STORAGE AT WARDS				
3.1	Set of two small waste bins are placed along each bed side			

	(white for municipal waste and yellow for infectious waste) for primary collection.			
3.2	I set (3 in number) of large color coded waste bins are present near nursing station in all wards.			
3.3	Yellow for infectious waste			
	Red bin for glass waste			
	White bin for municipal waste			
3.4	Waste bins are lined with same colour waste bags.			
3.5	Large Waste bins are properly marked and remained closed			
3.6	Waste is collected daily from the wards/units			
3.7	Waste bag is sealed, indicating time for collection, ward, total weight, responsible person and biohazards symbol is mentioned.			
4-TRANSPORTATION OF THE WASTE TO YELLOW ROOM				
4.1	Waste is transported through four wheeled dedicated trolleys which are covered, safe and leak proof at DHQ & RHCs level only			
4.2	Infectious waste is transported through YELLOW color trolleys at DHQ and RHC only			
4.3	Non-infectious waste (Municipal waste) is transported through white color trolleys at RHC only			
5-STORAGE AT YELLOW ROOM				
5.1	Yellow room with lock and key (security ensured)			
5.2	Waste is disposed of within 24 hours			
5.3	Cleanliness of YELLOW room. Disinfections with 0.5% chlorine solution once in a week.			
6-WASTE TRANSPORTATION FROM YELLOW ROOM TO DISPOSAL SITE				
6.1	Waste is transported through fabricated yellow vehicles to disposal site			
6.2	Waste is transported in covered trolley within the facility			
6.3	Waste is transported to open dump sites			

7- DISPOSAL OF WASTE AT INCINERATOR SITE				
7.1	For proper disposal of the waste, incinerator is installed (DHQ and RHC only)			
7.2	All waste is burnt in the brick kiln small scale incinerator			
7.3	Waste is disposed in open dump sites			
7.4	Waste is burnt in the vicinity of the health facility			
7.5	Landfill for infectious waste is present			
8-DISPOSAL OF PLACENTA & OTHER ORGANS				
8.1	A well-structured, covered burial pit is present to dispose the placenta and other body parts			
8.2	Burial pit is 500 meters away from the drinking water sources.			
8.3	Burial pit is properly locked			
8.4	Waste is thrown in to burial pits after removing plastic bags			
8.5	Only anatomic & placenta are disposed in burial pit.			
9-DISPOSAL OF SYRINGES				
9.1	Injection safety protocol is present			
9.2	Good quality needle cutters are used to cut needle and nozzle of the used syringes			
9.3	Hard material sharp containers are used and present in all wards			
10	**Laboratory Waste Management**			
10.1	Laboratory waste (blood, syringes, vials, tubes) are disinfected before final disposal.			
10.2	Laboratory works are wearing personal protection equipment			
11	**Drinking Water & Environmental Sanitation**			
11.1	Safe drinking water is available round the clock for patients, attendant and staff?			
11.2	Drinking water testing reports (quarterly testing)			

11.3	Safe water for visitors, patients and staff			
11.4	Proper surface disinfection with chlorine solution/mopping			
11.5	Proper management of spillage (spill kits with trolleys)			
11.6	Toilets (common, patients & staff) with soaps and waste bins (small white)			
11.7	Separate toilets for women with soaps and waste bins (small white)			
11.8	Proper and safe drainage is existing in the hospital ?			
12	**RECORD KEEPING OF THE WASTE**			
12.1	Daily infectious waste generation record is maintained			
12.2	Three color coded registers are present in each ward where three large bins are present.			
12.3	Digital Weighting scale to record waste is present (DHQ & RHC only)			
12.4	Daily infectious waste is being recorded at yellow room also by digital weighting scale			
12.5	Color coded yellow register is present to maintain the daily generated infectious waste streams.			
12.6	Hand over-take over protocols is maintained in yellow room (RHC only)			
12.7	Daily waste disposal report is maintained.			
12.8	Incident reporting mechanism is maintained.			
13	**GRIEVANCE REDRESS MECHANISM**			
13.1	Do the schools invite complaints and feedback? Yes___ No___ If No, why?			
13.2	If yes, how are the complaints documented /recorded?			
13.3	Is community aware of the GRM System?			
13.4	Do communities know where to lodge complaint?			
13.5	Information regarding complaints or grievance redressal is clearly marked and available at the facility (complaint box, register, helpline, any other mode. Please record			

	detail in remarks)			
13.6	How are these complaints recorded/documented?			
13.7	How long does it take to respond back to the registered complaint?			
13.8	Has grievance redress committee is notified			
13.9	Do communities complain to other systems i.e. Ombudsman, Pakistan Citizens Portal?			
13.10	Does the school respond to the complaints by community/students /parents?			
13.11	Is there a grievance manual for staff?			
13.12	Have there been any complaints in past handled by the police and court?			
13.13	Are inquiries and responses to all grievances recorded?			
13.14	Can the grievance mechanism be accessed free of charge?			
13.15	What ways are used by the organization to resolve grievances?			
13.16	Does the organization provide training on grievance management to staff?			
14	**Voluntary Land Donation Baseline**			
14.1	Will land be donated voluntarily? Yes/No			
14.2	If No, explain how land will be obtained (e.g. state-owned land, required land already available with the facility, any other)			
14.3	If yes, does the owner been made aware of VLD nature and procedure?			
14.4	Has the landowner agreed to sign the VLD documents?			
14.5	Can the owner produce land title deeds/documents of ownership?			
14.6	Are there any tenants on the land?			

14.7	If yes, describe the number of tenants, gender and type of tenancy and length of residence.			
14.8	If yes, are tenants willing to move?			
14.9	Will there be adverse impacts on tenants? Describe in remarks column.			
14.10	Are there people using the land for livelihoods, cultural activities? Yes/No			
14.11	If yes, how many people? Gender? Type of activity?			
14.12	How will voluntary land donation affect people using the land?			
15	**GENDER BASED VIOLENCE**			
15.1	Do you feel that that there is risk of Gender-based violence (GBV) or harassment during construction?			
15.2	Will there be restriction on mobility of patients and doctors during construction? If yes, how?			
15.3	Will the continuous noise caused by construction an issue to doctors/patients? If yes,			
15.4	What sort of measures do you want in order to maintain safety and security during construction?			
15.5	What mitigation measures is contractor meant to set in place?			

Observer's Remarks

1	
2	
3	
4	
5	

Annexure 10: Specialists Terms of Reference

Environmental and Safeguards Officers

Objective:

Provide expert support to executing agencies in the office and field, provide support to implement activities related to the project components for compliance to environmental safeguards and mitigation measures.

Tasks: Environmental and Social Safeguards Officers will be responsible for the following duties and responsibilities relevant to project environmental safeguards compliances and mitigation measures

Main responsibilities are:

- Deal with environmental aspects of the project and provide feedback to the Project Director on implementation of environmental action plan under the activities of the project.
- Support in compliance of the credit conditions and covenants pertaining to Environmental and Social Safeguards.
- Deal with social aspects of the project and provide feedback to the Project Director on implementation of RPF, GRM and social safeguards under the activities of the project.
- Support in compliance of the conditions and covenants pertaining to Social Safeguards.
- Oversee social monitoring of the ESMF and sector specific ESMPs
- Update in Implementation of Environmental aspects of the project.
- Oversee environmental and social monitoring of the ESMF and sector specific ESMPs
- Organize and conduct the trainings on ESMF and ESMP compliances as proposed in mitigation plan.
- Prepare monthly, quarterly progress reports of Environment and Social Management Framework (ESMF).
- Prepare final progress report of the ESMF and submit to the World Bank.
- Ensure the HSE compliance onsite by the civil works consultants / contractor at project sites.
- Coordinate and conduct Environmental Field Monitoring visits of Project Areas.
- Review and revision of documents and ensuring timely delivery of outputs as agreed between The World Bank and PIU, PMD.
- As and when required contribute to the ongoing activities of the safeguard unit.
- Assist the Project Director in routine office matter when require.
- Work as the focal point for World Bank to provide necessary requirements of environmental compliances within the project.

Academic Qualification:

Post Graduate degree in Environmental Sciences or Public Health with 5-8 years of relevant work experience in dealing with Environmental management and implementation in development projects.

Salary and Benefits: Provided in ESMF Budget **Duration:** 5 years project duration

Health Care Waste Management Specialist (HCWMS)

Tasks: HCWMS will be responsible for management of hospital waste and compliances with proposed mitigation measures

Objective:

Provide expert support to executing agencies in the office and field, implement activities related to the health care waste management.

Main responsibilities are:

- Dealing with the environmental aspects of the ESMF and implementation of its procedures and processes.
- Support in compliance of the credit conditions and covenants pertaining to Environmental Safeguards.
- Update in Implementation of Environmental aspects of the project.
- Implementation of all environment aspects including environmental screening and filling the screening checklists for each subproject to be undertaken under the project.
- Supervising and supporting IPs in achieving their responsibilities as outlined in the ESMF and subsequent Checklists;
- Carrying out frequent field visits and conduct monitoring for effective ESMF implementation
- Identifying and assist in preparing environmental induction and training materials;
- Conduct/manage ESMF trainings for the IP(s),
- Responding to environmental incidents as required;
- Preparing quarterly progress reports for submission to World Bank and other stakeholders.
- Provide technical support to implementing NGO's consultants in the development of site specific ESMPs
- Coordinate with implementing agencies and NGO(s) for onsite implementation.
- Organize and conduct the trainings on ESMF compliances as proposed in mitigation plan.
- Prepare monthly, quarterly progress reports of Environment and Social Management Framework (ESMF).
- Prepare final progress report of the ESMF and submit to the World Bank.
- Ensure the Health Safety and Environment (HSE) compliance onsite by the civil works consultants / contractor at project sites.
- Coordinate and conduct Environmental Field Monitoring visits of Project Areas.
- Review and revision of documents and ensuring timely delivery of outputs as agreed with The World Bank.
- As and when required contribute to the ongoing activities of the safeguard unit.
- Assist the Project Director in routine office matter when require.
- Work as the focal point for World Bank to provide necessary requirements of environmental compliances within the project.

Required qualification and experience:

MPhil/MS in Environmental Sciences/Environmental Engineering, or Public Health from a HEC recognized university; More than 8 years of relevant experience in dealing with environment management and implementation in environmental health related projects preferably in WB funded projects; have sound knowledge of local laws/policies on environmental management ,Environmental OPs of WB and their compliance in field including ESMF procedures and processes; monitoring and compliance of environmental mitigation measures and OHS practices during projects execution and implementation.
Salary and Benefits: Provided in ESMF Budget, **Duration:** 5 years project duration

Annexure 11: Resettlement Policy Framework

This document provides the resettlement policy framework to address issues related to land acquisition and resettlement (if any) in the Balochistan Human Capital Investment (BHCI) Project, as required by World Bank (WB) Operational Policy/Bank Policy (OP/BP) 4.12 Involuntary Resettlement.

The objective of the Project is to improve utilization of quality health and education services in the selected refugee hosting districts of Chaghi, Quetta, Pishin and Killa Abdullah. The Project aims to achieve this by directly investing to fill supply- and demand- side gaps and strengthening service delivery systems through improved management and governance.

The Project will not finance any activities or construction of new facilities (e.g. hospitals, schools) that will require medium or large-scale land acquisition. Only small scale construction activities (e.g. extension of existing health and education facilities) that may require small parcels of land may be anticipated in the following sub-components of the Project:

- Sub-Component 1a: Improving Delivery of Quality Health Services aims to rehabilitate or upgrade existing primary and secondary health facilities to improve functionality. Specifically, target health facilities will be rehabilitated to make them functional and select BHUs will be upgraded to 24/7 RHCs to provide services around the clock, every day of the week. To this purpose, the project will also finance selected essential medical equipment, essential medicines including nutrition and family planning commodities, and health care waste management systems.

- Sub-Component 2a: Improving Delivery of Primary and Secondary Education aims at improving access to schools by upgrading primary schools to middle, and middle schools to high schools. Amongst other activities, the upgradation will include addition of fully equipped classrooms to accommodate next level grade students, and other facilities that cater to the academic and extra-curricular needs of students in additional grades. The project will also ensure that early childhood education (ECE) component is developed in each target school with a dedicated classroom for ECE.

All efforts will be taken by the Project to ensure that construction required for upgrading existing health facilities and schools is done on the existing land being used by the facility. However, in case there is a need for minor extensions beyond existing facility boundaries, which may require additional small parcel of land, the following criteria will be used in order of preference:

1. Preference 1: Use of existing land owned by the target health facility or school

2. Preference 2: Use of land voluntarily donated by an individual, a group of individuals or the community as a whole (Voluntary Land Donation, VLD)

3. Preference 3: Small scale land acquisition

It is highlighted that the project will primarily focus on undertaking upgradation and rehabilitation works within existing facility boundaries. There is a possibility that in some cases existing facilities may need minor extensions and therefore, may entail small-scale land needs. Such land needs may only be allowed by the project if the impacts are small scale and localised. However, the project does not anticipate such land needs beyond a few instances, if at all. Hence, the probability of the project using preference 3 (above) is low.

As stated earlier, the project will not undertake construction of new facilities and will therefore not undertake any medium or large-scale land acquisition.

This chapter provides a framework for VLD in addition to the Resettlement Policy Framework (RPF). Where there are gaps between national laws and WB's policy on Involuntary Resettlement, a practical approach has been designed which is consistent with Government practices as well as WB's Policy. **Annexure 10** Land Acquisition and Resettlement Screening Checklist will guide each sub-project in identifying the relevant framework to be applied if required.

VLD Framework

This VLD Framework has been prepared to ensure that due diligence will be conducted by the project before the implementation of any interventions/sub-projects that involve construction or require land. A sub-project requiring land on a permanent or temporary basis will be dropped if the VLD related criteria provided in this framework are not met.

VLD is an act of free and informed consent. Project staff must ensure that voluntary contributions are obtained without coercion or duress. Project affected persons (PAPs) have the right to refuse to donate assets and receive their entitlement and compensation for their land and assets lost. They will be fully informed of their rights and access to grievance mechanisms described in this RPF.

Due Diligence

Due diligence for VLD will be conducted and documented during the screening phase of each sub-project/intervention requiring land. Due diligence will be carried out by the environment and social safeguard officer of the relevant Project Management Unit (PMU) in the Health Department or Secondary Education Department (SED). Due diligence will cover at least the following:

i. PMU must verify and document that land required for the sub-project is given voluntarily and the land to be donated is free from any dispute on ownership or any other encumbrances;
ii. The land must be jointly identified by the Revenue Department, beneficiary community and project representative. PMU must ensure that the land is appropriate for sub-project purposes and that the sub-project will not result in any adverse social or environmental impacts by using this land;

iii. The titleholder donating land should be made to understand that they will have equal access to the infrastructure built on the donated land like any other community member and that they cannot claim for any priority treatment;

iv. PMU verifies that the donated land does not cause any physical or economic displacement

v. PMU verifies that the donated land/assets are no more than 10% of the total assets of the individual;

vi. In case of communal land, PMU acquires consent of 90% of land owners through a consultative process;

vii. The land titleholder should not belong to vulnerable sections of society, unless he/she is a direct beneficiary of the sub-project (i.e., donated parcel of land would result in net gains in that person's livelihood). Vulnerable sections are:

- households below the poverty line (with a valid government issued proof);
- women headed households with women as sole earners who may lose their shelter or livelihood due to land donation;
- handicapped persons who may lose their shelter or livelihood due to land donation.

viii. PMU ensures free and informed consent through meaningful consultations conducted in good faith with all potential land donors. Documented verification that land donors are in agreement with the sub-project and its benefits;

ix. PMU ensures that separate discussions are held with vulnerable donors such as women, elderly and orphans to facilitate meaningful participation and ensure there is no coercion by other land donors;

x. PMU verifies that land is free from any encroachments;

xi. PMU verifies that land donation will not displace tenants or bonded labour, if any, from the land;

xii. PMU verifies that land donated is not land used by indigenous/local people either traditionally or customarily;

xiii. PMU ensure that the community has knowledge of and access to a fair system of grievance redress, and that the system for project monitoring and reporting is in place.

VLD Documentation

PMU will document the VLD due diligence for each sub-project that requires donation of private or communal land through the following means:

i. Completion of VLD Screening Checklist at sub-project planning/screening stage (format provided as **Annexure 11**);

ii. Completion and signing of the written consent form for VLD on Stamp Paper of the amount required by the Revenue Department for donation. This needs to be verified by notary public, and by all donors (in Urdu) (format provided as **Annexure 12**);

iii. Verification of donation and signing of consent form by two witnesses who are community notables to ensure that the land was voluntarily donated without any form of coercion or duress;

iv. The VLD due diligence information will be verified during detailed design preparation of the sub-project and updated as necessary.

VLD Monitoring

VLD will be monitored by the PMU and periodically reviewed by the WB. During review missions, WB will verify that land donation due diligence has been conducted in accordance with the above procedures.

Grievance Redress Mechanism

Anticipated grievances may relate to coercion for land donation or a donation of more than 10% of private land holding. Any complaint will go to the grievance redress committee (GRC) established for the project as per the requirements of the ESMF.

Consultations

This VLD Framework will be included in consultations with communities about the project, the rights and options available to them, and proposed mitigation measures for adverse effects. To the extent possible, communities will be involved in the decisions that are made concerning VLD and resettlement.

Objectives of RPF

In case of land acquisition by the project, this RPF is prepared to establish resettlement principles and to provide guidance for assessment and resettlement planning. The RPF fulfils the requirements of local laws and WB's OP 4.12 on Involuntary Resettlement.

The RPF establishes the resettlement and compensation principles, the organizational arrangements and the resettlement planning for the affected population during the Project implementation stage. All efforts will be deployed to avoid resettlement and reduce disruption at the Project implementation stage.

Requirement of RPF

Sub-Components 1a and 2a of the project may include small scale construction to upgrade health facilities and schools which may, in some cases, require small scale land acquisition for extension works. Though every effort will be taken to prioritize VLD, there is a very small chance that private land acquisition may be required. Therefore, WB's OP on Involuntary Resettlement, OP 4.12 is triggered. While potential sub-project locations have been identified, there is a possibility that these may be changed due to security issues, changing priorities etc. Hence, this RPF has been developed. If there is a need for any small-scale land acquisition at the sub-project stage, the relevant PMU will be responsible for preparing a Resettlement Action Plan (RAP) in line with this RPF. RAPs will be submitted to the WB for review and clearance and will be consulted on and disclosed prior to sub-project implementation and commencement of sub-project construction activity.

The RPF covers the following:

Avoid Land Acquisition and Involuntary Resettlement

Land acquisition and involuntary resettlement will be avoided where feasible, or minimized, by identifying possible alternative project designs that have the least adverse impact on the communities in the project area. No displacement of households or economic displacement is anticipated under this project as only extension works of existing facilities will be undertaken. However, where displacement of households is unavoidable, all PAPs losing assets, livelihoods or resources will be fully compensated and assisted so that they can improve, or at least restore, their former economic and social conditions. Compensation and rehabilitation support will be provided to any PAPs, that is, any person or household or business which on account of project implementation would have his, her or their:

- standard of living adversely affected;
- right, title or interest in any house, interest in, or right to use, any land (including premises, agricultural and grazing land, commercial properties, tenancy, or right in annual or perennial crops and trees or any other fixed or moveable assets, acquired or possessed, temporarily or permanently;
- income earning opportunities, business, occupation, work or place of residence or habitat adversely affected temporarily or permanently; or
- social and cultural activities and relationships affected or any other losses that shall be identified during the process of resettlement planning.

Eligibility for Compensation

All PAPs will be eligible for compensation and rehabilitation assistance, irrespective of tenure status, social or economic standing and any such factors that may discriminate against achievement of the objectives outlined above. OP 4.12 defines eligibility criteria as the following:

Displaced persons may be classified in one of the following three groups:

1. those who have formal legal rights to land (including customary and traditional rights recognized under the laws of the country);

2. those who do not have formal legal rights to land at the time the census begins but have a claim to such land or assets--provided that such claims are recognized under the laws of the country or become recognized through a process identified in the resettlement plan; and

3. those who have no recognizable legal right or claim to the land they are occupying.

Persons covered under the first two categories are provided compensation for the land they lose, and other assistance in accordance with OP4.12. Persons in the third category are provided resettlement assistance in lieu of compensation for the land they occupy, and other assistance, as necessary, to achieve the objectives set out in OP4.12.

Entitlements without Legal Claims to Land

Lack of legal rights to the assets lost or adversely affected tenure status and social or economic status will not bar the PAPs from entitlements to such compensation and rehabilitation measures or resettlement objectives. All PAPs residing, working, doing business and/or cultivating land within the project impacted areas as of the date of the latest census and inventory of lost assets, are entitled to compensation for their lost assets (land and/or non–land assets), at replacement cost, if available and restoration of incomes and businesses, and will be provided with rehabilitation measures sufficient to assist them to improve or at least maintain their pre–project living standards, income–earning capacity and production levels. Encroachers will not be eligible for compensation of land however they will be entitled for the compensation of structures.

PAPs that lose only part of their physical assets will not be left with a portion that will be inadequate to sustain their current standard of living. The minimum size of remaining land and structures will be agreed during the resettlement planning process. People temporarily affected are to be considered as PAPs and resettlement plans address the issue of temporary acquisition.

Compensation and Rehabilitation

Payment for land and/or non–land assets will be based on the principle of replacement cost. Solely cash compensation will be avoided as an option if possible, as this may not address losses that are not easily quantified, such as access to services and traditional rights, and may eventually lead to those populations being worse off than without the project. Compensation for PAPs dependent on agricultural activities will be land–based wherever possible. Land–based strategies may include provision of replacement land, ensuring greater security of tenure, and upgrading livelihoods of people without legal land titles. If replacement land is not available, other strategies may be built around opportunities for re–training, skill development, wage employment, or self–employment, including access to credit. Replacement lands, if the preferred option of PAPs, should be within the immediate vicinity of the affected lands wherever possible and be of comparable productive capacity and potential[128]. As a second option, sites should be identified that minimize the social disruption of those affected; such lands should also have access to services and facilities similar to those available in the lands affected.

Livelihood Restoration

Losses of livelihoods due to land acquisition will be assessed during field surveys. In case land acquisition affects commercial structures, in addition to the compensation of affected assets, PAPs will be compensated for lost net income during the transition period, and for the costs of the transfer and reinstallation of the plant, machinery, or other equipment. Moreover, PAPs will get priority in construction labour jobs according to their education and skills.

[128]Agricultural land for land of equal productive capacity means that the land provided as compensation should be able to produce the same or better yield the PAP was producing on his/her land prior to the project. The production should be in the planting season immediately following the land acquisition. It can be for a future period if transitional allowance equal to the household's previous yield is provided to the PAP household while waiting for the land to get back to the same productivity as the previous land.

Resettlement Assistance

Resettlement assistance will be provided not only for immediate loss, but also for a transition period needed to restore livelihood and standards of living of PAPs. Such support could take the form of short–term jobs, subsistence support, salary maintenance, or similar arrangements.

Vulnerable Groups

The resettlement plan must consider the needs of those most vulnerable to the adverse impacts of resettlement including the poor, those without legal title to land, ethnic minorities, women, children, elderly and disabled and ensure they are considered in resettlement planning and mitigation measures identified. Assistance should be provided to help them improve their socioeconomic status. PAPs will be involved in the process of developing and implementing resettlement plans

Consultation

Communities will be consulted about the project, the rights and options available to them, and proposed mitigation measures for adverse effects, and to the extent possible be involved in the decisions that are made concerning their resettlement.

Measures to Avoid Adverse Impacts

Adequate budgetary support will be fully committed and made available to cover the costs of land acquisition (including compensation and income restoration measures) within the agreed implementation period. The funds for all resettlement activities will come from the Government of Balochistan (GoB) and not from the Bank financing.

Timing of Relocation

Displacement does not occur before provision of compensation and of other assistance required for relocation. Sufficient civic infrastructure must be provided in resettlement site prior to relocation. Acquisition of assets, payment of compensation, and the resettlement and start of the livelihood rehabilitation activities of PAPs, will be completed prior to any construction activities, except when a court of law orders so in expropriation cases. (Livelihood restoration measures must also be in place but not necessarily completed prior to construction activities, as these may be ongoing activities.)

Organization and Administrative Arrangements

Organization and administrative arrangements will be identified and in place by the PMU prior to the commencement of the process; this will include the provision of adequate human resources for supervision, consultation, and monitoring of land acquisition and rehabilitation activities.

Monitoring and Reporting

Appropriate reporting (including auditing and redress functions), monitoring and evaluation mechanisms, will be identified and set in place as part of the resettlement

management system. The RAP implementation will be monitored internally as well as externally. The PMU's social specialists will internally monitor and evaluate the resettlement process during the pre–construction and construction stages of sub-project. An external monitoring agency with the consent of WB may also be hired by the project and will evaluate the resettlement process and final outcome. Such groups may include qualified Non–governmental Organization (NGOs), research institutions or universities.

Cut-off Date

The cut–off–date of eligibility refers to the date prior to which the occupation or use of the project area makes residents/users of the same eligible to be categorized as PAPs and be eligible to Project entitlements. The establishment of the eligibility cut–off date is intended to prevent the influx of ineligible non–residents who might take advantage of Project entitlements. However, project cannot force the owners of the land not to make any transactions unless section 4 of the Land Acquisition Act (1894) is announced. After the announcement of section 4, final inventory of the affected assets will be prepared by the respective line departments and RAP will be updated accordingly.

Normally, this cut-off date is the date the census begins. The cut-off date could also be the date the project was delineated, prior to the census, provided that there has been an effective public dissemination of information on the area delineated, and systematic and continuous dissemination subsequent to the delineation to prevent further population influx.

Linking Resettlement Activities to Civil Work

All resettlement related activities, particularly payments of compensation and relocation site development, will be completed prior to project civil works. The acquired land and other assets for example, housing/commercial structures will not be demolished without compensation being paid and/or alternative housing/ resettlement sites being provided. For project activities requiring relocation or resulting in loss of shelter, the PAPs will be informed of the project activities and schedule such as (a) target dates for start and completion of civil works; (b) timetables for transfers and possession of land from the affected households; and (c) a full schedule of project work, including specific project activity involving land acquisition, relocation and resettlement. Thus, the framework will ensure proper timing and coordination of the civil works so that no affected person will be displaced (economically or physically) due to civil works activity, before compensation is paid and before any project construction works can begin.

Eligibility and Entitlements

The eligibility and entitlement will follow the approved entitlement matrix which covers a wide range of losses. The following table summarizes various entitlements against losses.

Table 1 : Entitlements Matrix

#	Type of loss	Entitled Persons (Beneficiaries)	Entitlement (Compensation Package)	Implementation issues/Guidelines	Responsible Organization
57.	Loss of agricultural land, pond, ditches and orchards etc.	Legal owner(s) of land	Market value of land including 15% compulsory land acquisition surcharge.	Market price of the land will be computed by the District price assessment committee keeping in view the recent transactions in the area, quality of land and demand of the land owners. The Project through District Collector will pay cash compensation through crossed cheque.	All the funds will be provided through government funds. Land acquisition and disbursement of payments is the responsibility of Revenue Department
58.	Loss of access to cultivable land by owner cultivator/ tenant/ sharecropper	Tenants/sharecropper/ Legal owner/grower/ socially recognized owner/ lessee/ unauthorized occupant of land	Based on current market value of land including 15% compulsory land acquisition surcharge.	Market price of the land will be computed by the District price assessment committee keeping in view the recent transactions in the area, quality of land and demand of the land owners.The Project through District Collector will pay cash compensation through crossed cheque.	All the funds will be provided through government funds. Land acquisition and disbursement of payments is the responsibility of Revenue Department
59.	Loss of homestead/ residential/ commercial/ Common Property Resources(CPR) plots by owners/authorities	Legal owner(s) of the land	Market value of land including 15% compulsory land acquisition surcharge Lump sum dislocation allowance per household. Provision of basic infrastructures at new resettlement area such as access road, drinking water supply, sanitation, schools, electricity, mosque, health facility and commercial area free of cost. Those households moving on their own (i.e., self-managed relocation) will receive an additional amount as allowances for self-managed relocation.	Market price of the land will be computed by the District price assessment committee keeping in view the recent transactions in the area, quality of land and demand of the land owners. Project through District Collector will pay for the land. Project will develop the resettlement sites with provision of basic amenities as electricity, potable water, roads	Project through District Collector will pay for the land. Relocation site development will be the responsibility of the project.
60.	Loss of trees	Person with legal ownership of the land Socially recognized owner/ unauthorized occupant of the trees	Market value of the lost item	Values of lost items computed based on Resettlement Field Survey (RFS) and rates taken from local market	Compensation of trees and other land based assets will be included in the land award and will be paid by the revenue department

#	Type of loss	Entitled Persons (Beneficiaries)	Entitlement (Compensation Package)	Implementation issues/Guidelines	Responsible Organization
61.	Loss of residential /commercial structure by owner(s)	Legal titleholder Owner(s) of structures	Replacement value of residential structure. Lump sum Relocation grant per affected Household. Special assistance of one-time payment for each female, disabled, elderly headed and very poor households. Owner will be allowed to take away all salvageable materials free of cost.	Applicable to all structures located within the acquisition areas. District Collector with expertise from Works and Services Department will determine the replacement value	Replacement value, Relocation grant and special assistance will be paid directly by the project
62.	Loss of residential /commercial structure by squatters and unauthorized occupants	Informal settlers / squatters / non-tilted APs occupying public land without title/ or squatting on Govt. land	Replacement value of residential structure. Relocation grant per affected structure. Special assistance of one-time payment for each female, disabled, elderly headed and very poor households. Owner will be allowed to take away all salvageable materials free of cost.	Applicable to all structures located within the acquisition areas. District Collector with expertise from Works and Services Department will determine the replacement value	Replacement value, relocation grant and special assistance will be paid directly by the project
63.	Loss of access to residential houses/ commercial structures (Owners/rented or leased)	Tenants of rented/ leased properties	Structures will be compensated based on Replacement Value of residential structure. Relocation grant per affected structure. Special assistance of one-time payment for each female, disabled, elderly headed and very poor households. Owner will be allowed to take away all salvageable materials free of cost.	Applicable to all structures located within the acquisition areas. District Collector with expertise from Works and Services Department will determine the replacement value	Replacement value, relocation grant and special assistance will be paid directly by the project
64.	Loss of standing crops	Cultivators identified by District Collector through land acquisition survey	Market value of standing crops. Owners will be allowed to harvest of standing crops prior to be affected.	Applicable for all crops standing on land within the acquisition area at the time of dispossession. Project will pay through District Collector for crops. District Collector with assistance from Department of Agriculture will recommend resettlement value of crops at harvest.	Compensation of crops will be included in the land award and will be paid by the revenue department
65.	Loss of business by	Owner/operator of the business	Compensation equivalent to Three	Business owners will be paid the entitlements after award	Project will directly pay the entitlement to

#	Type of loss	Entitled Persons (Beneficiaries)	Entitlement (Compensation Package)	Implementation issues/Guidelines	Responsible Organization
	commercial and business enterprises (CBEs) due to dislocation	as recorded by RFS	months income from the business calculated during RFS One time Moving Assistance	of compensation by District Collector to the owner of premises.	the eligible affected persons.
66.	Loss of Income and work days due to displacement	Household head / employees identified by the RFS	Grant to cover temporary loss of regular wage income for three months	Affected person must have been an employee of landowner or business located in the acquired lands for at least twelve months, as identified by the RFS.	Project will directly pay the entitlement to the eligible affected persons.
67.	Poor and vulnerable households	Poor and vulnerable households including informal settler, squatters /women headed household without elderly son/ non-titled PAPs identified by RFS	Special assistance through additional amount included in their compensation package.	Vulnerable household must be identified during RFS.	Project will directly pay the entitlement to the eligible affected persons.
68.	Displacement of community structure	Community structure representative as identified by the RFS	The project will construct the structures for common properties in the self-managed resettlement sites selected by the PAPs.	Land for common structures will be purchased/ acquired by the Project.	Projet will directly pay the entitlement to the eligible affected persons.
69.	Temporary impact during construction	Community / Individual	Compensation equal to loss during construction	Temporary impact during construction will be computed by Project Management Unit on request of affected person.	Project will directly pay the entitlement to the eligible affected persons.
70.	Unforeseen impact	Concerned impacted persons	Entitlements will be determined as per the resettlement policy framework	The unforeseen impacts will be identified through special survey by the PMU. The entitlements will be approved by Health and Secondary Education Departments and concurred by the WB.	Compensation of land based assets will be included in the land award and will be paid by the revenue department Compensation of other assets will be paid directly by the project.
71.	Public Structure	Concerned Department	Replacement of affected structures	Health and Secondary Education Departments and concerned department with the help of LAC will be responsible for the replacement of the affected public structures with the financial assistance of the project at appropriate site.	Project will be responsible for financial assistance to replace structures
72.	Severe impact	Persons losing more than 10% of their income	One time severe impact allowance per household.	The one time severe impact allowance will be paid by Project.	Project will be responsible to pay the severe impact

#	Type of loss	Entitled Persons (Beneficiaries)	Entitlement (Compensation Package)	Implementation issues/Guidelines	Responsible Organization
		from all sources	One person from the household will be eligible for labor work or job according to its skills and education.		allowance.

Preparing Resettlement Action Plans (RAP)[129]

Methodology of Screening

Following the RPF, Health Department and Secondary Education Department will undertake assessment of all impacts of different projects, any unanticipated impacts or additional land acquisition required during the implementation of the projects. The steps to be followed for screening include:

A. Conduct a rapid assessment of the impacts and consultation with the affected persons and communities.
B. Consider measures to minimize impacts and or options to reduce impacts.
C. Conduct a full assessment of impacts by involving all stakeholders, particularly the affected persons, and establish a full inventory of all assets to be acquired.
D. Prepare RAP for all the sub-projects requiring land acquisition.
E. Use the approved entitlement matrix to guide the planning and compensation for all losses incurred due to the unanticipated impacts and/ or acquisition of additional properties. New entitlements may be developed depending the scale of any specific impacts caused by the construction of the project.
F. Share the RAP with WB for concurrence and approval, and subsequently disclose

All affected households will be identified using complete census of population and affected households, the structures in different uses, the different trees, and public facilities as separate survey of all affected land of different type will also be under taken.

Community Participation and Consultations

The RAP will include the following to ensure involvement and consultations with resettlers and host communities;

1. a description of the strategy for consultation with and participation of resettlers and hosts in the design and implementation of the resettlement activities.
2. a summary of the views expressed and how these views were taken into account in preparing the resettlement plan;
3. a review of the resettlement alternatives presented and the choices made by displaced persons regarding options available to them, including choices related to forms of compensation and resettlement assistance, to relocating as

[129] Outline for RAP is provided as **Annexure 13**

individuals families or as parts of pre-existing communities or kinship groups, to sustaining existing patterns of group organization, and to retaining access to cultural property (e.g. places of worship, pilgrimage centers, cemeteries);and

4. institutionalized arrangements by which displaced people can communicate their concerns to project authorities throughout planning and implementation, and measures to ensure that such vulnerable groups as ethnic minorities, the landless, women and any others are adequately represented.

Field Surveys

Field surveys for the RAP consists of four different but interrelated surveys. In **Table 2** the description and scope of the surveys are provided.

Table 2 : Description of Field Surveys

Survey	Objective	Scope
Census of Affected Persons and Project Impacts	Census Identify all persons and households that are likely to be affected by the land acquisition Identify the type of impacts	All owners of land, structures, businesses on the Affected Land (AL) All person otherwise associated with the land and businesses such as tenants and employees in the businesses
	Affected Structures Measure the dimension of the structure Ascertain its use Identify persons associated with the structure	All structures on the AL
	Affected Land Identify the owners of the agricultural land Identify non–resident owners of the land	All agricultural land within the AL
Household Profile	Collect information on the socioeconomic conditions of the Affected Household (AH) Identify vulnerable affected households	All households on the AL
Affected Business	Collect information on the nature and volume of the business Identify persons whose livelihood is associated with the business	All business within the project footprint.
Public and Community Infrastructure	Measure the dimension of the structure Ascertain its use	All structures on the AL

Valuation of Assets

The methodology for assessing unit compensation values of different items is as follows:

- Productive land (agricultural, aquaculture, garden and forest) will be based on actual current market prices that reflect recent land sales in the area, and in the absence of such recent sales, based on recent sales in comparable locations with comparable attributes, fees and taxes or in the absence of such sales, based on productive value;

- Houses and structures will be valued at replacement cost based on the current market rates;
- Loss of livelihood will be valued according to the actual loss of wages or business income up to a maximum period of three months;
- Crops will be valued at current open market rates;
- For timber trees, cash compensation at replacement cost that should be in line with local government regulations, if available, will be equivalent to current market value for each type, age and relevant productive value at the time of compensation based on the diameter at breast height of each tree; and
- Livelihoods will be valued as per actual loss.

Compensation, Income Restoration and Relocation

This section describes the measures proposed for income restoration, including compensation and special measures to help vulnerable households improve their living standards, explains measures to provide replacement land, if planned; and describes support to be provided for host populations.

Compensation

Compensation for lost assets can be provided in two ways, i.e. cash compensation and land for land compensation. Based on the community consultations and availability of land in the area PMU will decide the approach of compensation for every project. Compensation approach and its basis will be described in every RAP under the Project.

Land for Land Compensation

Land for land compensation is a good practice especially in the same area as people can continue their pre-project livelihood activities and they can maintain their living standard. Moreover PAPs can also get benefits from the project implementation like labour opportunities, increased business opportunities and opportunity to get jobs in the project. However, this form of compensation may not be possible in many locations as there is limited land and it is not possible to provide land for lost land to all APs.

When land for land compensation will be used, RAPs will include costs for site preparation and for the provision of basic facilities like water supply, sanitation, roads, drainage and electricity. The RAPs will clearly detail site preparation and resettlement schedules and tenure arrangements. In managing the land for land relocation, the socio-cultural and religious characteristics of the displaced persons, gender considerations and host communities will be taken into consideration and the distance between the old and new locations should be minimized as far as is possible.

Cash Compensation

The PMU will finalize all requirements for compensation in consultation with Revenue Department and affected communities prior to land acquisition. Health and Secondary Education Departments, will be responsible for the timely allocation of funds to implement the RAP. The budget for the RAPs will be disbursed in cash by the PMU. Component of the compensation budget which is covered in the award of the land will

be disbursed through LAC while remaining compensation will be disbursed directly by the PMU before taking physical possession of the affected assets.

Income and Livelihood Restoration

RAPs for different sub-projects will analyse the impact of the project on the income and livelihood of the affected households. If the PAPs lose more than 10% of their productive assets or require physical relocation, RAP will include Income and Livelihood Restoration Plan (ILRP).

In the ILRP one or two-phase approaches may be adopted based on the significance of the income and livelihood impacts and community consultations.

Relocation

Based on the community consultations PMU will be responsible to develop a relocation strategy. RAP of the project will include relocation strategy including budget, time schedule and responsibilities for implementation.

There may be different relocation options as under:

- AHs have land for construction of houses and only needs compensation and transition period allowance;
- AHs can purchase land by their own in the nearby area for construction of houses and only needs compensation and transition period allowance;
- AHs like to migrate to cities and main towns and require only compensation and transition period allowance;
- AHs like that the project should develop relocation sites for them

Implementation Arrangements

PMU

PMU will be responsible for implementation of RPF and preparation of RAPs , Land Acquisition and Resettlement Plans (LARP) and ILRPs if applicable for the sub-projects. The institutional arrangements are provided in following sections.

GRC

GRCs, established at the cluster and project level as per the ESMF will be responsible for addressing conflicts and appeal procedures regarding eligibility and entitlements as well as the implementation of the resettlement activities. The GRCs will receive and facilitate the resolution of concerns and grievances from PAPs.

External Monitoring Agency

Health and Secondary Education Departments will hire an independent External Monitoring Agency (EMA) who will conduct independent monitoring and evaluation during ESMF, ESMPs, LARPs and RAPs implementation. The EMA will:

- Review the implementation progress;
- Evaluate the level of achievement of objectives; and
- Identify the gaps (if any) and propose remedial measures to be taken.

Board of Revenue

The Balochistan Board of Revenue (BoR) has function of land acquisition and power to approve allocating/granting public land for projects of public interest with conditions.

District Administration

Land acquisition functions rest with BoR but the land rights in the rural areas are administered by the District Administration on behalf of the BoR. The Deputy Commissioner (DC) has the power and responsibility to acquire land and to assess compensation of property. The DC, who also acts as LAC under LAA 1894, will assign the Tehsildar of the concerned District Revenue Department (DRD) to manage the entire land acquisition. Other staff members of the DRD, called Quanogo (clerical Staff of DRD) and Patwari (Field Staff of DRD) will carry out identification of titles and verification of the ownership. Compensation of non-land assets pertains to relevant agencies of the government and their district level offices as following:

- Compensation for buildings will be determined by the District Collector with advice on the rates from Department of P&D;
- Compensation for crops and productive trees will be determined by the Department of Agriculture; and
- Compensation for wood trees will be determined by the Department of Forestry.

Budget and Financing

All land acquisition and resettlement (LAR) implementation costs, including cost of compensation and LAR administration, will be considered an integral part of Project cost. Each RAP will include a budget section indicating unit compensation rates for all affected items and allowances, relocation of structures, rehabilitation of livelihood, methodology followed for the computation of unit compensation rates and a cost table for all compensation expenses including administrative costs and contingencies. Cost for resettlement activities will be included in the PC-1 of the project by the Health and Secondary Education Departments. Total cost of the RAP will also include 10 percent contingencies. Finances for compensation, relocation of structures, rehabilitation of livelihood, allowances, and administration of RAP preparation and implementation will be provided by the Project. Health and Secondary Education Departments will make sure that all the required funds are available for different resettlement activities before the start of particular activities as scheduled in the RAP.

As per the flow of LAR finances it is noted that the budget for land, structures, trees and crop compensation will be disbursed by the concerned PMU to the District LAC office which in turn, through the LAC will disburse the compensation to the APs. However funds for other LAR activities such as resettlement allowances relocation and livelihood restoration will be disbursed and used directly by the Health and Secondary Education Departments.

Gap Analysis of Land Acquisition Act & World Bank Policies

The Land Acquisition Act (1894) and the WB Involuntary Resettlement policy OP 4.12 principles specifically related to land acquisition and resettlement aspects are compared below. The objective of this exercise is to identify if and where the two sets of procedures are in conformity with each other and more importantly where there are differences and gaps.

World Bank Involuntary Resettlement Policy Principles	**Pakistan's Land Acquisition Act**	**Approaches to Address the GAPs**
Screen the project early on to identify past, present, and future involuntary resettlement impacts and risks. Determine the scope of resettlement planning through a survey and/or census of displaced persons, including a gender analysis, specifically related to resettlement impacts and risks.	No equivalent requirements	Screened and categorized. Scope defined, social assessment and gender analysis undertaken.
Carry out meaningful consultations with affected persons, host communities, and concerned nongovernment organizations. Inform all displaced persons of their entitlements and resettlement options. Ensure their participation in planning, implementation, and monitoring and evaluation of settlement programs. Pay particular attention to the needs of vulnerable groups, especially those below the poverty line, the landless, the elderly, women and children, , and those without legal title to land, and ensure their participation in consultations. Establish a grievance redress mechanism to receive and facilitate resolution of the affected persons‟ concerns. Support the social and cultural institutions of displaced persons and their host population. Where involuntary resettlement impacts and risks are highly complex and sensitive, compensation and resettlement decisions should be preceded by a social preparation phase.	LAC or District Judge (in Case of the Telegraph act) Are the final authorities to decide disputes and address complaints regarding quantification and assessment of compensation for the affected lands and other assets?	Complaints and grievances are resolved informally through project grievance redress mechanisms. Consultations conducted, vulnerable groups identified and supported as relevant.
Improve, or at least restore, the livelihoods of all displaced persons through (i) land-based resettlement strategies when affected livelihoods are land based where possible or cash compensation at replacement value for land when the loss of land does not undermine livelihoods,(ii) prompt replacement of assets with access to assets of equal or higher value, (iii) prompt compensation at full replacement cost for assets that cannot be restored, and (iv) additional revenues and services through benefit sharing schemes where possible.	No equivalent requirements.	Livelihoods restoration is required and allowances are provided. Provided as relevant.
Provide physically and economically displaced persons with needed support	No equivalent requirements.	Support provided to be commensurate with impacts

Annexure 12: Land Acquisition and Resettlement Screening Checklist

SECTION 1: Potential Impacts	Yes	No	Expected	Remarks
Does the sub-project involve any physical construction work, i.e. rehabilitation, reconstruction or new construction? Specify in "remarks" column.				
Does the sub-project involve impacts on land, assets and people, if "Yes" try to quantify the impacts and check following items? If "No" impacts, explain the situation in "remarks" and move to section 2.				
Land:				
Government land being owned by the target health or educational facility				
Government or state owned land free of occupation (agriculture or settlement)				
Private or communal land voluntarily donated for the sub-project. If "Yes", please use Voluntary Land Donation (VLD) Framework				
Private or communal land acquired by for the sub-project If "Yes", please use Resettlement Policy Framework (RPF)				
Others (specify in "remarks").				
Land-based assets:				
Residential structures				
Commercial structures (specify in "remarks")				
Community structures (specify in "remarks")				
Agriculture structures (specify in "remarks")				
Public utilities (specify in "remarks")				
Others (specify in "remarks")				
Agriculture related impacts				
Crops and vegetables (specify types and cropping area in "remarks).				
Trees (specify number and types in "remarks").				
Others (specify in "remarks").				
Affected Persons (APs):				
Number of APs				
Males				
Females				
Titled land owners				

SECTION 1: Potential Impacts	**Yes**	**No**	**Expected**	**Remarks**
Tenants and sharecroppers				
Leaseholders				
Agriculture wage laborers				
Encroachers and squatters (specify in remarks column).				
Vulnerable DPs (e.g. women headed households, minors and aged, orphans, disabled persons and those below the poverty line). Specify the number and vulnerability in "remarks".				
Others (specify in "remarks")				
SECTION 2				
Others:				
Are there any other minority groups affected by land acquisition or project activities? If "Yes" specify in "remarks"				
Minority groups (specify in "remarks"). Describe nature of impacts				

Annexure 13: VLD/ Due Diligence Screening Checklist

Screening Checklist for Voluntary Land Donation

Screening for Due Diligence	Yes	No	Remarks
Is the land in question free from any dispute on ownership or any other encumbrances?			
Has the land been jointly identified by the Revenue Department, beneficiary community and project representative?			
Has the Project team ensured that the land is appropriate for sub-project purposes and that the sub-project will not result in any adverse social or environmental impacts by using this land			
Have efforts must be taken by the project team to spread land donation over a number of owners rather than one influential land owner			
Have the Titleholder/s donating land been made to understand that they will have equal access to the infrastructure built on the donated land like any other community member and that they cannot claim for any priority treatment			
Is the land to be donated no more than 10% of the total land holding of the individual?			
In case of communal land, has consent of 90% of land owners through a consultative process been acquired?			
Has it been ensured that the land titleholder does not belong to vulnerable sections of society, unless he/she is a direct beneficiary of the subproject (i.e., donated parcel of land would result in net gains in that person's livelihood). Vulnerable sections are: • households below the poverty line (with a valid government issued proof); • Women headed households who may lose their shelter of livelihood due to land donation; • Handicapped persons who may lose their shelter or livelihood due to land donation,			
Has free and informed consent through meaningful consultations in good faith with all potential land donors been ensured?			
Have separate discussions been held with vulnerable donors such as women, elderly and orphans to facilitate meaningful participation and ensure there is no coercion by other land donors?			
Has it been verified that land is free from any encroachments?			
Has it been verified that land donation will not displace tenants or bonded labor, if any, from the land?			
Has it been verified that land donated is not land used by indigenous peoples either traditionally or customarily?			

If the answer to any of the above is NO, the land in question does not qualify for Voluntary Land Donation

Annexure 14: Sample Agreement for Voluntary Land Donation

(Voluntary Donation of Land on Stamp Paper of value prescribed by Revenue Department)

1. This deed of voluntary donation is made and executed on ..... day of ..... between Mr./Ms./Mrs .....S/O W/O D/O Mr. --------- --------- ---------- AND the Government of Balochistan through Health Department/Secondary Education Department Balochistan to render health/educational services (insert project title and location here). Herein after called the "Recipient" which term denotes to "for and on behalf of Project Management Unit, Health Department/Secondary Education Department, Government of Balochistan " on the other part and shall mean and include his successors – in office, nominees and assignees etc.

2. Whereas, the details of the title holder and location of the land are given below:

Land and Location Details

Land record No:	Location /Village:
Tehsil and UC:	District:
Land Area:	Details of Structures on land:
Description of North Boundary:	Description of East Boundary:
Description of West Boundary:	Description of South Boundary:

Note: Detailed Map to scale is appended.

Title Holder Details

Title Holder Name and CNIC Number:	Name of Father/Husband and CNIC Number:
Age: Occupation	Status: Title Holder/ Encroacher
Residence:	Gender:

3. Whereas the Title Holder is presently using/ holds the transferable right of the above mentioned piece of land in the village mentioned above. Whereas the Encroacher does not hold any transferable rights of the above mentioned piece of land in the village mentioned above but has been a long standing encroacher, dependent on its usufruct hereditarily.

4. Whereas the Title Holder/Encroacher testifies that the land is free of encumbrances and not subject to other claims/ claimants.

5. Whereas the Title Holder/Encroacher hereby voluntarily surrenders the land/structure without any type of pressure, influence or coercion what so ever directly

or indirectly and hereby surrender all his/her subsisting rights in the said land with free will and intention.

6. Whereas the Recipient shall construct and develop infrastructure facilities under the Balochistan Human Capital Investment Project and take all possible precautions to avoid damage to adjacent land/structure/other assets.

7. Whereas both the parties agree that the infrastructure so constructed/developed shall be for the project purpose.

Signatories

<table>
<tr><td colspan="2">Title Holder</td><td colspan="2">Tehsildar</td></tr>
<tr><td>Name</td><td></td><td>Name</td><td></td></tr>
<tr><td>CNIC</td><td></td><td>Official seal</td><td></td></tr>
<tr><td></td><td></td><td>Transfer registration No.</td><td></td></tr>
<tr><td colspan="4">Witnesses*</td></tr>
<tr><td rowspan="2">1. UC Nazim/Chairman</td><td>Name</td><td></td><td rowspan="2">Signature</td></tr>
<tr><td>CNIC</td><td></td></tr>
<tr><td rowspan="2">2. Village Numberdar</td><td>Name</td><td></td><td rowspan="2">Signature</td></tr>
<tr><td>CNIC</td><td></td></tr>
<tr><td rowspan="2">3.Health Department/ Secondary Education Department Representative</td><td>Name</td><td></td><td rowspan="2">Signature</td></tr>
<tr><td>CNIC</td><td></td></tr>
</table>

*Witnesses may be changed

Annexure 15: Outline of Resettlement Action Plan

The resettlement plan covers the elements below, as relevant:

1. Description of the project.
2. Potential impacts.
3. Objectives.
4. Socioeconomic studies.
5. Legal framework.
6. Institutional Framework
7. Eligibility.
8. Valuation of and compensation for losses
9. Resettlement measures.
10. Site selection, site preparation, and relocation
11. Housing, infrastructure, and social services
12. Environmental protection and management.
13. Community participation.
14. Integration with host populations.
15. Grievance procedures.
16. Organizational responsibilities
17. Implementation schedule.
18. Costs and budget
19. Monitoring and evaluation.