



**Report Of**  
**Profiles Of Slums/Underserved Areas Of**  
**Quetta City Of Balochistan, Pakistan**  
**July 2020**




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## Abbreviations

AIDS	Acquired Immune Deficiency Syndrome
BCG	Bacillus Calmette-Guerin
CBV	Community Based Vaccinator
CHIP	Civil Society Human and Institutional Development Programme
CI	Confidence Interval
CSO	Civil Society Organization
CMYP	Country Multiyear Plan
CNIC	Computerized National Identity Card
DEFF	Design Effect Factor
EPI	Expanded Programme on Immunization
ESS	Effective Sample Size
GI	Gastrointestinal Diseases
GPEI	Global Polio Eradication Initiative
ILR	Ice-Lined Refrigerator
LHV	Lady Health Visitor
LHW	Lady Health Worker
MICS	Multiple Indicator Cluster Survey
OPV	Oral Polio Vaccine
PDHS	Pakistan Demographic & Health Survey
SDGs	Sustainable Development Goals
SPSS	Statistical Package for Social Science
TB	Tuberculosis
UC	Union Councils
UNICEF	United Nations International Children's Funds
UN HABITAT	United Nations Human Settlement Programme
WASH	Water, Sanitation and Hygiene
WCBA	Women of Child Bearing Age
WHO	World Health Organization

## Executive Summary

While global immunization coverage is increasing progressively, there is still a long way to achieve sustainable development goals in this regard. Pakistan stands 3rd in the top ten countries in the world with high numbers of under and unvaccinated children 1 .UNICEF and World Health Organization report 958000 children unvaccinated 2 in Pakistan against Diphtheria, Tetanus, and Pertussis (DTP1) as of July 2019. Within the country, there are regions and provinces with even more vulnerable children such as Balochistan with the lowest immunization rates in the country.

An in-depth profiling of slums and underserved areas of Quetta city located in Balochistan province has been conducted to compile information on the number of slums and underserved areas, availability of Expanded Programme on Immunization (EPI) facilities and health facilities. The profiling also collected information about the types of residents, their housing structures, availability of water and sanitation facilities, schools and social welfare services.

There are 315 slums and underserved areas located in 44% of the 50 Union Councils of Quetta city. 57% slums are not found in any of the government records. Quetta city has 2 Million population out of which 35% lives in slums and underserved areas. 13% residents of these disadvantaged areas are temporarily displaced either in the province or are of other nationalities (mostly Afghans).

In the 315 areas assessed, 60% houses are *Kacha* (non-concrete). Assessment of water and sanitation conditions reveals that the government water supply is non-existent in 85% slums and underserved areas. In terms of sanitation, it is observed that open defecation is practiced in 9% of the slums, even in areas where toilets are available. Further analysis on the status of drainage system shows that around 84% of the areas have either filthy or choked drains, or they are completely absent. 91% of these areas do not have solid waste disposal system.

Out of the 50 Union Councils, 20% Union Councils do not have any health facility. Similarly, 18% Union Councils do not have EPI facility. 64% slums/underserved areas do not have outreach vaccination services. 67% slums/underserved areas are not covered by Lady Health Workers (LHWs). 48% EPI facilities are without gender segregated waiting areas. Drinking water is not available in 48% and toilets are not available in 26% of EPI facilities. If toilets are available, they are not gender segregated in 19% of the EPI facilities.

Although informal groups such as *Masjid Committees* and *Jirgas* are present in 14% slums/underserved areas, all of the slums/underserved areas do not have any formal Civil Society Organization. 47% slums/underserved areas are without any kind of schools. 89% slums/underserved areas do not have any presence of government social welfare schemes.

For household coverage survey in this research study, a total of 1,782 households with 1,786 mothers and 1,792 children are assessed. On record and recall bases, only 27% children are fully immunized and 46% children are partially immunized. 27% of the children have not received any antigens hence are zero dosed. 43% mothers do not know importance of childhood vaccination. Card retention is found only in 35% of the children.

The report concludes that majority of the slum residents are living under extreme level of vulnerability. The housing structures are weak and access to safe sanitation and water is limited. Liquid and solid waste management services are unavailable hence surroundings in areas under study are extremely unhygienic. This leads to increased chances of disease outbreaks. The study suggests that realistic micro planning of vaccinators, deployment of community based volunteers and LHWs, and linking socio-economic wellbeing programs with coverage ones is extremely important for generating demand for health and EPI services, and achieving higher coverage rates in slums and underserved areas of Quetta City.

### Box 1: Major Inequities

#### Health Facilities

- 20% Union Councils are without Health Facility
- 18% Union Councils are without EPI Facility
- 64% slums/underserved areas are not covered for outreach vaccination
- 67% slums/underserved areas are not covered by Lady Health Workers

#### Childhood Immunization

- 27% children have not received any antigen hence are zero dose
- 46% children have received one or two antigens hence are partially vaccinated
- 27% children are fully immunized.

#### Housing

- 60% housing structures are *kacha* (mud made) and 21% are *kacha-pacca* (mud/plaster mixed).

#### Water and Sanitation

- 37% slums/underserved areas are without drains
- Slums/underserved areas where drains exist, 47% of them are choked/filthy

#### Education Facilities

- 47 % Slums and underserved areas do not have Schools

<sup>1</sup> file:///C:/Users/ansaroo/Downloads/wuenic\_2018rev\_progress-challenges.pdf

<sup>2</sup> <https://data.unicef.org/topic/child-health/immunization/>

## Chapter 1   Introduction



## Chapter 1: Introduction

Though Balochistan is the largest province of Pakistan by area, population of the province is the lowest at 12.34 million<sup>3</sup> among provinces and is thinly dispersed around the province. Quetta is the provincial capital and the most urbanized city of Balochistan hosting 29% of its entire urban population<sup>4</sup>.

### 1.1 Demography

As per the National Census of 2017, population of Quetta City is 1,001,205 and population of Quetta District is 2,085,860<sup>5</sup>. Socio-economic push factors coupled with socio-political pull factors attract influx of people to Quetta from the province; rest of the country and from Afghanistan.

### 1.2 Number of Slums

There are 47 identified slum areas as per the records of the *Katchi Abadi* Directorate<sup>6</sup> in Quetta City, although the actual numbers are higher than this. These slums are mostly accompanied by temporary houses (mud houses) with substandard basic and health facilities<sup>7</sup>. The slum areas are highly populated with poor or no infrastructure<sup>8</sup>. The slum dwellers of Quetta lack access to basic resources and are living far beyond the standards laid down by the Sustainable Development Goals (SDGs).

### 1.3 Social Features

Quetta city accommodates multiple ethnic groups including *Pashtun, Baloch, Brahvi, Hazara* and *Punjabi* and is enriched with cultural and language diversity. The multi-dimensional poverty at headcount for Quetta stands at 46% and the Average Intensity of Deprivation is 46%, thus making poverty rate in Quetta the highest among all provincial capitals of Pakistan<sup>9</sup>. Furthermore, about 17% of the population is living below poverty line in this city<sup>10</sup>. The literacy rate stands at 66% in 15+ age group and 70% in 10+ old populations in Quetta city. However, there is a noticeable difference between overall literacy rate and the female literacy rate that stands at 46% in 15+ and 52% in 10+ populations<sup>11</sup>.

### 1.4 Situation of Health in Balochistan

Balochistan Comprehensive Development Strategy (2013-2020) reveals that the health sector of the province has extremely underperformed in the last decade. The poor performance has been attributed to financial deficit of the province.

#### 1.4.1 Mother & Childcare

The detailed evaluation of the health sector of the province indicates that the biggest challenge faced by the province is related to primary and preventive healthcare specifically in the context of mother and childcare. The study shows that the percentage of deliveries in the province at designated health facilities is 26%, a figure 10% lower than the rest of the provinces. In the rural areas of Balochistan, over 80% deliveries by mothers take place at home and by untrained attendants that increase the risk of mother and child mortality.

#### 1.4.2 Prenatal & Postnatal Care

The condition of prenatal and postnatal care delivery is also quite dismal for the province of Balochistan. Urban areas of Balochistan reveal only 55% cases of prenatal consultation, whereas, this figure drops further in the urban slums and for rural areas. The postnatal care reception is also poor for the province and only 31% of pregnant women in the province receive Tetanus Toxoid injections. Pertaining to these alarming statistics, the PDHS 2006-2007 reveals that the Mother Mortality Rate (MMR) was highest for Balochistan among four provinces at 785 maternal deaths per 100,000 births.

#### 1.4.3 Infant Mortality Rate

According to the (MICS) report of 2010, the Infant Mortality Rate (IMR) of Balochistan is also the highest among all the other provinces of the country. IMR is reported to be 89 per 1000 live births against the SDGs target of 25 per 1000 live births.

#### 1.4.4 Childhood Immunization

As per the (PSLM) results of 2010-2011 the overall immunization coverage rate for Balochistan is only 45% for the children under 5 years of age when compared to Punjab (86%), Khyber Pakhtunkhwa (77%) and

<sup>3</sup> <http://www.pbs.gov.pk/content/provisional-summary-results-6th-population-and-housing-census-2017-0>

<sup>4</sup> State of Pakistani Cities, 2008

<sup>5</sup> See #3

<sup>6</sup> Qutub, S.A.; Salam, N.; Shah, K. and Anjum D. (2008). Community-based sanitation for urban poor: the case of Quetta, Pakistan

<sup>7</sup> Growth of slum areas on rise in Balochistan. Pakistan Economist, Sep 11, 2017.

<sup>8</sup> Huma Batool.; Mega cities And Climate Change Sustainable Cities in a Changing World. LEAD Pakistan.

<sup>9</sup> <http://www.pk.undp.org/content/dam/pakistan/docs/MPI/MPI%204pager.pdf>

<sup>10</sup> Geography of Poverty and Public Service Delivery in Pakistan. Research Brief April 2017, Pakistan Poverty Alleviation Fund

<sup>11</sup> <http://emis.gob.pk/Uploads/QUETTA%20DISTRICT%20EDUCATION%20PLAN%20FOR%202016-2017%20TO%202020-2021.pdf>

Sindh (67%). When checked for Bacillus Calmette-Guerin (BCG) coverage of the province, the results reveal that the coverage for 12-23 months of children is only 35%, Polio 1 has been administered to 61% of the children, a figure that dipped to 46% for Polio 3 (MICS, 2010).

#### 1.4.5 Polio Epidemic

Recently polio epidemic has reemerged in Pakistan. As per the report by Independent Monitoring Board of the Global Polio Eradication Initiative (GPEI), for Balochistan, majority of the cases for Balochistan occurs in three major areas: Pishin, Killa Abdullah and Quetta.

#### 1.5 Status of Healthcare in Quetta

Comprehensive Multi Year Plan (CMYP) Balochistan 2014-2018 depicts acute shortage of health personnel in Quetta<sup>12</sup>. Among the most common diseases reported by the health facilities are Respiratory Tract Infections, Gastrointestinal, Urinary Tract Infection and Diarrhea/ Dysentery, whereas other communicable diseases include Malaria, Meningitis, Fever and Scabies<sup>13</sup>. To address the health needs, there are 07 health programmes that are running in Quetta city, namely: TB (Tuberculosis) Control Programme, Malaria Control Programme, Hepatitis Prevention Control Programme, AIDS (Acquired Immune Deficiency Syndrome) Control Programme, National Programme on Family Planning and Primary Healthcare, and National, Maternal, Newborn & Child Healthcare Programme<sup>14</sup>.

#### 1.6 Diseases and Mortality Rates

The prevalence of water-borne disease indicates 44% of the households are affected by Diarrhea, 25% by Gastrointestinal (GI), 21% by Cholera, 5% by Typhoid and 3% by other common diseases<sup>15</sup>. As for the status on child health, it is reported that for every 1,000 live births, 59 babies do not survive up to their first birthday and another 12 die before reaching the age of 5 years<sup>16</sup>.

#### 1.7 Infrastructure

The housing structures accommodating over 800,000 residents of Quetta lack the facilities and infrastructure for adequate drainage and sanitation<sup>17</sup>. While the situation of disposal and drainage of wastewater in the city remains poor, drainage system in the slums is almost non-existent<sup>18</sup>. Safe water is available to only 39% of the households<sup>19</sup>. Water is found to be scarce due to which a majority of residents end up paying private vendors for their water-supply<sup>20</sup>. To assess the quality of consumable water, a study was conducted in 16 different locations of Quetta, which revealed high contamination in tap water owed to the seepage and leakage of the water supply and sewer lines<sup>21</sup>. Furthermore, fecal contamination of drinking water is known to cause 30% of all diseases<sup>22</sup>.

#### 1.8 Major Challenges

Major challenges of Quetta city are exponential growth-rate, lack of resources and city planning for managing a large influx of economic migrants and those affected by natural disasters or conflict. Poor access to health and Expanded Programme on Immunization (EPI) services, lack of safe water and almost non-existent drainage system also pose serious health risks as cited by different researchers.

#### 1.9 Objectives

The general objective of this study was to prepare the in-depth profiling of slums and underserved areas located within the Quetta city of Balochistan province in Pakistan. The specific objectives of this study were to:

- a. To collect the socio-demographic information of the residents of slums and underserved areas
- b. To assess the fixed EPI facilities located in the slums and underserved areas
- c. To compile the data of health and EPI recourses at the union councils level
- d. To determine the childhood immunization coverage rates in the slums and underserved areas

<sup>12</sup> Comprehensive multi-year plan 2014-2018. Islamabad, Expanded Programme on Immunization, Balochistan

<sup>13</sup> <http://www.ndma.gov.pk/Publications/Development%20Profile%20District%20Quetta.pdf>

<sup>14</sup> <http://www.ndma.gov.pk/Publications/Development%20Profile%20District%20Quetta.pdf>

<sup>15</sup> Butt, M., & Khair, S. M. (2016). Cost of illness of water-borne diseases: a case study of Quetta. *Journal of applied and emerging sciences*, 5(2), pp133-143

<sup>16</sup> <http://www.ndma.gov.pk/Publications/Development%20Profile%20District%20Quetta.pdf>

<sup>17</sup> Urbanization Challenges in Balochistan, 2015. Pakistan Urban Forum, The Urban Unit

<sup>18</sup> [http://www.balochistan.gov.pk/index.php?option=com\\_content&view=article&id=839&Itemid=1087](http://www.balochistan.gov.pk/index.php?option=com_content&view=article&id=839&Itemid=1087)

<sup>19</sup> Pakistan Economist

<sup>20</sup> State of Pakistani Cities, 2018

<sup>21</sup> Khattak M I. (2011). Study of Common Inorganic Anions in Water Samples of Quetta City By Technique Of Ion Chromatography. *Sci. Int. (Lahore)*, 23(2):135-141.

<sup>22</sup> Aziz J A. (2005). Management of source and drinking-water quality in Pakistan. *Eastern Mediterranean Health Journal*. 11(5-6):1087-98



### 1.10 Rationale

The review of literature reveals that the data on housing infrastructures, water and sanitation practices and immunization status of children in slum areas is limited. Therefore, this study was designed and conducted for the following reasons:

- There is no comprehensive report or tangible dataset available specifically for slums/underserved areas. The studies are carried out in one specific slum or a few sampled slums and are not a true representation of inequities prevalent in all slums. Moreover, existing studies rely on outdated or nationally non-representative datasets, bringing the validity of research in question;
- The cities are growing very fast and are most popular for urban migration. Systematically collected scientific data on geographical scale, locations and population of slums is not only essential to inform policy-makers for needed interventions. ;
- The available literature does not have comprehensive information about the scale and situation of slums/underserved areas;
- A comprehensive list and profile of slums is not available which would inform planners about the geographical scale, locations and population of slums;
- Additionally, it is not clear whether people living in slums which are not considered legal/registered/regularized in the records of relevant public departments were included in the National Census or not. The current resource allocations and provision of public services is decided according to the available information hence do not cater slums which are not recognised officially;
- No secondary dataset is available which provides a complete picture of the status of health and immunization practices in slums and underserved areas. Although some studies mention a few reasons for zero-dose and unimmunized children, an extensive approach on the pattern of coverage survey has not been adopted by any of the studies to understand the reasons for under-immunization. An extensive understanding of slum lifestyle and their socioeconomic conditions is to be undertaken to draft and implement better immunization-related policies;
- Coverage surveys have never been undertaken in slums hence status of immunization was never known for realistic planning and resource allocation.
- The micro plans of vaccinators and LHWs are prepared based on targets only and do not include specific coverage of slums. The comprehensive data on slums/underserved areas would help in setting up realistic targets for slums/underserved areas.
- Action plans for improvement of vaccination and general health conditions in slums/underserved areas would become possible.
- There is little or no data available on the role of private and not-for-profit sector on the kind of interventions undertaken by these sectors for the urban poor. The potential for these sectors to provide for the urban poor has not yet been explore



## Chapter 2   Methodology



## Chapter 2: Methodology

This part describes the detailed methodology adopted for the profiling of slums / underserved areas. This methodology was designed in close consultation with the UNICEF Pakistan Country Office, UNICEF Pakistan Field Office and Provincial Expanded Programme on Immunization (EPI) Cell. The process was made participatory and engaging for having community driven perspectives. Triangulation, validation and supportive monitoring were adopted as the key principles and formed the backbone of the entire process. The methodology was finalized according to the security situation and local context.

### 2.1 Study Design

This was a cross-sectional study undertaken to prepare the in-depth profiling of slums / underserved areas. The following four key activities were conducted for the purpose of this study (Figure.1).

### 2.2 Study Sites

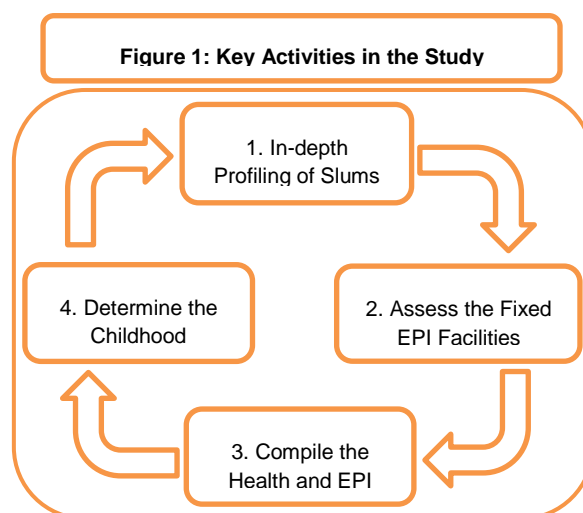
The study was conducted in the slums / underserved areas located in the city and its periphery. The administrative structure of Pakistan distributes the country into four provinces and Islamabad, Azad Kashmir and Gilgit Baltistan as federally administered areas. The provinces are further distributed into districts. Each district is distributed into multiple towns (*tehsils*), which are further distributed into union councils. Each union council has 5 to 15 villages/areas depending on the context and rural/urban settings in each province. Previously, the performance of the country used to be assessed either at the provincial level and or at the district level. Gradually it has been realized that the performance needs to be monitored at the administrative unit level, which is union council. Each union council has a union council office, which is headed by the Secretary. The Secretary gets certain resources for the development of villages/areas for that particular union council. The resources of each union council have direct correlations with the performance outputs of that particular union council.

### 2.3 Study Duration

This study was conducted between 2018 and 2019 with different intervals.

### 2.4 Study Respondents

For the purpose of this study, four key activities were conducted and each activity had different respondents.



**Table 1: Respondents of the Study**

Activities	Study Respondents	Study Instruments
In-depth profiling of slums and underserved areas	Residents of slums / underserved areas	A. Questionnaire for Group Discussion in Slums / Underserved Areas
Assess the fixed EPI facilities	In-charge of EPI facilities	B. Questionnaire for EPI Facility Assessment
Compile the health and EPI recourses data at union council levels	District Health Officer, District EPI Coordinator and District Supervisor Vaccination or their nominees for providing official information on health and EPI resources	C. Questionnaire for District or Town Health Office
Determine the childhood immunization coverage rates	Mothers of the children aged between 12 and 23 months	D. Questionnaire for Household Coverage Survey

### 2.5 Sampling Procedures and Sample Size

#### Activities 1: In-depth profiling of slums and underserved areas

Slums/underserved areas form a major portion of the largest cities' population. Consolidated information about the names, addresses and population sizes of slum / underserved areas were not available for realistic planning and extension of the health and EPI services. In order to identify the locations and scale of slums/underserved areas, to know the approximate size of target population and to prepare basic characteristics of these locations, their holistic profiles were prepared.

**Step 1: Desk Research:** For the purpose of this activity, initially extensive desk research were carried out by the study team. The purpose was to understand the different dynamics of the urban poor living in the five largest cities of Pakistan. These conditions were assessed by gathering the literature retrieved from search engines on internet, academic research journals, and policy papers on slums / underserved areas.

**Step 2: Verification of the Study Areas:** As there was no data (i.e. listing) available on the slums / underserved areas, the study team visited and physically verified these areas.

**Step 3: Interactive Group Discussions:** Once these areas were verified and listed by the study team, the process of collecting socio-demographic information of the residents of slums and underserved areas were started through interactive group discussions. The study team conducted one group discussion from each union council located in the slums and underserved areas.

**Sampling Method:** A convenience sampling method was used for the purpose of interactive group discussions among the residents of slums and underserved areas. This was done because of the following three key reasons:

- A. There were no lists or records of the households. The lists of households prepared by Community Based Vaccinators (CBVs) did not differentiate between the slums and non-slums areas
- B. The security situations and general hostility as well as unwillingness to share information rendered a simple random sampling nearly improbable
- C. Considered to be close knit communities, slums represent wide information sharing networks. Therefore estimates by these informants were deemed to be close to accurate through cross-validation

**Sample Size:** One group discussion was conducted in each slum and underserved area. Three to five respondents were selected based on inclusion and exclusion criteria for the interactive group discussions.

**Inclusion and Exclusion Criteria:** Following criteria were designed and adopted for the purpose of identifying the respondents for these interactive group discussions.

Inclusion Criteria	Exclusion Criteria
A. Resident of either slum or underserved area which was to be profiled	A. Not the resident of either slum or underserved area which was to be profiled
B. Have been living there for more than two years	B. Have been living there for less than two years
C. Have knowledge about physical infrastructure and other facilities of that particular area	C. No knowledge about the physical infrastructure and other facilities available in the area

### Activities 2: Assess the fixed EPI facilities

The overall objectives of the assessment of fixed EPI facilities were to know the strengths and weaknesses of the service delivery system and to analyse correlations between coverage rates and strengths and weakness of the system.

**Step 1: Obtaining the list of fixed EPI facilities:** The study team obtained the list of all fixed EPI facilities from the department of health authorities.

**Step 2: Assessment of fixed EPI facilities:** Once the lists were obtained, fixed EPI facilities were physically visited by the study team for assessment.

No sampling method was used for this activity. All listed fixed EPI facilities (i.e. 228) were physically visited and assessed by the study team.

### Activities 3: Compile the health and EPI recourses data

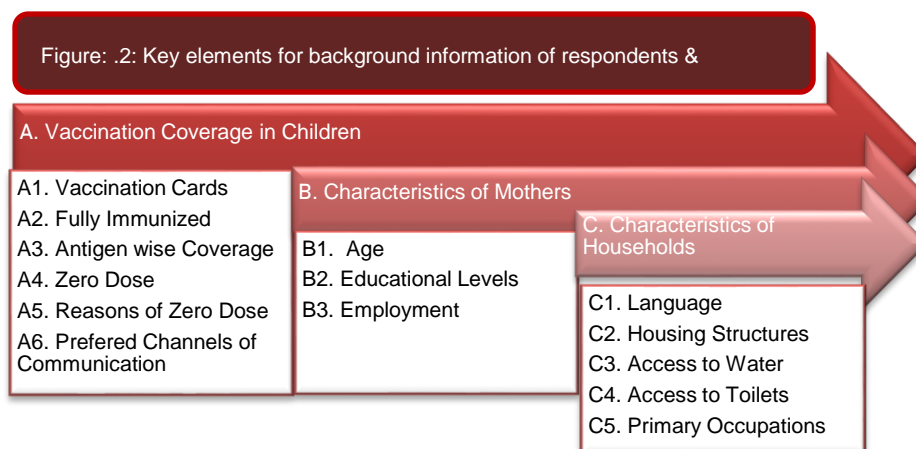
**Step 1: Obtaining data of health and EPI resources:** The data of health and EPI resources available at the union council's level were collected from the department of health. The study team used 'Questionnaire for District or Town Health Office' for this purpose.

**Step 2: Triangulation of Data:** This data was triangulated with the information collected from the residents of slums and underserved areas through interactive group discussions (activity 1).

No sampling method was used and data on the key variables (section 2.6) were collected by the study team through study instrument.

### Activities 4: Determine the childhood immunization coverage rates

The coverage survey was conducted to determine the childhood immunization rates by the study team. This background information about the households and respondents were also collected (Figure 2).



The correlations of these broader categories i.e. i). Vaccination coverage in children, ii). Characteristics of the mothers, and iii). Vaccination coverage of the children were undertaken to comprehend the real reasons of high / low or no coverage rates in the slums and underserved areas.

**Step 1: Sampling Methodology:** This was conducted according to the methodology of World Health Organization (WHO). The following six points were utilized in calculating the sample size for this coverage survey.

1. Penta 3 coverage rates from 3rd party sources
2. Effective Sample Size (ESS)
3. Design Effect Factor (DEFF)
4. Estimation of number of children aged between 12 and 23 months
5. Calculation of inflation or no response
6. Steps for determining sample size and cluster

**1. Penta 3 Coverage Rates:** The city was taken as an independent stratum and Multiple Indicator Cluster Survey Balochistan 2010 was used for using Penta 3 coverage rates. 50% coverage rate for Penta 3 was taken as a basis for calculating sample size.

**2. Calculation of Effective Sample Size:** ESS was determined through expected coverage and desired precision level was set at 95 percent Confidence Interval (CI) as per Table B - 1, Page 118, WHO reference manual.

**3. Design Effect Factor:** Post measles campaign design effect factor 6.4 calculated for the 3rd party survey 2018 was utilized as a basis for calculating the sample size.

**4. Estimation of Number of Children Aged between 12 and 23 Months:** The number of children aged between 12 and 23 months were determined by using the 3.5 percent of the total population are children between 0 and 1 year and 3.5 percent are between 1 and 2 years. The estimation of the number of 12-23 months old children was calculated as follows:

- = Percentage of 12 – 23 months children in 100 household
- =  $100 / 3 / 6.5$
- = 5
- = This means that from every 5<sup>th</sup> to 6<sup>th</sup> house one child will be available
- = If the required # of children were not available in a cluster, new clusters were included and existing cluster was stopped.

**5. Calculation of Inflation or No Response:** Inflation or No Response factor from households was calculated by using the following formula mentioned in WHO manual. This factor is usually intended to include additional houses in case a child is not available at a set interval or has refused to participate. In order to overcome this, additional houses were also listed and profiled. The inflation or no-response factor was calculated as follows:

$$\begin{aligned} \text{No Response} &= 100 / 100 - P \text{ (Household Did not Respond)} \\ &= 100 / 100-5 \\ &= 1.05 \end{aligned}$$

**6. Calculation of Sample Size and Clusters:** Calculation of sample size was done once the DEFF and ESS, including No Response Inflation factor were all set. The following steps were undertaken to ascertain the sample-size:

Total Completed Interviews

$$= \# \text{ of strata} \times \text{ESS target from table B of WHO guidelines} \times \text{DEFF}^{23}$$

Total Households to be visited to get the Target # of Households to be interviewed

$$= \text{ESS} \times \text{DEFF} \times \text{household to find a child} \times \text{no response inflation factor}$$

Number of Households to Visit per Strata

$$= \text{ESS} \times \text{DEFF} \times \text{household to find a child} \times \text{no response inflation factor}$$

Number of Clusters

$$= \text{ESS} \times \text{DEFF} / \text{Household to be interviewed per cluster}$$

Total Households to Visit per Cluster

$$= \text{Household to find a child} \times \text{no response inflation factor} \times \text{household to be interviewed per cluster.}$$

**Step 2: Sampling Procedure:**

The slum was taken as a cluster. The following steps were undertaken during survey taking:

1. The city-wise lists of slums located in all urban towns were organized in an ascending order on the basis of population
  2. The random number for selecting slum was calculated by dividing the total slums by total clusters
  3. After knowing the random number e.g. 2 or 3 or 4 or 5, every 2<sup>nd</sup>-5<sup>th</sup> slum of each town was picked up for mapping and listing
  4. Maps were prepared for each selected slum (cluster). The buildings including government schools were numbered and marked. Maps of the areas/clusters/slums were prepared and residential buildings were marked for the listing of the households
  5. Then by throwing a pencil on the map, the residential block was selected randomly
  6. The selected block was listed and number of children were also listed
  7. A list of minimum 80 to 150 houses was prepared
  8. The total listed households were divided by 15 to calculate the random number for selecting a household for checking availability of children
  9. Listed households with the final random number were picked for interview
- In case of unavailability of 15 children in a cluster, additional clusters were added

**2.6 Key Variables**

**Table 2: Key Variables in the Study**

Activities	Key Variables
In-depth profiling of slums and underserved areas	1. Slums and Underserved Areas 2. Demography 3. Health and EPI Resources 4. Infrastructure 5. Social Welfare Services
Assess the fixed EPI facilities	1. Infrastructures 2. System 3. Management and Facilities 4. Equipment and Supplies 5. Waste Management 6. Human Resources
Compile the health and EPI recourses data	1. Administrative Layout 2. Healthcare Facilities 3. Equipment and Supplies 4. Human Resources 5. Nutrition Services
Determine the childhood immunization coverage rates	1. Vaccination Coverage 2. Characteristics of the Mothers 3. Characteristics of the Households 4. Characteristics of Fully Immunized Vs. Zero Dose Children

<sup>23</sup> Taken from Post Measles Campaign Analysis by WHO

## **2.7 Data Collection Instruments**

The data collection instruments were designed by the senior investigators and finalized in consultation with the UNICEF Pakistan officials. The instruments were pre-tested in order to ensure the consistency, appropriateness of language and sequencing of the questions. Based on the feedback from the pre-testing, the instruments were modified and rephrased, where necessary. These data collection instruments were not only translated into local languages but also culturally adopted, where necessary. All study instruments are attached in annexures.

## **2.8 Operational Definitions**

The operational definitions were defined based on the desk reviews as well as discussions with the health authorities.

### **2.8.1 Slums**

The definition of slums was reviewed from UN Habitat, *Kachi Abadi* Cell, Town Municipal Offices and Offices of Development Authority. Slums are a contiguous settlement where the inhabitants are characterized as having inadequate housing and basic services. A slum is often not recognized and addressed by the public authorities as an integral or equal part of the city. According to UN Habitat, the generic definition of a slum suggests that it is:

*...a contiguous settlement where the inhabitants are characterized as having inadequate housing and basic services. A slum is often not recognized and addressed by the public authorities as an integral or equal part of the city (UN Habitat, 2010, p. 13<sup>24</sup>).*

Similarly, a slum household is defined as a group of individuals who live under the same roof that lacks one or more<sup>25</sup> of the following conditions:

- Limited access to improved water and sanitation
- Weak housing structures
- Insufficient living area
- Uncertain about legal ownership of the residential area

### **2.8.2 Peri-Urban Slums**

Slums located at the periphery of urban areas that join the borders of cities and rural areas.

### **2.8.3 Legal Status**

Concerned government department recognizes slums as either registered or regularized officially. Documentary evidence such as electricity bill or Computerized National Identity Card (CNIC) shows the address.

### **2.8.4 Underserved Areas**

Underserved Areas includes both planned residential areas with *majority of the plastered housing structures*. Underserved areas have one or more of the following conditions:

- Low immunisation coverage or

High number of refusal

### **2.8.5 Expanded Programme on Immunization**

Expanded Programme on Immunization of the government of Pakistan for children and women of child-bearing age.

### **2.8.6 Outreach Vaccination**

Within remote and inaccessible areas where EPI or healthcare facilities have difficult access or do not exist, an outreach vaccinator covers the area through house to house visits.

### **2.8.7 Ice Lined Refrigerators**

Ice Lined Refrigerator (ILR) for maintaining a particular temperature required for storage of vaccines.

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<sup>24</sup> UN Habitat (2010), *The Challenge of Slums: Global Report on Human Settlements 2003*

<sup>25</sup> This definition may be locally adapted for where some factors may be similar between the slums and majority of the society (UN Habitat).

### 2.8.8 Kacha Housing Structure

All walls and ceilings are made of mud, straws, bamboos or material other than cement, concrete and iron and are vulnerable to damage due to excessive rains, floods or earthquake etc.

### 2.8.9 Pacca Housing Structure

All walls and ceilings are made of cement, concrete and iron.

### 2.8.10 Kacha-Pacca Housing Structure

Walls are made of concrete and iron while ceiling is made of mud, straw or bamboo or vice versa.

### 2.8.11 Antigen

A liquid medicine, which develops immunity in the body of an individual.

### 2.8.12 Fully Immunized

Children aged between 12 and 23 months who have completed vaccination of all doses starting from BCG-OPV0, Penta 1, Penta 2, Penta 3, and Measles-1.

### 2.8.13 Partially Vaccinated

Children aged between 12 and 23 months who have received some doses of vaccination but could not complete it according to age wise requirements.

### 2.8.14 Defaulter

Any child aged between 12 and 23 months who has received BCG+OPV0 and Penta 1 and Penta 2 but did not receive Penta 3 or Measles-1.

### 2.8.15 Zero Dose

Children aged between 12 and 23 months who have not received any doses of vaccines including polio, which may protect children from vaccine preventable diseases.

### 2.8.16 Records

Under two years of children whose vaccination cards containing record of their age wise doses administered are available in readable condition for any confirmation

### 2.8.17 Recall

Under two years of children whose record of vaccination is not presented on any paper or card at the time of the survey and mother shares the vaccination status based on her memory or recall.

### 2.8.18 Vaccine Preventable Diseases

The vaccine preventable diseases for children aged between 0 and 23 months are prevented through offering basic vaccination. The names of these diseases are Childhood Tuberculosis, Poliomyelitis, Rotavirus Diarrhea, Pneumonia, Diphtheria, Pertussis (Whooping Cough), Tetanus, Hepatitis B (Hep B), Haemophilus Influenza type b (Hib) and Measles.

### 2.8.19 Antigens as part of Basic Vaccine

The following antigens are administered to children aged between 0 and 15 months old with different age intervals:

1 <sup>st</sup> Dose	2 <sup>nd</sup> Dose	3 <sup>rd</sup> Dose	4 <sup>th</sup> Dose	5 <sup>th</sup> Dose	6 <sup>th</sup> Dose
Immediately After Birth	6 Weeks	10 Weeks	14 Weeks	9 Months	15 Months
BCG+OPV0	OPV 1, Rota 1, Pneumococcal Conjugate Vaccine (PCV) 1, Penta 1	OPV 2, Rota 2, PCV 2, Penta 2	OPV 3, Rota 3, PCV 3, Penta 3	Measles-1	Measles-2

## **2.9 Data Analysis Techniques**

Systematic approach was adopted for cleaning, and verification and further entering of data in excel sheets as per the variables defined for this study. The data was analyzed by the Data Manager in Statistical Package for Social Sciences (SPSS) and Statistics and Data (STATA). The processed data is interpreted through tabular and graphical presentation required for quantitative analysis. The data of slums was segregated in the following categories.



Categories	Size	Housing Structure	Legal Status	Facilities	Location
Category A	More than 60 households	Mostly <i>Kacha</i> /mud made/Tented	Mostly illegal	No solid/liquid waste management system No government water supply	Mostly under the bridge, near river, railway station and any empty land within the city
Category B	Less than 60 households	Mostly <i>Kacha</i> /mud made/Tented	Mostly Illegal	No solid/liquid waste management system No government water supply	Surrounded by big houses
Category C	More than 60 households	Mostly <i>Pacca</i> /Plastered	Mostly legal	Mostly garbage management system and drains exist	Mostly upgraded from slums or housing societies or extension of towns
Category D	More than 100 households	Mostly un-plastered	Mostly legal	No solid/liquid waste management system No government water supply	Originally rural area but gradually became part of the city hence located at the periphery of the city

### 2.10 Monitoring Mechanism

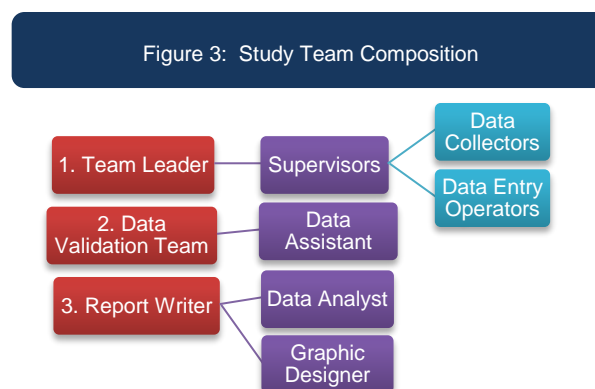
For the purpose of this study, timely review and rigorous monitoring system was put in place to ensure there were no detractions. This included engagement of a full-time team dedicated to holding surveys and field visits, timely submission of data, physical verification and further cleaning process of the data, and assignment for each team member. The monitoring ensured the following:

- Verification of data either through telephonic correspondence or physical on-field visits
- Supportive supervision and daily review of field performance
- Trouble shooting in case of problems
- Review of survey forms to ensure that no information was missed or fake or contradictory

### 2.11 Study Team and Training

A three-tiered teams were engaged in in-depth profiling of slums and underserved areas, assessment of fixed EPI facilities in slums and underserved areas, compilation of health and EPI resources data of union councils and childhood vaccination coverage in slums / underserved areas.

The first tier of team comprised of a team leader, survey supervisors and data collectors. The team leader provided overall guidelines and end-to-end management of the process, the supervisors extended supportive supervision and monitoring of the data collection and ensured quality standards while surveyors collected the data from the field through physical visits, group discussions and individual interviews.



The 2nd tier of the team consisted of data validation, cleaning, entry and analysis.

The 3rd tier of the team comprised report writers responsible for undertaking desk researches and interpreting the results in an effective manner.

The training of study teams was conducted by the professionals prior to commencing data collection activities that includes study objectives, basic concepts on healthcare and immunization services, data collection, ethical considerations as well as confidentiality. In addition, they were trained on data entry processes (i.e. validation and cleaning before their final consolidation).



## **Chapter 3 Profile of Slums & Underserved Areas**

### **Why Shall I Risk Putting My Children Into Danger?**

Hadia, age 32 years, lives in the slum of badal khan rand kachi abadi (uc shadanzai, chilton town, uetta) with her family. Her household has 30 family members with 9 males and 21 females. Hadia's family has been living there for the last 30 years in a two bedroom mud hose with only one toilet available for the entire family. Her father, hashim kareem, is a daily wage earner and struggles to provide even enough food for the family. Sometimes they have to borrow to meet their ends. hadia's mother, 34, is a housewife and is illiterate. While talking about vaccination, she mentioned that lady health visitors visit them and have had serious conversations with her husband. She referred that her husband is aware of their agenda and would not allow children to be vaccinated. She believed that the vaccines would cause diseases particularly infertility, and thereby would not risk her children's health by administering vaccines.

## Chapter 3: Profile of Slums & Underserved Areas

Slums and underserved areas form a major portion of the largest cities' population. Consolidated information about names, addresses and population sizes of these areas are unavailable for realistic planning and extension of health and EPI services. To date, no country has conducted profiling of slums to determine target population and to subsequently carry out targeted coverage enhancement programmes. In order to identify the locations and scale of slums and underserved areas, to know the approximate size of target population and to prepare basic characteristics of these location, their holistic profiles are being prepared. This chapter presents profile of slums and underserved areas of Quetta, the capital city of Balochistan. The profile is presented around the following five broader categories:

### 3.1 Slums/Underserved Areas

3.1.1 Union Councils With/Without Slums/Underserved Areas

3.1.2 Number of Slums/Underserved Areas

3.1.3 Timelines of Existence

3.1.4 Legal Status

### 3.2 Demography

3.2.1 Population

3.2.2 Types of Residents

### 3.3 Health & EPI Resources

3.3.1 Health Facilities

3.3.2 EPI Facilities

3.3.3 Outreach Vaccination

3.3.4 Health Workers

3.3.5 Emergency Health Services

### 3.4 Infrastructure

3.4.1 Housing Structures

3.4.2 Household Toilets

3.4.3 Domestic Water

3.4.4 Waste Management

### 3.5 Social Welfare

3.5.1 Schools

3.5.2 Civil Society Organizations

3.5.3 Informal Groups

3.5.4 Social Welfare Schemes



The profiles of slums and underserved areas according to each of the above variables are presented below:

### 3.1 Slums/Underserved Areas

#### 3.1.1 Union Councils with/without Slums/Underserved Areas

Quetta City is administratively distributed into 2 towns and 50 UCs. 44% of the UCs contains slums or underserved areas. 56% UCs are without any slums or underserved areas.

Towns	Slums		Underserved		Total	
	#	%	#	%	#	%
Chiltan	197	70%	6	18%	203	64%
Zargoan	84	30%	28	82%	112	36%
<b>Total</b>	<b>281</b>	<b>100%</b>	<b>34</b>	<b>100%</b>	<b>315</b>	<b>100%</b>

#### 3.1.2 Slums/Underserved Areas

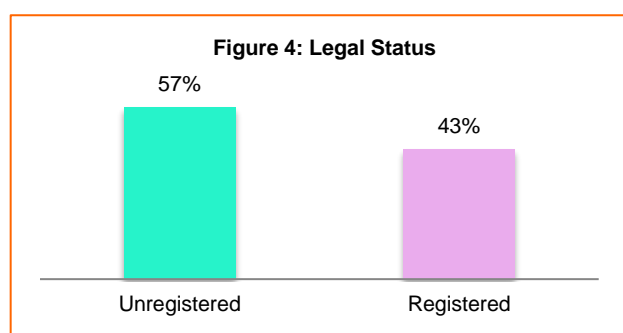
Overall, there are 281 slums and 34 Underserved areas in 44% UCs. These slums and underserved areas vary in their size by area and population density.

#### 3.1.3 Timelines of Existence

Slum establishment is low at 9% before 1950; whereas it has been highest at 62% between the periods of 1950-1990. The development of new slums reduced to 20% during the period 1991-2005 followed by only 9% increase after 2005. (Table 2 Annex 5)

### 3.1.4 Legal Status

57% slums are unregistered and thus ineligible to have official resource allocations for public services such as health, education, water and sanitation etc. whereas another 43% are registered and are in possession of supporting documents as evidence<sup>26</sup>. The population residing in these unregistered slums is 633,508 which is 44% of the total population residing in slums/underserved areas (712,404) in Quetta. The quality of life in most of these unregistered slums is characterised by poor housing.



## 3.2 Demography

### 3.2.1 Population

The population of slums/underserved is approximately 0.7 million, with a higher population share of people residing in slums (89%) than underserved areas. The children aged 0-11 months are 22,939 and children under 5 years of age are 121,108 while 156,729 women are of child bearing age.

### 3.2.2 Types of Residents

Overall, 87% residents of slums/underserved areas are permanent settlers of their localities; whereas, 7% are either temporarily displaced and 5% belong to other Nationalities. Underserved have greater number of temporary displaced and families belonging to other Nationalities.

## 3.3 Health Resources

### 3.3.1 Health Facilities

20% UCs do not have public health facilities. Although 80% of UCs do have public health facilities, only 5% residents of slums report presence of Public health facilities within 2 kilometres access. In addition, 1% residents of slums report access to private health facilities within 2 kilometres access. (Table 8c Annex 5)

### 3.3.2 EPI Facilities

18% UCs do not have EPI facilities. Although 82% UCs have EPI facilities, it is interesting to note that only 6% residents of slums and 3% residents of underserved areas report the presence of EPI facilities within 2 kilometres access. (Table 10a, Table 10b Annex 5)

### 3.3.3 Outreach Vaccination

Outreach vaccination services are available in only 36% of slums/underserved areas. More underserved areas (65%) are without outreach as compared to slums 64%.

Slums	Underserved	Total
633,508	78,896	712,404
100%	100%	100%
<b>Population of 0-11 Months (3.5% and 92% Survival)</b>		
20,399	2,540	22,939
100%	100%	100%
<b>Population under 5 Years (17%)</b>		
107,696	13,412	121,108
100%	100%	100%
<b>Population of Child Bearing Age Women (22%)</b>		
139,372	17,357	156,729
100%	100%	100%

Areas	Permanent residents	Temporary Displaced	Other Nationality
Slums	88%	7%	5%
Underserved	76%	8%	16%
Total	87%	7%	6%

UCs with Health Facilities	UCs without Health Facilities
80%	20%

UCs with EPI Facilities	UCs without EPI Facilities
82%	18%

Areas	With Outreach	Without Outreach
Slums	36%	64%
Underserved	35%	65%
Total	36%	64%

<sup>26</sup> Residents of these slums presented their utility bills that they were charged against the government run electricity service etc. This implies that there is some level of recognition by the local authorities if not in full fledged official terms.

### 3.3.4 Health Workers

#### 3.3.4a) Lady Health Workers

LHWs do not extend their services in 67% slums/underserved areas. Slums/underserved areas where LHWs extend their services, majority of them raise awareness on childhood vaccination, prenatal care and maternal and child healthcare. The study also found that emergency health services and dengue workers are not available in slums and underserved of Quetta city.

**Table 11: LHW Works/Not Works**

Areas	Works	Not Works
Slums	33%	67%
Underserved	32%	68%
Total	33%	67%

### 3.4 Infrastructure

#### 3.4.1 Housing Structures

Only 19% of the houses are Pacca/concrete with 93% Pacca housing structures in underserved areas in comparison to 12% slums having Pacca housing structures. The percentage of *Kacha* houses is higher in slums (66%) as compared to underserved areas where no *kacha* structures exist. A similar pattern is found for *Kacha-Pacca* (mixed) structures where slums have higher percentage (22%) as compared to underserved areas (7%). The sizes of houses in the cases of majority of *Kacha* houses are very small and comprise of one room only for the entire family. The cooking places are also part of the one room accommodation.

**Table 12: Housing Structures**

Areas	Kacha	Kacha-Pacca	Pacca	Total
Slums	66%	22%	12%	100%
Underserved	0%	7%	93%	100%
Total	60%	21%	19%	100%

#### 3.4.2 Household Toilets

Two types of household level toilets were found in the research study area i.e. traditional/open pit and toilets connected with street drain. Greater percentage of slums (87%) has traditional/open pit toilets compared to underserved areas (79%). Areas where toilets are found, majority of them are choked or filthy. Surveyors discovered that on an average, 9 persons use a single toilet in slums. (Table 20a Annex 5)

**Table 13: Household Toilets**

Areas	Traditional Latrine/Open Pit	Connected with Street Drain	Total
Slums	88%	12%	100%
Underserved	79%	21%	100%
Total	87%	13%	100%

Denominator for calculating percentages for the above two rows are houses where toilets exist

Although 5% slums/underserved areas do not have toilets at the household level but the 8% residents of slums/underserved areas practice open defecation. The residents of slums practicing open defecation are greater (9%) compared to (0%) of underserved areas. (Table 21a, Table 21b Annex 5)

**Table 14: Open Defecation Practices**

Status	Slums	Underserved	Total
No Toilets	5%	6%	5%
Open Defecation	9%	0%	8%

#### 3.4.3 Domestic Water

85% of slums/underserved areas do not have access to government water system and thus rely on other sources of water. A higher percentage of slums (88%) do not have government water supply connection as compared to underserved areas (65%). Slums/underserved areas where government water supply is installed, residents face shortage of water availability and only 15% residents have water availability for 5 hours in a day. (Table 17c Annex 5)

**Table 15: Sources of Domestic Water**

Status	Slums	Underserved	Total
Government Water Supply	12%	35%	15%
Ground Water	27%	12%	26%
Acquire from other sources of water	61%	53%	59%

A higher percentage of slums/underserved (59%) do not have ground water availability and acquire water from different sources. The quality of domestic water is questionable as the containers used for domestic waster storage were found to be dirty and contaminated.

#### 3.4.4 Waste Management

##### 3.3.4a) Liquid Waste

For liquid waste management, 84% slums/underserved areas either do not have any drains or have choked and filthy drains. The percentage of filthy and choked drains is higher in underserved areas 53% in comparison to slums (47%).

**Table 16: Liquid Waste Management**

Areas	No Drains	Drains Filthy/Choked	Drains have Running Water	Total
Slums	40%	47%	14%	100%
Underserved	15%	53%	32%	100%
Total	37%	47%	16%	100%

### 3.3.4b) Solid Waste

Only 7% slums/underserved areas have waste pick up facility by the government, while 91% throw waste on empty plots/streets. A small percentage of slums/underserved areas have their own system which includes burning/burying of the waste. The percentage of slums which throw waste on empty plots/streets is greater than underserved areas. Such insanitary conditions facilitate breeding of mosquitoes. People exposed to such poor sanitary conditions are more likely to suffer from diarrhoea, typhoid and dengue.

**Table 17: Solid Waste Management**

Areas	Thrown on Empty Plots/Streets	Govt System	Self-System	Total
Slums	93%	5%	2%	100%
Underserved	76%	24%	0%	100%
Total	91%	7%	2%	100%

## 3.5 Social Welfare

### 3.5.1 Schools

Overall 47% slums/underserved areas are without schools. Greater number of slums (48%) is without schools compared to underserved areas (32%). Majority of these schools in slums/underserved areas are located within 2-kilometre radius from the centre of the slum or underserved area.

**Table 18: Schools**

Areas	Schools Available	Schools Not Available	Total
Slums	52%	48%	100%
Underserved	68%	32%	100%
Total	53%	47%	100%

There are a total of 265 educational institutions in 281 slums. The largest proportion of schools is government (75%) run followed by Maktab/Madrasah (52%) and private schools (50%). 6% of the school accounts for the welfare/trust managed set ups.

**Table 19: Types of Schools**

Areas	Slums	Underserved	Total
Government	75%	96%	78%
Private	50%	78%	54%
Welfare/Trust	6%	9%	6%
Maktab/Madrasah	52%	48%	51%

In 34 underserved areas in Quetta City, there are a total of 53 schools. Government schools again make up the highest percentage (41%) while private educational institutions constitute 34%. A small percentage (4%) schools are run by welfare trusts.

These schools are within the vicinity of 2 kilometres of the slums or underserved areas. It is important to mention that in 136 slums and 11 Underserved areas there are no schools at all. It implies that children in these neighbourhoods either do not go to schools or have to go long distances to attend the nearest school. (Table 26a Table 26b Annex 5)

### 3.5.2 Civil Society Organizations (CSOs)

No slums/underserved have a presence of CSOs. Some slums/underserved areas reported working of CSOs on project to project basis.

**Table 20: Social Welfare**

Characteristics	Slums	Underserved	Total
CSOs works	0%	0%	0%
CSOs do not work	100%	100%	100%
Informal Groups Exist	15%	6%	14%
Informal Groups do not Exist	85%	94%	86%
Public Welfare Schemes Exist	12%	0%	11%
Public Welfare Schemes do not Exist	88%	100%	89%

### 3.5.3 Informal Groups

Overall 14% slums/underserved areas have informal groups with greater percentage in slums (15%) compared to underserved areas (6%). Majority of these informal groups are *Masjid Committees*, *Jirga* or unregistered community-based organizations.

*Committees*, *Jirga* or unregistered community-based

### 3.5.4 Public Welfare Schemes

Only 11% slums positively report about social benefit schemes by the government as compared to (0%) in underserved areas. These schemes primarily focus on vocational trainings for females.



## Chapter 4    Health Resources in Union Councils



## Chapter 4: Health Resources in Union Councils

The country is structurally divided into four provinces namely Punjab, Khyber Pakhtunkhwa, Sindh and Balochistan and two autonomous territories of Gilgit-Baltistan and Azad Jammu Kashmir and one Federal Capital of Islamabad. Each province is then subdivided into divisions, which in turn are further divided into districts. Districts are categorized into tehsils/towns, the subunit of which is the Union Council (UC). Under administrative tiers of Pakistan, UC is the fifth and the lowest level of administrative unit. This chapter compiles the status of health and EPI resources of UCs of Quetta. The status is presented around the following sub-themes:

### 4.1 Administrative Layout

#### 4.1.1 UCs with/without Slums/Underserved Areas

### 4.2 Health Facilities

#### 4.2.1 UCs with/without Health Facilities

#### 4.2.2 Number of Health Facilities vs. UCs

### 4.3 EPI Facilities

#### 4.3.1 UCs with/without EPI Facilities

#### 4.3.2 Number of EPI Facilities vs. UCs

#### 4.3.3 Outreach Vaccination

#### 4.3.4 Cold Chain

### 4.4 Nutrition Services

#### 4.4.1 Presence of Nutrition Services

#### 4.4.2 Types of Nutrition Services

### 4.5 Human Resources

#### 4.5.1 Vaccinators per EPI Facility

#### 4.5.2 Lady Health Workers

### 4.1 Administrative Lay Out

#### 4.1.1 UCs with/without Slums/Underserved Areas

There are 50 UCs in Quetta city. The slums/ underserved areas are concentrated in 22 UCs, whereas 28 UCs are without any slum/ underserved area.

**Table 21: UCs with/without Slums/Underserved**

Total UCs	UCs with Slums/Underserved Areas
50	22

### 4.2 Health Facilities

#### 4.2.1 UCs with/without Health Facilities

20% UCs do not have Public Health facilities, while UCs where there are no health facilities contain slums/underserved areas. These slums/underserved areas are expected to access health facilities located in other UCs.

**Table 22: UCs with/without Public Health Facilities**

UCs with Public Health Facilities	UCs without Public Health Facilities
80%	20%

#### 4.2.2 Number of Health Facilities Vs. UCs

There are 63 Public Health Facilities which are located in 80% UCs. Likewise, 34 health facilities serve UCs where slums/ underserved areas are present. The total population of Quetta city is 1.01 Million, which is expected to access any of the 63 public health facilities.

**Table 23: # of Public Health Facilities Vs UCs**

Public Health Facilities	# of UCs with Public Health Facilities
63	40

### 4.3 EPI Facilities

#### 4.3.1 UCs with/without EPI Facilities

18% UCs are without EPI facilities, while 82% UCs have EPI facilities. UCs without EPI facilities house slums/underserved areas.

**Table 24: UCs with/without EPI Facilities**

UCs with EPI Facilities	UCs without EPI Facilities
82%	18%

#### 4.3.2 Number of EPI Facilities vs. UCs

There are 69 EPI facilities for 82% UCs, while 18% UCs are without any EPI facility. Likewise, 34 EPI facilities serve UCs where slums/ underserved areas are present.

**Table 25: Number of EPI Facilities**

# of EPI Facilities	# of UCs with EPI Facilities
69	41



### 4.3.3 Outreach Vaccination

Although outreach Vaccination services are available in 100% UCs but 64% slums/underserved areas report non- provision of outreach services in their respective areas (Table # 8 Annex # 6). Outreach vaccination services are essential to increase the outreach of routine immunization in areas where EPI facilities are not accessible by the public.

**Table 26: Outreach Vaccination**

UCs with Outreach	UCs without Outreach
100%	0%

### 4.3.4 Cold Chain

Although ILR is available in 100% facilities, functional ILR is available in 97 % EPI facilities.

**Table 27: Cold Chain**

Functional ILR	Non-Functional ILR
97%	3%

## 4.4 Nutrition Services

### 4.4.1 Presence of Nutrition Services

Nutrition services are not offered in 82% UCs. These UCs hold 178 slums/ underserved areas.

**Table 28: Nutrition Services**

Available	Not Available
18%	82%

### 4.4.2 Types of Nutrition Services

Four types of nutrition services are offered at various levels i.e. fixed sites, temporary sites, school sessions and LHW sessions. Only 2% UCs have fixed nutrition services, whereas 18% UCs have temporary sites, school nutrition sessions and LHW sessions each.

**Table 29: Types of Nutrition Services**

UCs with Fixed Nutrition	UCs with Temporary Sites	UCs with School Nutrition	UCs with LHW Sessions on Nutrition
2%	18%	18%	18%

## 4.5 Human Resources

### 4.5.1 Vaccinator

There are 120 vaccinators for 69 EPI facilities. This means there are less than 2 vaccinators per EPI facility.

**Table 30: # of Vaccinators Vs # of EPI Facilities**

# of Vaccinators	# of EPI Facilities
120	69

### 4.5.2 Lady Health Workers

There are 516 LHWs available for 62% UCs. 27% UCs report LHWs do not visit their areas. The areas where LHW provide services, majority of them deliver information about maternal and child health care.

**Table 31: # of LHWs Vs # of UCs w**

# of LHWs	# of UCs where they are Deployed
516	31

### 4.5.3 Dengue Workers

Dengue Workers are not available in 100% UCs of Quetta City.



## Chapter 5   **EPI Facilities**



## Chapter 5: EPI Facilities

The previous chapters describe the situation of slums/underserved areas and availability of health and EPI resources at the UCs level. Chapter 3 and Chapter 4 clearly articulate that besides availability of health and EPI facilities at the UC levels, their access and utilization at the slum/underserved areas are very low. This chapter reflects on the situation of EPI facilities based on the physical assessment of EPI facilities. The overall objective of the assessment of EPI facilities is to know the strengths and weaknesses of the service delivery system. The following variables were assessed while visiting 54<sup>27</sup> EPI facilities:

### 5.1 Infrastructure

- 5.1.1 Ownership of Buildings
- 5.1.2 Waiting Areas
- 5.1.3 Drinking Water
- 5.1.4 Toilets

### 5.2 System

- 5.2.1 Standard Operating Procedures
- 5.2.2 Working Hours

### 5.3 Equipment and Supplies

- 5.3.1 Ice Lined Refrigerators
- 5.3.2 Supplies

### 5.4 Waste Management

- 5.4.1 Types of Practices

### 5.5 Human Resources

- 5.5.1 Vaccinators
- 5.5.2 Lady Health Visitors

### 5.1 Infrastructure

#### 5.1.1 Ownership and Buildings

93% of buildings of EPI facilities are owned by the Government, whereas 7% are operational in privately owned buildings. Building and infrastructure of EPI facilities have a direct impact on the quality of services and attraction for caregivers. Insufficient facilities e.g. absence of waiting areas, insufficient seating capacity in waiting areas and absence of toilets and drinking water discourage caregivers particularly females for visiting these EPI facilities. Likewise, absence of gender segregated waiting areas, gender segregated clean and useable toilets, and unavailability of drinking water creates difficulties for female caregivers while visiting these EPI facilities. The following section further assesses the conditions of EPI centres on these essential parameters.



**Table 32: Ownership of Buildings of EPI Facility**

Owned	Rented	Total
93%	7%	100%

#### 5.1.2 Waiting Areas

Most of the waiting areas are observed to have gender-mixed (52%) seating arrangement; whereas gender segregated waiting areas are present in only 48% EPI facilities. 37% EPI facilities have waiting areas but they have inadequate seating capacity. Gender-segregated waiting areas are essential to facilitate female caregivers coming from conservative families to easily visit the EPI center on their own.

**Table 33: Waiting Areas**

Gender Lens	
Gender Segregated	Gender Mixed
48%	52%
Seating Capacity	
Adequate	Inadequate
63%	37%

#### 5.1.3 Drinking Water

48% EPI facilities do not have drinking water facility that could be discouraging for caregivers traveling from distant places. Considering the hot weather conditions during summer, availability of an adequate drinking water facility is important for EPI facilities.

**Table 34: Drinking Water**

Available	Not Available
52%	48%

<sup>27</sup> 54 are the assessed number of EPI facilities in Quetta city.

#### 5.1.4 Toilets

There are 26% EPI facilities without toilets. Since 19% of toilet facilities available at EPI facilities are not gender segregated, they cannot be used by female caregivers due to highly gender segregated cultural practices prevalent in Quetta. Facilities where toilets exist, 13% of them are not useable.

### 5.2 Systems

#### 5.2.1 Standard Operating Procedures

Standard Operating Procedures is a key document for providing guidance on management of facilities to ensure that at least minimum quality standards are being held. It is alarming that 81% facilities in Quetta do not have Standard Operating Procedures.

#### 5.2.2 Working Hours

Only 31% EPI facilities extend their services for 06 hours, whereas 69% of the EPI facilities operate for less than 06 hours a day.

### 5.3 Equipment and Supplies

#### 5.3.1 Ice Lined Refrigerators

Overall 100% EPI facilities have ILR availability but 4% EPI facilities do not have functional ILRs. The study found that the rest of the EPI facilities (96%) have fully functional ILRs.

#### 5.3.2 Supplies

Majority (65%) of the EPI facilities do not face shortage of vaccine supplies although 35% complaint about either occasional or frequent shortage.

As for the availability of vaccine supplies, safety boxes, auto disable syringes and vaccine carriers are readily available. However, 2% of EPI facilities do not have vaccine carriers and 7% do not have Ice packs.

### 5.4 Waste Management

#### 5.4.1 Types of Practices

100% EPI facilities burn and bury their waste material. Some of the waste such as paper boxes of vaccines and cotton is thrown in the dustbin.

### 5.5 Human Resources

#### 5.5.1 Vaccinators

Vaccinators are available in 100% EPI facilities.

#### 5.5.2 Lady Health Visitors

Lady Health Visitors (LHVs) are not available in 41% facilities. The rest of the facilities do have LHVs.

**Table 35: Toilets**

Availability		
Available	Not Available	
74%	26%	
Gender Lens		
Gender Segregated	Gender Mixed	
81%	19%	
Usability		
Useable	Unusable	No Toilet
61%	13%	26%

**Table 36: Standard Operating Systems**

Standard Operating Systems	
Available	Not Available
19%	81%
Average Working Hours	
Six Hours Per Day	Less than Six Hours Per Day
31%	69%

**Table 37: Ice Lined Refrigerator**

Functional	Non-Functional
96%	4%

**Table 38: Supply of Vaccines**

Status	Vaccines
Sometimes Shortage	29%
Frequent Shortage	6%

**Table 39: Supply of Supplies**

Types of Supplies	Available	Not Available	Total
Auto Disable Syringes	100%	0%	100%
Safety Boxes	100%	0%	100%
Vaccine Carriers	98%	2%	100%
Ice Packs	93%	7%	100%

**Table 40: Waste Management**

Burn and Bury	WMC Vehicle
100%	0%

**Table 41: Human Resource**

Vaccinators		
Available	Not Available	Total
100%	0%	100%
Lady Health Visitors		
59%	41%	100%

## **Chapter 6**    **Childhood Vaccination**



## Chapter 6: Childhood Vaccination

This chapter presents the analysis of vaccination coverage rates of children aged 12-23 months. Literature on immunization shows that the coverage rates are correlated with background characteristics of households and profile of mothers<sup>28</sup> in addition to other factors. This chapter comprehensively covers the following variables:

### 6.1 Vaccination Coverage

- 6.1.1 Sample size
- 6.1.2 Retention of Vaccination cards
- 6.1.3 Fully Immunized Coverage
- 6.1.4 Antigen wise Coverage
- 6.1.5 Partially Vaccinated
- 6.1.6 Zero Dose
- 6.1.7 Reasons of Zero Dose
- 6.1.8 Information about Working of LHWs
- 6.1.9 Preferred Channels of Communication

### 6.2 Characteristics of Mothers

- 6.2.1 Age
- 6.2.2 Education Levels
- 6.2.3 Engagement in Livelihood

### 6.3 Characteristics of Households

- 6.3.1 Commonly Spoken Language
- 6.3.2 Housing Structures
- 6.3.3 Access to Water
- 6.3.4 Household Toilets
- 6.3.5 Major Professions

### 6.4 Background Characteristics Fully-Immunized Vs. Zero-dose

- 6.4.1 Illiteracy in Mothers
- 6.4.2 Living in Kacha Housing Structures
- 6.4.3 Availability of Household Toilets
- 6.4.4 Caregivers Working as Daily Wage Workers



### 6.1 Vaccination Coverage

This section presents the sample size, retention of vaccination card and childhood immunization coverage rates. The status of vaccination is checked for both records and recall basis. The coverage rates are higher on recall basis compared to records basis. Since 83% mothers are illiterate and 7% are educated between grades 1-5 therefore, reliability of recall is limited.

#### 6.1.1 Sample Size

A total of 1,782 households with 1,786 mothers and 1,792 children aged 12-23 months are part of this survey. Out of 1,792 children aged 12-13 months, 48% are girls and 52% are boys. These households have a total of 18946 members with 48% (9133) male and 52% (9813) female members. (Annex 8 Table 4). The average family size of the sample population is 11 persons per house (Annex 8 Table 5). Within the study clusters 99.7% mothers have one child aged 12-23 months, while only 0.3% mothers have two children aged 12-23 months at the time of the survey.

**Table 42: Sample Size**

Children	Mothers	Households
1792	1786	1782

#### 6.1.2 Retention of Vaccination Card

Only 35% of the children have vaccination cards; whereas, majority of the children do not have vaccination cards. Retention of vaccination card is greater in boys 54% compared to only 46% in girls.

**Table 43: Retention of Vaccination Cards**

Children with Vaccination Card	Boys with Vaccination Card	Girls with Vaccination Card
35%	54%	46%

When checked for living conditions, 99% of the children without vaccination cards reside in either Kacha or Kacha/Pacca houses, 63% of the families of the children without vaccination are daily wage labors; where 75% face constant financial debt. 82% of the mothers of the children are illiterate, whereas 6% have received education up to primary level.

<sup>28</sup> <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4032449/>

### 6.1.3 Fully Immunized Children

#### 6.1.3a) Record + Recall Basis

27% children are fully immunized on record and recall basis. The recall basis children are checked for BCG scar so that reliability of data can be enhanced. A large number of children are found partially vaccinated due to unavailability of outreach and EPI facilities. Scattered residential areas devoid of gender friendly transport facilities limit access of female caregivers to EPI facilities located at distant places.

**Table 44: Fully Immunized**

Records+Recall Basis		
Fully Immunized	Fully Immunized Boys	Fully Immunized Girls
27%	49.6%	50.3%
Records Basis		
11%	49%	51%

#### 6.1.3b) Record Basis

Fully immunized children were found to be only 11% when checked against the records. As per records, the percentage of fully immunized girls is higher (51%) than the boys (49%). (Table 8 Annex 8)

### 6.1.4 Antigen wise Coverage

#### 6.1.4a) Record + Recall

71% children have received BCG + OPV0 dose, but the coverage rate for Penta 3 is 42% and coverage rate for Measles 1 is only 38%. The dropout from BCG-OPV0 to Penta 3 is 41%, whereas the dropout from BCG-OPV0 to Measles 1 is 46%. This reflects a greater need for extensive follow up and tracking of children so that dropout rates can be reduced and coverage rates increased.

**Table 45: Antigen Wise Coverage**

Antigens	Record+Recall Basis	Record Basis
BCG OPV0	71%	35%
Penta 1	63%	32%
Penta 2	52%	27%
Penta 3	42%	21%
Measles 1	38%	19%

#### 6.1.4b) Record Basis

The antigen wise coverage rates drop even further when checked against the records. Overall coverage rate for BCG+OPV0 is 35%, while for Penta 1 this is 32%. For Penta 2, the coverage rate on records is 27%, whereas this is 21% for Penta 3. The records show alarming results for the coverage of Measles 1, which is as low as 19%. The dropout on record basis from BCG-OPV0 to Penta 3 is 40%, whereas the dropout from BCG-OPV0 to Measles 1 is 46% (Table 10 Annex 8).

### 6.1.5 Partially Vaccinated

46% of children are partially vaccinated (Record+ Recall). This means that although they have received a few antigens of routine vaccination, they have not completed all antigens up-to Measles 1. The analysis on the living conditions of the partially vaccinated children reveals that 95% families of these children live in either Kacha or Kacha/Pacca houses. 51% of the families of these children earn livelihood from daily wage and 71% of the families face constant income deficit. 81% mothers of the partially vaccinated children are illiterate, whereas 9% have received education to up-to 5<sup>th</sup> grade only.

**Table 46: Partially Vaccinated & Zero Dose**

	Partially Vaccinated (Record+Recall)	Zero Dose
Girls	47%	48%
Boys	53%	52%
Total	46%	27%

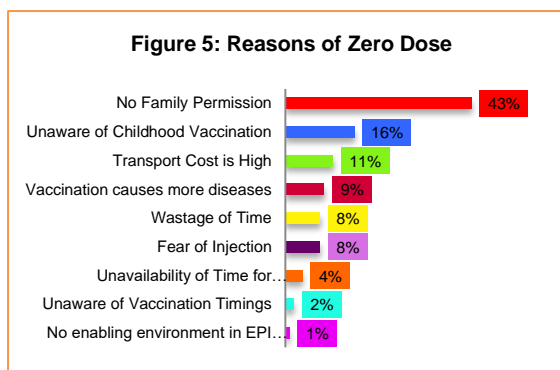
### 6.1.6 Zero Dose Children

Overall 27% children have not received any antigen hence are zero dose the study found. The gender lens on the vaccination status reflects that 52% of zero dose children are boys compared to 48% girls. Further analysis of the living conditions of the zero-dose children reveals that 97% of the families of the zero-dose children live either in Kacha or Kacha-Pacca houses, 63% of the families of zero-dose children are daily wage workers and 80% of them face constant income deficit. 91% of the mothers of the zero-dose children are illiterate and hence have very low understanding of the need for vaccination.



### 6.1.7 Reasons of Zero Dose

45% reasons are directly linked with the unawareness of the need for vaccination. For example fear of side effects and fear of pain of injection are associated with unawareness level of mothers. 43% reasons of zero-dose are directly linked with the non-permission to mothers by their family members for childhood vaccination. 11% caregivers cannot afford transport cost to and from the EPI facility while 1% complaint about the unfriendly environment in EPI facility. The reasons of zero dose clearly indicates need for extensive social mobilisation for raising demand for immunization.



### 6.1.8 Information about Working of LHWs

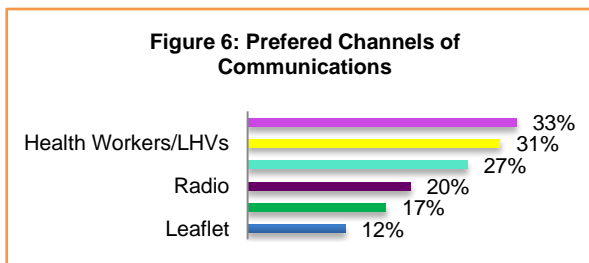
52% mothers are not aware about the working of LHWs in their locality. As for the types of services provided by LHWs, 29% mothers believe that LHWs promote health services, while 5% of the mothers think that LHWs supply family planning products. Only 1% of the mothers reported LHWs providing information on routine immunization (Table # 16 Annex # 8).

**Table 47: Awareness Level of Mothers About LHWs**

Aware of LHWs	Not Aware of LHWs	Total
48%	52%	100%

### 6.1.9 Preferred Channels of Communication

33% mothers prefer TV as a communicator for providing information on vaccination, whereas 31% preferred medium of communication to receive information through health workers. Leaflet (12%) and Posters (17%) is the least popular medium of receiving information on vaccination.



## 6.2 Background Characteristics of Mothers

In order to comprehend the real reasons of low or no coverage, it is important to know the background characteristics of mothers. Three major variables i.e. mother's age, education level and engagement in livelihood activities were checked.

### 6.2.1 Age

Majority (76%) of the mothers have age ranging between 20-34 years. 21% mothers are 35+ years while 3% are under 18 years of age (Table 20 Annex 8).

### 6.2.2 Educational Levels

83% mothers have no education, while 13% have 1-10 years of education and only 3% have 11-15 years of education (Table 21 Annex 8).

### 6.2.3 Engagement in Livelihood

96% mothers serve as home makers, while only 4% are engaged in livelihood activities (Table 22 Annex 8).

## 6.3 Background Characteristics of Households

The background characteristics of households are checked to know the family background, living conditions and economic pressure. Five major variables are analysed i.e. spoken language to know the ethnic background, housing structures, access to water and toilets, major profession and financial debt.

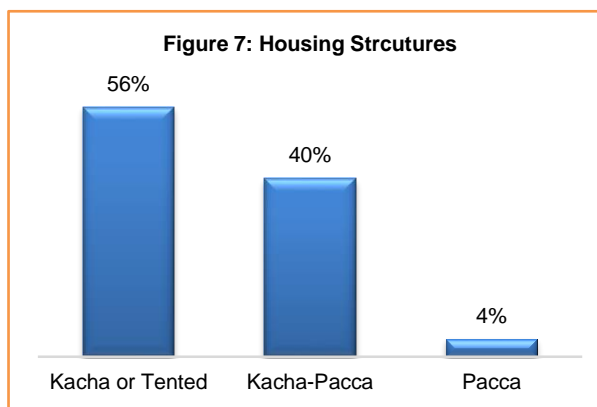
### 6.3.1 Commonly Spoken Language

Pashto is the most commonly spoken language by 54% households, whereas Balochi is the spoken language of 18% families. A combination of languages i.e. *Hindko*, *Brahvi*, *Farsi* and *Uzbaki* languages are spoken in 28% households (Table 23 Annex 8).



### 6.3.2 Housing Structures

56% houses of children are *Kacha/tented* house, whereas 40% houses are *Kacha/Pacca* combination (mixed structures). Majority of the (56%) houses have 2-3 rooms, while 16% houses have only 1 room. Average family size is 11 in which females constitute 52% and males constitute 48% family members. The operational electricity connections are available in majority (99%) of the houses.



### 6.3.3 Access to Domestic Water

Majority (73%) of the houses do not have Government water supply connections and they use either ground water or acquire water from other sources. 99% of the houses which have access to government water supply receive water for 1-5 hours (Table 28 Annex 8).

### 6.3.4 Household Toilets

Majority of the houses (98%) have traditional or open pit toilets. Around 2% houses where toilet facilities are absent engage in open defecation practices. The average use one toilet is 10 persons toilet on a daily basis (Table 30 Annex 8).

### 6.3.5 Major Professions

54% households rely on daily wage labor for income followed by 24% households earning income from small businesses; whereas, only 22% households hold regular jobs. 72% households face constant debt because households have to borrow household groceries, the money of which is to be returned every month (Table 32 Annex 8).

## 6.4 Background Characteristics of Fully-immunized vs. Zero-dose

91% mothers of zero dose children are illiterate as compared to a smaller share of 80% illiterate mothers of fully immunized children. The source of income for a majority (63%) of households belonging to zero dose and fully immunized children is daily wage work are 51%. The comparison of economic situation reflects better state of families of fully immunized children as compared to zero dose. As 80% households of zero dose have debt burden in contrast to 67% households of fully immunized. Housing structures of zero dose and fully immunized children have no significant difference. 97% zero dose children live in either Kacha or Kacha Pacca (mixed) structures in comparison of 95% fully immunized children living in Kacha or Kacha Pacca (mixed) structures. 4% of the houses belonging to zero-dose and 2% of fully immunized children do not have any toilets and hence, residents mostly practice open defecation.

**Table 48: Fully Immunized Vs Zero Dose**

Variables	Fully Immunized	Zero Dose
Illiteracy in Mothers	80%	91%
Caregivers Working as Daily Wage Labour	51%	63%
Debt	67%	80%
Live in Kacha or Kacha Pacca House	95%	97%
No Toilets	2%	4%



## Chapter 7 Conclusion & Recommendation

### Daily Wages Routine and Left out Children Of Vaccination

Rasheeda, 27, is mother of murad (22 months old) and lives in a small kacha house of one room with 10 family members) in basti kili balochabad of chilton town of quetta. Some part of the basti is situated in zarghoun town as well. The habitant of the basti are mostly pashtun like her family. There are around 50 households in their basti with mixed kacha and pacca structures. The status of basti is unregistered although it is very old settlement and Rasheeda's family is living here since 1980.

Majority of male population of this basti works on daily wages. There are very few families who have small business like shops, taxies, rickshaws etc. The financial situation of the residents is not good and many families have one meal per day due to seasonal unemployment.

The hygiene condition of basti is very poor. Mostly the drains are open and filthy with over flown water. The residents struggle while passing through the street due to the drains water. Toilets have traditional pits and dirty water mixed in the drains that caused more smell in the area. Young children play in the streets and are exposed to germs and filth. Although household latrines are available young children often urinate in streets.

There is also no solid waste management system in the basti. Residents throw waste in a nearby plot. There is no health center or lady health worker in basti. Rasheeda narrated during the conversation;

"There is no health center in our basti and its surroundings and we never saw any LHW in our area. Many of the mothers in our basti do not have any knowledge about vaccination and its importance. My husband is also against the vaccination. We and our forefathers grew without any injections/vaccination and are healthier than today's children".

## Chapter 7: Conclusion & Recommendations

### 7.1 Conclusion

This survey is unique of its kind in Pakistan as per theme, geographical areas studied, and the policy implications it might have if benefited from its findings. There was a dire need to collect in depth information and analysis regarding the most marginalized parts of the province with has the least immunization rates in the country. Quetta, the provincial capital, holds many hundreds slums (315) the research study found. This profiling activity indicates that about 44% of the city UCs accommodates these slums and underserved areas which is an indication of unplanned city growth and the vulnerable state under which most of the residents of the city are living. Further analysis reveals that the city saw major slum proliferation during 1950-1990, the era of urbanization in Pakistan; transitioning from an agrarian economy to a semi-industrialized economy. During this time period, a wave of migration started from rural to urban areas by residents in pursuit of better life opportunities, creating informal settlements in the process. More than half of the slums are not registered by city authorities implying that these settlements are illegal and therefore, they do not have access to public health, water and sanitation systems, and schools. A quarter of the residents of the slums and underserved areas of Quetta are either temporarily displaced or are refugees. The temporarily displaced people and refugees need special attention from the city authorities since they either keep moving from one locality to another creating shanty towns, or in case of refugees, they may not have legal right to work in Pakistan which contributes further to their state of marginalization.

When assessed for their *infrastructural facilities*, more than half of the houses in slums/underserved areas are either *Kacha/Kacha Pacca*, making them vulnerable to extreme weather conditions. Although most of the households in slums and underserved areas of Quetta have toilet facilities, a significant portion of slums and underserved areas are without proper solid and liquid waste disposal system. These household have either open or running drains and for solid waste disposal, they dump their waste material either on streets or in open empty plots. This contributes to poor hygiene and cleanliness related issues which in turn lead to the spread of diseases among the residents of these informal settlements. Further analysis on the access to government supply of water reveals that it is only available to less than quarter of the residents of slums and underserved areas. The rest of the residents either have to travel long distances on foot to the nearest water pump or have to rely on purchased water to fulfil their daily water needs. Quality of the purchased water is questionable and can increase possibility of outbreaks. When assessed for the availability of social welfare schemes, half a quarter of slums were found with no schools implying that either the children in these areas do not attend school or have to travel a long distance to access the nearest school. CSOs are not found in any of slums/underserved areas. Considering the prevailing inequities and state of deprivation in slums/underserved areas, CSOs, if formed, can play a vital role in highlighting and addressing issues of the deprived community.

As for the availability of *Public Health and EPI facilities*, almost a quarter of UCs of Quetta and half a quarter of UCs of the city do not have these facilities respectively. Even the UCs where public health and EPI facilities are present, a significant number of the residents of slums/underserved areas report that they are outside the accessible vicinity of 2 Kilometers. Health facilities situated outside the easy accessible distance make it difficult for the slum dwellers to reach these facilities in case of a health-related emergency. Moreover, the distance from the EPI facilities means that the caregivers, considering their state of financial deprivation, are less likely to take their children for routine immunization. This in turn contributes to poor immunization coverage and the outbreak of preventable diseases which strains the already limited budget of the Provincial Health Department. As for the availability of nutrition services, more than three quarters of the UCs of the city do not have fixed nutrition services. Malnutrition is one of the major reasons of low immunity even after having vaccination and therefore, demands special attention from provincial and national governments.

The assessment of *EPI facilities* reveals that almost half of the EPI facilities do not have gender-segregated waiting areas, whereas more than quarter of the EPI facilities does not have gender-segregated toilets. In the cultural context of Balochistan, gender segregated facilities are essential to enable the female caregivers to visit EPI facilities on their own for vaccinating their children. Moreover, as for the services by the EPI facilities are concerned, around 30% of the facilities operate for less than standard 6 working hours per day. These EPI centers fall short of their duty hours since a significant portion of the EPI facilities do not have SoPs which means that there are no standards against which the services of the EPI centers can be evaluated against. In absence of the SoPs and thereby proper monitoring mechanism, the EPI centers may underperform, discouraging caregivers from visiting these facilities. Although most of the EPI centers have vaccinators available, the absence of LHVs in almost half of the EPI facilities proves to be another discouraging factor for the female caregivers to visit the EPI centers for vaccinating their children.

The coverage analysis on sample population reveals that about quarter of the children are fully-immunized, whereas the rest are either zero-dosed or partially vaccinated. The reason for poor immunization coverage is

primarily attributed to low levels of awareness about routine immunization among the mothers of the children and the absence of permission from their families. Further analysis indicates that the families of zero-dosed children are living under even more vulnerable conditions with constant income deficit, illiteracy of mothers, Kacha housing structures and absence of sanitation system, when compared to the families of fully-immunized children.

## **7.2 Study Limitations**

- The profiling of slums / underserved areas is done by conducting interactive group interviews. There is a possibility of exaggeration and biased input from the participants due to prevailing group dynamics.
- The study provides accurate listing of the slums and provides substantial details on the profiling of the slums. However, since it is a sample-based study, the input from the sample does not precisely represent the true opinion of the entire slum population.
- Although the study provides an insight into the water and sanitation conditions of the dwellers of slums/underserved areas, the study does not, in detail, cover the hygiene of water in terms of water safety for human consumption. The study also does not cover the poor sanitation related ordeals of the slum dwellers.
- The data on existing healthcare facilities has been collected from the department of health. It has been organised and analysed under the existing study but the healthcare facilities (except EPI facilities) located in the union councils, were not physically visited and verified by the study team.
- The data presented on EPI facilities is the observation/input of the survey team and information provided by the technical staffs / doctors. The department of health may have different information about EPI facilities in their records.
- The profiling of slums/underserved areas was conducted to have a cursory view of the situation therefore participatory groups discussions were conducted in each slum and underserved areas. Since the detailed house-to-house information has not been collected from the residents, some of the information may have exaggeration according to the participants of the group.
- The status of vaccinations explored through childhood vaccination coverage survey in the community were not triangulated with the data obtained from fixed EPI facilities through assessment. Therefore, the survey records for recall basis may have some variation.
- The childhood vaccination coverage survey was conducted only with mothers of children aged between 12 and 23 months, living in slums/underserved areas. The majority of mothers were either had no formal education or had very low levels of education. Their responses may have some understanding gaps.
- Since majority of the respondents of coverage survey were mothers with no formal education therefore the status of vaccination on recall basis has limited reliability.
- Since majority of the mothers of zero dose children had no formal education therefore reasons of zero dose may have missed some more aspects.
- Almost 75 percent population (slums and underserved areas) has access to school (i.e. access to primary education) in the study areas. However, type and quality of school education had not been assessed.

## **7.3 Recommendations**

The following recommendations are made according to the gaps found in the research in health resources and coverage rates in slums and underserved areas.

### **7.3.1 Service Delivery**

- 7.3.1.1 Improve the availability and accessibility of health and EPI facilities for the residents of slums/underserved areas. It is important to utilize the private sector health facilities for improving the access of slums/underserved areas to vaccination services.
- 7.3.1.2 Reconsider total timings and duration for offering vaccination services according to the preference of caregivers. Either introduce flexible hours for the outreach vaccination services according to the availability of residents of slums/underserved areas or introduce double shift system for vaccination services in EPI facilities and ensure availability of vaccination for extended hours as well.
- 7.3.1.3 Ensure *Standard Operating Procedures* are updated according to the current changes in the system and practices, and staff is trained and followed up for its adherence.
- 7.3.1.4 Provide gender specific infrastructure facilities in the buildings of EPI facilities. For example women and men specific waiting areas with adequate seating capacity, women and men specific functional clean toilets, and drinking water facilities may enhance the visits of women caregivers. Ensure presence of LHVs in all EPI centres considering the gender related cultural dynamics of Balochistan.
- 7.3.1.5 Ensure timely availability of vaccines and vaccine supplies without any interruption to vaccination services.
- 7.3.1.6 Create permanent outreach vaccination points in or near slums/underserved areas. Health houses of LHWs can also be transformed into outreach vaccination points.

### 7.3.2 Demand Generation and Communication

- 7.3.2.1 Design targeted demand generation strategy which not only targets the caregivers of the children but also offer tools for raising awareness levels of family members of the children. The community awareness raising sessions to increase the knowledge of residents of slums/underserved areas can be helpful in eliminating the misconceptions and to maximize their understanding of the overall safety and efficacy of vaccines.
- 7.3.2.2 Design literacy programmes for improving the maternal education level. Literacy could be utilized as a medium for raising awareness on importance of immunization.
- 7.3.2.3 Use channels of communication preferred by mothers and other community members so that importance of childhood immunization could be understood and practices changed accordingly.
- 7.3.2.4 Facilitate LHWs in raising awareness levels of caregivers on importance of childhood immunization as a priority.
- 7.3.2.5 Ensure regular follow up of caregivers by front line health workers (vaccinators or LHWs or social organizers or local community activists) before and after the outreach vaccination in their respective areas.

### 7.3.3 Health Work Force

- 7.3.3.1 Facilitate vaccinators in preparing realistic micro plans and covering children living in both planned and unplanned areas (slums).
- 7.3.3.2 Create system for tracking new born and moving population to prepare realistic micro plans.
- 7.3.3.3 Introduce performance-based payments together with effective performance management measures. For example offer non-financial incentives to high performing LHWs and vaccinators such as certificate for best employee award etc. Any LHW or vaccinator securing 12 certificates consecutively could be recommended for salary increments etc. This would improve the coordination and team work between LHWs and vaccinators.
- 7.3.3.4 Offer periodic performance based incentives to vaccinators to improve the effectiveness of outreach vaccination services.

### 7.3.4 Gender in Immunization

- 7.3.4.1 Ensure deployment of LHWs in all EPI facilities to attract women caregivers.
- 7.3.4.2 Ensure administration of vaccination in private health facilities, which offer MNCH services.

### 7.3.5 Practical versus Strategic Needs

- 7.3.5.1 Coordinate and combine vaccination services together with public and private welfare initiatives that contribute to the improvements in economic conditions of urban poor. This would directly contribute in increasing the coverage rates as this addresses urban poor's practical as well as strategic problems.
- 7.3.5.2 19% slums are unregistered or illegal. This lack of official recognition makes these communities prone to evictions and deprived of basic facilities. Provision of secure tenure for slum dwellers is prerequisite to receive the basic services delivery.

## Annex 1: Questionnaire for Group Discussion in Slums/Underserved Areas

Objectives: To line list slums/underserved areas and prepare their profile.

BS02	Name of facilitator of group interview
BS04	What is the name of your province? Select from below by typing the correct number: 1. Punjab 2. KP 3. Balochistan
BS05	Enter the name of your city
BS06	Enter name of your town
Bs07a	What is the NEW NAME of this Union Council?
BS07b	What is the NEW NUMBER of this Union Council?
BS08a	What is the OLD name of this Union Council? If there is no OLD name, type X
BS08b	What is the OLD NUMBER of this Union Council? If there is no old number, type X
BS09	Is this a 1. Slum 2. Underserved area
<b>PART B</b>	
SP01	Please share current publicly known name of slum or underserved area (this should be name of the slum/underserved area that is also used in their postal address)
SP02	What is the status of registration of slum or underserved area with the relevant government department? Type 1 if its registered, or 2 if its unregistered. 1. Registered 2. Unregistered
SP03	Do you have documentary evidence? Type 1 for "yes" or 2 for "no". Skip if answer to question S02 is no. 1. Yes – check the evidence. If any utility bill is available in the name of the area, this can be treated as evidence 2. No
SP04	Which year was this area established?
SP05a	What is the name of the nearest landmark of this area?
SP05b	Please enter distance in kilometers from the slum/underserved area to the landmark
SP06	How many Mohallas do you have in this slum or underserved area?
SP07a	How many total families live in this slum or underserved area?
SP07b	What is the total population of this slum/underserved area?
<b>PART C</b>	
MT01	Do you have families other than permanent residents living here? If answer to this question is no then skip questions MT02b 1. Yes 2. No
MT02a	What is the number of permanent resident families settled here? Please enter number of FAMILIES only, and not individuals
MT02b	What is the number of temporary displaced families settled here? Please enter number of FAMILIES only, and not individuals. If none, type 0. Skip this question if answer to the question MT01 is no
MT02c	What is the number of nomad families settled here? Please enter number of FAMILIES only, and not individuals. If none, type 0. Skip if answer to questions SP08a is no
MT02d	What is the number of families from conflict affected areas that are settled here? Please enter number of FAMILIES only, and not individuals. If none, type 0. Skip if answer to questions SP08a is no
MT02e	What is the number of non-Pakistani families settled here? Please enter number of FAMILIES only, and not individuals. If none, type 0. Skip if answer to questions SP08a is no
MT02f	Any there families settled other than explained in answers to the earlier questions? Please enter number of FAMILIES only, and not individuals. If none, type 0. Skip if answer to questions SP08a is no
<b>PART D</b>	
HF01	Are there any functional public or private health facilities having MBBS qualified doctors in this slum or underserved area? If answer to this question is no then skip questions from HF02a to HF02d 1. Yes 2. No
HF02a	If there are any functional health facilities having MBBS qualified doctor then how many of these are public health facilities? Reply with a number. If there are none, type X. Skip this question if the answer to the question HF01 is no
HF04	Please share distance of nearest Public health facility located within your slum or underserved area in kilometers from the centre of your slum or underserved area. Skip this question if the answer to the question HF01 is no. Type a number from the select: 1) 0 - 1 Km 2) 1 - 2 Km 3) 2 - 3 Km 4) 3 - 4 Km 5) 4 - 5 Km 6) 5 + Km
HF05a	Does this public health facility offer the service of vaccination of children? Skip this question if the answer to the question HF01 is no 1. Yes 2. No
HF05b	Does this public health facility offer the service of maternal and child health care? Skip this question if the answer to the question HF01 is no 1. Yes 2. No
HF05c	Does this public health facility offer the service of administration of polio drops? Skip this question if the answer to the question HF01 is no

	1. Yes 2. No
HF05d	Does this public health facility offer the service of obstructive care and delivery? Skip this question if the answer to the question HF01 is no 1. Yes 2. No
HF05e	Does this public health facility offer any other facilities? Skip this question if the answer to the question HF01 is no If yes, please describe. If none other, type X
HF 06	Does this public health facility have functional ambulance? 1. Yes 2. No
HF02b	How many Private profit making health facilities having MBBS doctor are located in this slum or underserved area? Reply with a number. If there are no private health facility in this slum or underserved area then type X
HF07.	Please share distance of nearest private facility (for-profit) in kilometers from the centre of the area. Type a number from the select. Skip this question if the answer to the question HF01 is no 1) 0 - <1 Km 2) 1 - <2 Km 3) 2 - <3 Km 4) 3 - <4 Km 5) 4 - <5 Km 6) 5 + Km
HF 08.	Does this private for-profit health facility have functional ambulance? Skip this question if the answer to the question HF01 is no 1. Yes 2. No
HF09a.	Does this private for-profit facility offer vaccination of children? Skip this question if the answer to the question HF01 is no 1. Yes 2. No
HF09b.	Does this private for-profit facility offer maternal and child health care services? Skip this question if the answer to the question HF01 is no 1. Yes 2. No
HF09c.	Does this private for-profit facility offer the service of administration of polio drops? Skip this question if the answer to the question HF01 is no 1. Yes 2. No
HF09d.	Does this private for-profit facility offer obstructive care and delivery services? Skip this question if the answer to the question HF01 is no 1. Yes 2. No
HF09e.	Does this private for-profit facility offer any other services? If yes, please describe what those services are in meaningful text and correct spellings. If the private health facility does not offer any other services defined in earlier questions then type "X". Skip this question if the answer to the question HF01 is no
HF02c.	How many health facilities having MBBS qualified doctor located in your slum or underserved area are run by any <b>WELFARE or TRUST</b> ? Reply with a number. If none of the health facilities are run by any welfare or trust then type X. Skip this question if the answer to the question HF01 is no
HF02d.	Are there any other types of functional health facilities having MBBS qualified doctor which are not been mentioned by you in the answers of earlier questions? If yes how many of these are located in your slum or underserved area. Please answer in number. if there is no health facility other than already explained in the answers of earlier questions then type X. Skip this question if the answer to the question HF01 is no
HF10.	Are you aware of transport services offered by the government for any health related emergencies? 1. Yes 2. No
HF11a.	Are you aware of 1122 by the government to respond to any domestic accidental emergency? 1. Yes 2. No
HF11b.	Are you aware of 1038 by the government to respond to emergency related to the situation of pregnant women? 1. Yes 2. No
HF12.	Do Lady Health Workers work in this slum or underserved area? If the answer to this question is no then skip questions from HF13a to HF14f 1. Yes 2. No
	<b>PART E</b>
EP01.	Are there any vaccination services offered for children and women in this slum or underserved area? If the answer to this question is no then skip questions from EP02a to EP02f 1. Yes 2. No
EP02a	Are there any fixed EPI facilities for vaccination in this slum or underserved area? Skip this question if answer to question EP01 is no 1. Yes 2. No
EP03.	Who is running this fixed EPI facility? Skip this question if answer to question EP01 is no 1. Government 2. Private 3. Welfare organisation

	4. Cantonment 5. Other
EP04.	What is the average distance of the facility from the centre of the slum? Skip this question if answer to question EP01 is no 1. 0 - 1 Km 2. 1 - 2 Km 3. 2 - 3 Km 4. 3 - 4 Km 5. 4 - 5 Km 6. 5 + Km
EP02b.	Are there outreach vaccination camps in this slum or underserved area? Skip this question if answer to question EP01 is no 1. Yes 2. No
EP02c.	Do Lady Health Workers do the vaccination? Skip this question if answer to question EP01 is no 1. Yes 2. No
EP02d.	Are there overnight stay of mobile vaccinators for vaccination camps Skip this question if answer to question EP01 is no 1. Yes 2. No
EP02e.	Do doctors in private health facility do the vaccination? Skip this question if answer to question EP01 is no 1. Yes 2. No
EP02f.	Are there any system for vaccination in this slum or underserved area which is not explained in the answers to earlier questions? If yes, please explain in a meaningful sentence and there is no other system for vaccination which is not explained in earlier questions then type X. Skip this question if answer to question EP01 is no
<b>PART F &amp; G</b>	
WA01	What is the MAIN source of water for domestic purposes for the majority of the houses of this slum or underserved area? 1. Government water supply 2. Well 3. Hand pump 4. Tube wells 5. Other
WA02	If acquire domestic water through any water supply system is available in this slum what is the duration of water availability? Please enter number of hours, e.g., type "4" if the water comes for 4 hours. If no running water available, type X
TO01.	Are toilets available in any of the houses of this slum or underserved area? Skip questions TO02a if the answer to this question is no 1. Yes 2. No
To02a.	Approximately how many houses of this slum or underserved area have toilets? Enter number only. If the answer to the question TO01 is no then skip this question
To02b.	How many total houses of this slum or underserved area do NOT have toilets? Enter number only. if answer of TO02a is less than the total number of houses in this slum or underserved area then this question will filled otherwise skip it
To02c.	How many total houses are located in this slum or underserved area? Enter number only. (This question is asked to check that the answer to the question TO02a and To02b should not be greater than the total houses located in this slum or underserved area
TO 03a	If toilet exists in any of the houses of this slum or underserved area, please specify how many flush to sewage toilets are there? (Flush to sewage toilet refers to sewer connected pour flush toilet fixed with a household and main sewer outside the house leading to a disposal point or sedimentation tank). Please enter NUMBER of such type of toilets only. If there are none, type 0. Skip if answer to question TO01 is no
TO 03b	If toilets exist in any of the houses of this slum or underserved area, please specify how many traditional pits toilets are there in the slum/underserved area? (Constructed over simple dug well without any p-trap provision). Please enter NUMBER of such type of toilets only. If there are none, type 0. Skip if answer to question TO01 is no
TO 03c	If toilets exist in any of the houses of this slum or underserved area, please specify how many open pits are there in the slum/underserved area which people use as toilets? Please enter NUMBER of such type of toilets only. If there are none, type 0. Skip if answer to question TO01 is no
TO 03d	Please specify if there are ANY OTHER types of toilets in the slum/underserved area, which we have not asked you about yet. If so, please describe what type and how many are there. If there is no other type, type X. Skip if answer to question TO01 is no
TO 04.	If toilet exists in all or some of the houses of this slum or underserved area, please explain approximately how many persons in majority of the houses share one toilet? Enter number only. Skip if answer to question TO01 is no
To05.	If there are houses without any toilets in this slum or underserved area then where do generally men and women go for defecation? 1. Neighbor's toilet 2. Public toilet 3. Open defecation 4. Other
<b>PART H, I &amp; J</b>	
TH 01a.	How many total houses are located in this slum or underserved area
TH 01b.	How many houses of this slum or underserved area have Kacha type of infrastructure as the main residential area of the household? If yes, please enter answer in number only. If there are no Kacha houses in this slum or underserved



	area then type X
TH 01c.	How many houses of this slum or underserved area have Pacca type of infrastructure as the main residential area of the household? If yes then enter answer in number only. If there are no Pacca houses in this slum or underserved area then type X
TH 01d.	How many houses of this slum or underserved area have mixed type of infrastructure (partially Pacca and partially Kacha) as the main residential area of the household. If yes then enter answer in number only. If there are no houses having mixed infrastructure in this slum or underserved area then type X
TH 01e.	How many houses of this slum or underserved area have tented type of infrastructure as the main residential area of the household? If yes then enter answer in number only. If there are no tented houses in this slum or underserved area then type X
TH01f	Are there houses in this slum or underserved area having infrastructure other than explained in earlier questions as the main residential area of the household? If yes then enter answer in number. If there are no houses constructed in infrastructure other than explained above in this slum or underserved area then type X
SWM 01a	Are there any paved or unpaved drains in this slum or underserved area. If the answer to this question is no then skip question SWM01b 1. Yes 2. No
SWM 01b	What is the condition of drains regarding disposal of waste water? 1. Drains have running water 2. Drains are filthy 3. Drains are choked 4. Any other
SWM02a.	Is there any system available for disposal of solid waste in this slum or underserved area? If the answer to this question is no then question SWM02b will be skipped 1. Yes 2. No
SWM 02b.	What is the system for the disposal of solid waste in this slum or underserved area? Type a number to select from the following list. Skip this question if answer to the question SWM02a is no 1. Government/WMC vehicle comes to pick 2. Welfare organisation arrange disposal with some intervals 3. Residents dump it on an empty plot 4. Residents throw it on streets 5. Any other
ED 01.	Are there schools in this slum or underserved area? If the answer to this question is no then skip questions ED02a to ED03a 1. Yes 2. No
ED02a.	Are there schools by government? Skip this question if the answer to question ED01 is no 1. Yes 2. No
ED02b.	Are there for profit schools by private sector? Skip this question if the answer to question ED01 is no 1. Yes 2. No
ED02c.	Are there schools by welfare trust or charity? Skip this question if the answer to question ED01 is no 1. Yes 2. No
ED02d.	Are there any Maktab schools by religious group(s)? Skip this question if the answer to question ED01 is no 1. Yes 2. No
ED02e.	Are there any other type of schools which are not explained while answering earlier questions? If yes, please describe what type of schools in meaning full text and correct spellings. If there are no schools types, which are not explained in earlier questions, then type X. Skip this question if the answer to question ED01 is no
Ed03a.	What is the approximate distance of nearest school (it could be any type of school) from the centre of the slum or underserved area? Type a number to select: Skip this question if the answer to question ED01 is no 1. Less than 1 km 2. Between 1-2 km 3. Between 2-3 km 4. Between 3-4 km 5. More than 4 km
<b>PART K</b>	
CSO01.	Are there any not for profit registered welfare or charity organisation working in this slum or under served area (NGOs-CSOs)? If the answer to this question is no then skip questions from CSO02 and CSO03. 1. Yes 2. No
CSO02	If registered not for profit organisations are working in this slum or underserved area, please mention its number? This question will be answered if the answer to question CSO01 is yes otherwise type X. Skip this question if answer to the question CSO1 is no
CSO03	If registered not for profit organisations are working in this slum or underserved area, please share their full names in correct spellings. Skip this question if the answer to question CSO01 is no
CSO04	Are there any informal groups or committee working in this slum or underserved area? If answer to this question is no then skip question CSO05 1. Yes 2. No

CSO05	Do the informal groups/committees include the following. Skip this question if the answer to the question CSO04 is no 1. Health committee 2. School committee 3. Masjid/church committee 4. Jirga or Panchait 5. Zakat committee 6. Unregistered Community Based Organisation 7. If other than stated above then explain in meaningful text in correct spellings
CSO06a	Are there any public welfare schemes or initiatives by government? If answer to this question is no then skip questions CSO06b, CSO06c, CSO06d, CSO06e, CSO06f 1. Yes 2. No
CSO06b	Does the government provide a loan scheme? Skip this question if the answer to the question CSO06a is no 1. Yes 2. No
CSO06c	Does the government provide a stipend scheme? 1. Yes 2. No
CSO06d	Does the government provide a Social Benefit Card scheme? Skip this question if the answer to the question CSO06a is no 1. Yes 2. No
CSO06e	Does the government provide a vocational skills scheme? Skip this question if the answer to the question CSO06a is no 1. Yes 2. No
CSO06f	Are there any other types of government scheme for the welfare of people of slum or underserved area, which is not explained in the answers of earlier questions? If the answer is yes, please explain it in a meaningful text and correct spelling and if there is no other type of welfare scheme by the government then type X.
Please enter names and mobile phone numbers of participants of this group discussion (minimum three names and numbers required).	
	Participant 1 name ----- Participant 1 number-----
	Participant 2 name----- Number-----
	Participant 3 name----- Number-----

## Annex 2: Questionnaire for Compiling Health Resource in Union Councils

<b>BASIC INFORMATION: This questionnaire is to be filled in through individual interview of district health officer or district EPI coordinator</b>									
<b>BS 01. Date:</b>					__ / __ / 201__				
<b>BS 02. Name of Interviewer</b>									
<b>BS 03. Signature of Interviewer</b>									
<b>BS 04. Name of Province:</b>									
<b>BS 05. Name of District:</b>									
<b>BS 06. Name of Town / Tehsil:</b>									
<b>BS 07. New Name of Union Council:</b>									
<b>TEHSIL/TOWN INFORMATION</b>									
<b>TI 01. How many Union Councils are in this city? Please include all towns of this city.</b>					Number.....				
<b>TI 02. Enlist new and old names and number of all the Union Councils of this city for each town</b>									
<b>#</b>	<b>List of New Name of Union Council</b>	<b>List of Old name of Union Council</b>	<b>List of New Number of Union Council</b>	<b>List of Old Number of Union Council</b>					
<b>TI 03. Enlist Union Council wise names of slum or underserved area if available. (you may attach separate list of slums or underserved area in case of long list)</b>									
<b>#</b>	<b>New Names of Union Council</b>	<b>Name of slums</b>	<b>Name of underserved area</b>						
<b>TI 04. What is the population in each Union Council? (Kindly mention population including and excluding population of slum or underserved area). Please define source of population size as well</b>									
<b>#</b>	<b>New Names of Union Council</b>	<b>Population of Slum or underserved area</b>	<b>Population of Union Council (Excluding Population of Slum or underserved area)</b>	<b>Total Population of Union Council</b>					
<b>HF 01. How many Public Health Facilities are in each Union Council?</b>									
<b>#</b>	<b>Names of Union Council</b>	<b>List of Public Health Facilities</b>							
<b>HF 02. How many Public Health Facilities are located in slum or underserved areas?</b>									
<b>#</b>	<b>New Names of Union Council</b>	<b>Name of slum or underserved area</b>	<b>List of Public Health Facilities</b>	<b>List of Private Health Facilities</b>	<b>Total</b>				
<b>HF 04. How many Lady Health Worker are currently active in each Union Council?</b>									
<b>#</b>	<b>Names of Union Council</b>	<b>List of Lady Health Workers</b>							
<b>HF 06. Is Dengue staff working in union council</b>					1. Yes 2. No				
<b>HF 7. If yes, then how many staff members are working</b>					Total				
<b>NUTRITION</b>									
<b>NU 01. Any nutrition service delivered in the Union Councils?</b>					1. Yes 2. No				
<b>NU 02. If yes than what type of nutrition services are delivered?</b>					1. Fixed 2. Temporary 3. School Nutrition Session 4. LHW Sessions on Nutrition in Communities 9. Other.....				
<b>VACCINATION</b>									
<b>VA 01. How many Fixed EPI Facilities (Vaccination centres) are available in each Union Council?</b>									
<b>#</b>	<b>Names of Union Councils</b>	<b>List Public of Fixed EPI Facilities</b>	<b>List of Private Fixed EPI Facilities</b>	<b>List of Welfare Fixed EPI Facilities</b>	<b>List of Any Other Type of Fixed EPI Facilities</b>	<b>No EPI Facility</b>			
<b>VA 02. State the number and functionality of ILR or Refrigerator in Fixed EPI Facility (vaccination centres)?</b>									
<b>#</b>	<b>Names of Union Council</b>	<b>Public Fixed EPI Facilities</b>		<b>Private Fixed EPI Facilities</b>		<b>Welfare Fixed EPI Facilities</b>		<b>Any Other Type of Fixed EPI Facilities</b>	
		<b>Functional</b>	<b>Non Functional</b>	<b>Functional</b>	<b>Non Functional</b>	<b>Functional</b>	<b>Non Functional</b>	<b>Functional</b>	<b>Non Functional</b>

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<b>VA 03. What is the number and status of availability of currently active vaccinator?</b>				
<b>#</b>	<b>New Name of Union Council</b>	<b>List of vaccinator in Public Health Facility</b>	<b>List of vaccinator in Private Health Facility</b>	<b>List of Vaccinator in Fixed EPI Facility (vaccination centre) established by other than public sector organisation</b>

### Annex 3: Questionnaire for EPI Facility Assessment

**Objective:** This questionnaire will be used for the assessment of fixed EPI Facility and undertake group interview with the facility team

#	Identification	Answer and code
ID1	Date of assessment	
ID2	Name of assessor	
ID3	Signature of assessor	
ID4	Name of Province	
ID5	Name of District	
ID6	Name of Town (or <i>Tehsil</i> )	
ID7	Name of the EPI Facility	
ID8	Record longitude and latitude of the fixed EPI Facility	..... Longitude ..... Latitude
ID9	Take photo of the fixed EPI Facility	1 – Photos taken 2 – Not taken

#	Infrastructure
IM1	What is the type of building (rented, owned)? 1 - Rented 2 - Owned 9 - Other (specify):
#	Management
IM2	Are Standard Operating Procedures for child immunizations available in this facility at the time of visit? 1 – Yes ( <b>Assessor:</b> Please verify) 2 – Not available today 3 – Facility never had Standard Operating Procedures
IM4 a	Are auto disable syringes available in this facility at the time of visit? 1.-Yes 2.-No
IM4 b	Are sharp containers available in this facility at the time of visit? 1.-Yes 2.-No
IM4 c	Are vaccine carrier(s) available in this facility at the time of visit? 1.-Yes 2.-No
IM4 d	Set of icepacks for vaccine carriers available in this facility at the time of visit? 1.-Yes 2.-No
IM4 e	Anything else available in this facility at the time of visit, which we have not asked about? If yes please specify and if not available type X
IM5	Does this facility has Ice Lined Refrigerator available at the time of visit with power supply for the storage of vaccines? Please physically verify the answer. 1 – Available with power supply 2 – Available but no regular power supply 3 – Ice Lined Refrigerator is out of order 4 – No Ice Lined refrigerator is available
IM6	Did the facility experience any problem in getting vaccines in <b>last one year</b> ? 1 – No 2 – Yes, sometimes 3 - Yes, facility has frequent shortage of supplies 4. – Other (specify):

#	Human Resource
EP4a	Are vaccinators available in this EPI Facility? 1- Yes 2- No
EP4b	If vaccinators are available, please share number of vaccinators currently providing services in this EPI facility? If there are no vaccinators type X
EP4c	Are LHVs available in this EPI facility
EP4d	If LHVs are available, please share number of LHVs currently providing services in this EPI facility? If there are no LHVs type X
EP5a	What are the timings of this fixed health facility open? type number only "8" (24 hours format) Opens at: .....
EP5b	What are the timings of this fixed health facility closed? type number only "15" (24 hours format) Closes at: .....
EP5c	What are total working hours of the facility per day? Type a number only e.g. "8" Total working hours.....

#	Environment & Facilities For The Patients
EN1	Is there any waiting area (separate for men and women patients) in the facility? 1 – Yes, separate for men and women 2 – Yes, mixed waiting area for men and women 3 – No waiting area available
EN2	Is adequate seating capacity/ arrangement available in the waiting area? 1 - Yes, has adequate seating capacity 2 – No, seating capacity is not adequate 9 – No seating area available /NA
EN3	Is drinking water available for patients and their attendants in the facility? 1 – Yes 2 - No
EN4	Is toilet facility available for both men and women patients and their attendants in the facility? 1 – Yes, separate for men and women 2 – Yes but NOT separate for men and women 3 – No toilet facilities available
EN5	Is the toilet facility usable for patients and their attendants in the facility? 1 – Yes, usable 2 – Not usable
EN6	How health facility/ EPI waste is being disposed from the site 1. Buried 2. Burnt 3. Burn and Buried 4. Dumped in health facility / garbage cane 5. Others

## Annex 4: Questionnaire for Household Coverage Survey

Objectives: To assess childhood immunization coverage rates in slums/underserved areas.

Questionnaire for Household Coverage Survey	
	Name of Enumerator
	Date of interview
	Select your province by typing the number from below, e.g., 2 for KP: 1. Punjab 2. KP 3. Balochistan
	Enter district name
	Enter Union Council name
	Enter the name of location
HHM1	Is this location a slum or underserved 1. Slum 2. Underserved
	Enter name of household head
	Enter household number. Please insert household numbers as 1, 2, 3 etc. as you begin filling questionnaires from different households
	Enter Converted ID number (CID) Instructions for Supervisors: The logic of having Converted ID number (CID) is to ensure a unique ID for each HOUSEHOLD. The household number cannot be unique as different enumerators will collect data from different households on the same time and will enter household number of their own such as 1, 2, 3 etc. Once data collection by all enumerators is completed for the day, the supervisor or Team Leader) enter CID for each of the completed interviews on the MS EXCEL sheet. The supervisor should know the last CID entered. This will be continued in the following day. The supervisor will enter CIDs considering the last CID entered in the previous day.
HHMa	How many members are currently living in your household?
HHMb	How many of them are males? Please write your answer in numbers e.g. 2, 3, 4
HHMc	How many females are in the household? Please write your answer in numbers e.g. 2, 3, 4
SE01	Since how long you (and your family members) are living here in this house/slum? Enter the duration in number of years and months, e.g. 2 years and 3 months
SE02	In case of nomads please specify the reason for moving and write this correct spellings and complete meaningful sentence
SE03	Which language is primarily used in your house with family members? Type the correct number from below. If they choose 8: Please write which language is primarily spoken at home and not stated in the above mentioned list of languages 1. Urdu 2. Punjabi 3. Potohari 4. Balochi 5. Pashto 6. Sindhi 7. Siraiki 8. Other
SE04	What is type of infrastructure of main living room/bedroom of the house? If they choose 5: Please specify what is the other type of infrastructure of the main room of the house in correct spellings and complete meaningful sentence 1. Kacha 2. Pacca 3. Mixed 4. Tented 5. Other type of infrastructure
SE05	How many (living rooms and bedrooms) are in the house? (Do not include kitchen, toilet, cattle-shed etc). Please write your answer in number only e.g. 1 or 2 or 3
SE06	How many members were in the house yesterday including any guests? Please write your answer in number only e.g. 1 or 2 or 3
SE07	Is electricity available/installed in your house? Please write your answer either in 1 or 2 or yes or no 1. Yes 2. No
SE08	What is the main source of water for ALL PURPOSES in your house? If they select 7, please specify the water source in words other than stated above 1. Government water supply 2. Well 3. Hand pump 4. Tube wells 5. Other
SE09	What is the main source of DRINKING water? If the answer is other than specified the above please specify it in correct spelling and meaningful sentence 1. Government water supply 2. Well 3. Hand pump 4. Tube wells 5. Other
SE10	Do you have running water system installed in your house The answer could be in 1 or 2 or in yes or no

	if the answer is no then skip to question SE12 1. Yes 2. No
SE11	If the running water system is installed in your house, then what is the duration of water availability? Please write your answer in number of hours only, e.g., 4. If there is no running water, type X
SE12	Do you have functional or useable toilet available within your house? If the answer is no then skip to question number SE15 1. Yes 2. No
SE13	If you have toilet in your house, please specify its type of toilet, which is used by elder family members (not by children)? (Please check the availability of toilet if conveniently possible). Please write your answer in numbers by selecting from the stated list. If they select option 5, they will be taken to SE15 1. Flush to sewage 2. Traditional toilet 3. Open pit 4. Any other type of toilet
SE14	If you do have toilet in your house, how many people share one toilet in the house? Please write your answer in number only
SE15	If you do not have toilet in your house, where do you go for defecation? If they choose 4: Please specify your answer in correct spellings and complete meaningful sentence. 1. Neighbour's toilet 2. Public toilet 3. Open defecation 4. Other
SE16	What is the primary source of income of the household? Please write your answer in numbers by selecting from the stated list. If they choose 7: Please specify the primary source of income in correct spelling and complete meaningful sentence 1. Government Job 2. Private job (factory worker, etc.) 3. Work in foreign country 4. Small business (shop keeper, etc.) 5. Work as daily wage labors 6. Taxi driver 7. Other
SE17	Do you have any type of debt burden? Yes No
<b>Household Survey Questionnaire Part B. It is about knowledge, behaviors and practices of mothers on immunization. Repeat this questionnaire if there is more than 1 mother in this house</b>	
Enter Converted ID number (CID). Please enter mother number, e.g., type "1" if its the first mother of the house you are interviewing. Please enter mother's mobile number if mother does not have a mobile number, please record mobile number of any other family member who lives in the same house	
SD01	How old are you? Please write your answer in number of years e.g. 20, 25, 30 etc.
SD02	How many years of schooling did you finish? Please write your answer in numbers e.g. 0,1, 2, 3, 4 etc.
SD03	Are you employed outside home? 1. Yes 2. No
SD04	How many children under the age of 2 do you have? Please write your answer in number e.g. 1, 2, 3, 4 etc.
KP01	Have you ever heard of childhood vaccination or immunization or EPI from any of the sources? If the answer is no then please skip to question KP04a 1. Yes 2. No
KP02	Please tell us the purposes of vaccinating or immunizing children? If they select option 2, please specify the purpose of vaccination in a correct spelling and complete meaningful sentence 1. To protect from diseases 2. Other purpose 3. Do not know
KP03	What is your preferred channel for receiving information on childhood vaccination? 1. TV 2. Radio 3. Bill Board/Poster 4. Leaflet 5. Health Worker 6. Other
KP04	Have you gotten your children immunised? If the answer to this question is no then skip questions CH04-C11 1. Yes 2. No
KP05	If you do not get your child immunised, please share reason for not getting your child immunised? 1. Was not aware of EPI/outreach facility 2. Did not know the timing/hours 3. Did not have time to go 4. No enabling environment in EPI facility 5. Transport cost/opportunity cost 6. Family/husband did not allow 7. Fear of injection 8. It is haram 9. It causes more diseases 10. Wastage of time



	11. Other
KP06	Have you ever heard of Lady Health Workers (LHWs) working in your area? 1. Yes 2. No
KP07	Please tell us what they (LHWs) do? (As the interviewer, do not read the following options to the respondent.) 1. Promote health education 2. Supply FP methods 3. Treat illness 4. Refer to hospital 5. Vaccinate/help vaccinator 6. Don't know
<b>Household Questionnaire Part C. It is about immunization status of children under 2. For each child ask her mother to answer the following question</b>	
CH01	What is the gender of child? 1. Male 2. Female
CH02	What is the age of child in months? If the age of the child is in days, please specify number with a word e.g. 01 year, 009 months or 15 days
CH03	Has the child ever been given vaccine? Please write your answer either in 1 or 2 or yes or no. If the answer to this question is no then skip to question CH12 1. Yes 2. No
CH04	If the child was given any vaccine, please ask the mother to show the vaccination card? If the card is available then answer yes or 1. (If card is available, then use it to record immunization status of the child below. Ask the following question if the child has not received all expected doses). If card is not available then record the status of vaccination on re-call basis. 1. Yes 2. No
CH05	Has the child ever been given BCG vaccination immediately after the birth? You may ask first dose of the vaccine Please write your answer either in 1 or 2 or yes or no. Interviewer: Confirm if BCG is given by asking how was given, any scar mark on the arm of the child. The question can be filled by verifying it from the vaccination card or on recall basis 1. Yes 2. No
CH06	Has the child been given OPV to protect him/her from getting polio immediately after the birth or later? This is usually given with BCG.. Please write your answer either in 1 or 2 or yes or no Interviewer: Confirm by asking more questions. The question can be filled by verifying it from the vaccination card or on recall basis 1. Yes 2. No
CH07	Has the child' been given Penta 1 at the age of 06 weeks or later? Please write your answer either in 1 or 2 or yes or no. Interviewer: Confirm by asking more questions. The question can be filled by verifying it from the vaccination card or on recall basis 1. Yes 2. No
CH08	Has the child' been given Penta 2 at the age of 10 weeks or later? Please write your answer either in 1 or 2 or yes or no. Interviewer: Confirm by asking more questions. The question can be filled by verifying it from the vaccination card or on recall basis 1. Yes 2. No
CH09	Has the child' been given Penta 3 at the age of 14 weeks or later? Please write your answer either in 1 or 2 or yes or no. Interviewer: Confirm by asking more questions. The question can be filled by verifying it from the vaccination card or on recall basis 1. Yes 2. No
CH10	Has the child' been given Measles 1 at the age of 09 months or later? Please write your answer either in 1 or 2 or yes or no. Interviewer: Confirm by asking more questions. The question can be filled by verifying it from the vaccination card or on recall basis 1. Yes 2. No
CH11	Has the child' been given Measles 2 at the age of 15 months or later? Interviewer: Confirm by asking more questions. The question can be filled by verifying it from the vaccination card or on recall basis 1. Yes 2. No
CH12	Does this mother have another child under 2 years of age? 1. Yes 2. No  If the answer is yes, please fill the section C of the questionnaire for the 2 <sup>nd</sup> child.

## Annex 5: Analysis of Profiling of Slums/Underserved Areas

Cities	Slums	Underserved	Sub Total
Quetta	281	34	315

Cities	Before 1950	1950-1990	1991-2005	After 2005	Total
Quetta	25	174	58	24	281

Cities	# of slums in each city	Registered slums	Unregistered slums	Sub Total
Quetta	281	120	161	281

Cities	Population in Slums	Population in Underserved Areas	Sub Total
Quetta	633,508	78,896	712,404

Cities	Permanent Resident	Temporary Displaced	Other Nationality	Total
Quetta	79,890	6,464	4,798	91,152

Cities	Permanent Resident	Temporary Displaced	Other Nationality	Total
Quetta	6,527	681	1,372	8,580

Cities	Permanent Resident	Temporary Displaced	Other Nationality	Total
Quetta	86,417	7,145	6,170	99,732

Cities	Slums					Underserved					Grand Total
	Public	Private	Welfare/Trust	Other	Total	Public	Private	Welfare/Trust	Other	Total	
Quetta	13	5	0	0	18	1	0	0	0	1	19

Cities	With Public Health Facilities	With Private Health Facilities	With Both Public and Private Health Facilities	Total	Without any Health Facilities	Total
Quetta	13	5	0	18	263	281

Cities	With Public Health Facilities	With Private Health Facilities	With Both Public and Private Health Facilities	Total	Without any Health Facilities	Total
Quetta	1	0	0	1	33	34

Cities	With Public Health Facilities	With Private Health Facilities	With Both Public and Private Health Facilities	Total	Without any Health Facilities	Total
Quetta	14	5	0	19	296	315

Cities	0-2km	3km	# of Slums Without Private Health Facilities	Subtotal
Quetta	3	0	278	281

Cities	0-2km	3km	# of Underserved Without Private Health Facilities	Subtotal
Quetta	0	0	34	34

Cities	0-2km	3km	# of Slums/Underserved Without Private Health Facilities	Subtotal
Quetta	3	0	312	315

Cities	Slums		Underserved Areas		Slums/Underserved Total	
	Available	Not Available	Available	Not Available	Available	Not Available
Quetta	19	262	2	32	21	294

Cities	0-2km	3km	4km	5+km	Slums without EPI facility	Total
Quetta	17	2	0	0	262	281

Cities	0-2km	3km	4km	5+km	Slums without EPI facility	Total
Quetta	1	0	1	0	32	34

Cities	0-2km	3km	4km	5+km	Slums without EPI facility	Total
Quetta	18	2	1	0	294	315

Cities	Slums with Outreach	Total # of Slums
Quetta	101	281

Cities	Underserved with Outreach	Total Underserved
Quetta	12	34

Cities	Slums/Underserved with Outreach	Total Slums/Underserved
Quetta	113	315

Cities	LHWs Covered	LHWs Uncovered	Total Slums
Quetta	94	187	281

Cities	LHWs Covered	LHWs Uncovered	Total Underserved
Quetta	11	23	34

Cities	LHWs Covered	LHWs Uncovered	Total Slums/Underserved
Quetta	105	210	315

Cities	# of Slums	Slums		# of Underserved	Underserved Areas		Slums/Underserved Areas	
		Slums With 1122	Slums Without 1122		Underserved With 1122	Underserved Without 1122	Slums/Underserved With 1122	Slums/Underserved Without 1122
Quetta	281	0	281	34	0	34	0	315

Cities	Slums			# of Underserved	Underserved Areas		Slums/Underserved Areas	
	# of Slums	Slums With 1038	Slums Without 1038		Underserved With 1038	Underserved Without 1038	Slums/Underserved With 1038	Slums/Underserved Without 1038
Quetta	281	0	281	34	0	34	0	315

Cities	Slums		Underserved		Slums/Underserved Total		
	Available	Not Available	Available	Not Available	Available	Not Available	Sub Total
Quetta	0	281	0	34	0	315	315

Cities	Kacha or Tented	Pacca	Kacha-Pacca (Mixed)	Total
Quetta	59,833	11,021	20,298	91,152

Cities	Kacha or Tented	Pacca	Kacha-Pacca (Mixed)	Total
Quetta	0	7,978	602	8,580

Cities	Kacha or Tented	Pacca	Kacha-Pacca (Mixed)	Total
Quetta	59,833	18,999	20,900	99,732

Cities	Government Water Supply	Ground Water (Well, Hand Pump, Tube Well)	Acquire From Other Sources Of Water
Quetta	35	74	172

Cities	Government Water Supply	Ground Water (Well, Hand Pump, Tube Well)	Acquire From Other Sources Of Water
Quetta	12	4	18

Cities	Government Water Supply	Ground Water (Well, Hand Pump, Tube Well)	Acquire From Other Sources Of Water
Quetta	47	78	190

<b>Table 17a: Duration of Water Availability (in case of Government Water Supply) in Slums</b>							
Cities	1-5 hours	6-10 hours	11-15 hours	16-20 hours	20+ hours	Slums without Government Water Supply	Sub Total
Quetta	34	0	0	1	0	246	281

<b>Table 17b: Duration of Water Availability (in case of Government Water Supply) in Underserved</b>							
Cities	1-5 hours	6-10 hours	11-15 hours	16-20 hours	20+ hours	Slums without Government Water Supply	Sub Total
Quetta	12	0	0	0	0	22	34

<b>Table 17c: Duration of Water Availability (in case of Government Water Supply) in Slums/Underserved (Total)</b>							
Cities	1-5 hours	6-10 hours	11-15 hours	16-20 hours	20+ hours	Slums without Government Water Supply	Sub Total
Quetta	46	0	0	1	0	268	315

<b>Table 18a: Availability of Household Toilets in Slums</b>			
Cities	# of House Having Toilets	# of Household Not Having Toilet	Total Household
Quetta	87,028	4,124	91,152

<b>Table 18b: Availability of Household Toilet in Underserved</b>			
Cities	# of House Having Toilets	# of Household Not Having Toilet	Total Household
Quetta	8,025	555	8,580

<b>Table 18c: Availability of Household Toilet in Slums/Underserved</b>			
Cities	# of House Having Toilets	# of Household Not Having Toilet	Total Household
Quetta	95,053	4,679	99,732

<b>Table 19a: Type of Household Toilet in Slums</b>			
Cities	Connected with Street Drain	Traditional/Open pit	Sub-Total
Quetta	10,377	76,651	87,028

<b>Table 19b: Type of Household Toilet in Underserved</b>			
Cities	Connected with Street Drain	Traditional/Open pit	Sub-Total
Quetta	1,680	6,345	8,025

<b>Table 19c: Type of Household Toilet in Slums/Underserved (Total)</b>			
Cities	Connected with Street Drain	Traditional/Open pit	Sub-Total
Quetta	12,057	82,996	95,053

<b>Table 20a: Average # of People using Toilet</b>	
Cities	Average # of People Using Toilet
Quetta	9

<b>Table 20b: Average # of People using Toilet in Underserved</b>	
Cities	Average # of People Using Toilet
Quetta	10

<b>Table 20c: Average # of People using Toilet in Slums and Underserved Areas (Total)</b>	
Cities	Average # of People Using Toilet
Quetta	9

<b>Table 21a: Modes of Defecation Without Toilet in Slums</b>					
Cities	Neighbour's Toilets	Public Toilet	Open Defecation	Not Applicable	Sub-Total
Quetta	1	2	26	252	281

<b>Table 21b: Modes of Defecation Without Toilet in Underserved</b>					
Cities	Neighbour's Toilets	Public Toilet	Open Defecation	Not Applicable	Sub-Total
Quetta	0	0	0	34	34

<b>Table 21c: Modes of Defecation Without Toilet in Slums/Underserved (Total)</b>					
Cities	Neighbour's Toilets	Public Toilet	Open Defecation	Not Applicable	Sub-Total
Quetta	1	2	26	286	315

<b>Table 22a: Condition of Drains in Slums</b>				
Cities	Drains Have Running Water	Drains Are Filthy/Choked	# Of Areas With No Drains	Sub-Total
Quetta	38	131	112	281

<b>Table 22b: Condition of Drains in Underserved</b>				
Cities	Drains Have Running Water	Drains Are Filthy/Choked	# Of Areas With No Drains	Sub-Total
Quetta	11	18	5	34

<b>Table 22c: Condition of Drains in Slums and Underserved (Total)</b>				
Cities	Drains have running water	Drains are filthy/choked	# of Areas with no drains	Sub-Total
Quetta	49	149	117	315

<b>Table 23a: Solid Waste Disposal Practices in Slums</b>				
Cities	Govt/WMC vehicle	Other Systems	Dumping on Empty Plot and Street	Total
Quetta	15	6	260	281

\*Note: The option of other includes burnt and buried

**Table 23b: Solid Waste Disposal Practices in Underserved**

Cities	Govt/WMC vehicle	Other Systems	Dumping on Empty Plot and Street	Total
Quetta	8	0	26	34

**Table 23c: Solid Waste Disposal Practices in Slums and Underserved (Total)**

Cities	Govt/WMC vehicle	Other Systems	Dumping on Empty Plot and Street	Total
Quetta	23	6	286	315

**Table 24a: Schools in Slums and Underserved**

Cities	Slums			Underserved Areas		
	Available	Not Available	Total Slums	Available	Not Available	Total Underserved
Quetta	145	136	281	23	11	34

**Table 24b: Schools in Slums and Underserved (Total)**

Cities	# of Areas With Schools	# of Areas Without Schools	Total slums/Underserved
Quetta	168	147	315

**Table 25a: Types of Schools in Slums**

Cities	Government	Private	Welfare/Trust	Maktab/Madrsa	Other	No Schools
Quetta	109	73	8	75	0	136

**Table 25b: Types of Schools in Underserved**

Cities	Government	Private	Welfare/Trust	Maktab/Madrsa	Other	No Schools
Quetta	22	18	2	11	0	11

**Table 25c: Types of Schools in Slums and Underserved Areas (Total)**

Cities	Government	Private	Welfare/Trust	Maktab/Madrsa	Other	No Schools
Quetta	131	91	10	86	0	147

**Table 26a: Distance of Nearest School from Slums**

Cities	0-2km	3km	4km	5+km	Slums Without schools	Sub Total
	#	#	#	#	#	#
Quetta	119	21	5	0	136	281

**Table 26b: Distance of Nearest School from Underserved**

Cities	0-2km	3km	4km	5+km	Slums Without schools	Sub Total
	Quetta	22	1	0	0	11

**Table 26c: Distance of Nearest School and Slums/Underserved**

Cities	0-2km	3km	4km	5+km	Slums Without schools	Sub Total
	Quetta	141	22	5	0	147

**Table 27: Availability of Working by CSOs**

Cities	Slums		Underserved Areas		Slum/Underserved Areas	
	Available	Not Available	Available	Not Available	Available	Not Available
Quetta	0	281	0	34	0	315

**Table 28a: Types of Services by CSOs in Slums**

Types of Services	Quetta
Education	0
Health	0
Human Rights	0
(Micro Loans)	0
Water	0
Areas with no charity organization	281
Total	281

**Table 28b: Types of Services by CSOs in Underserved Areas**

Types of Services	Quetta
Education	0
Health	0
Human Rights	0
Loans	0
Water	0
No CSO	0
Grand Total	0

**Table 28c: Types of Services by CSOs in Slums/Underserved Areas (Total)**

Types of Services	Quetta
Education	0
Health	0
Human Rights	0
Loans	0
Water	0
No CSO	281
Grand Total	281

Cities	Slums		Underserved		Slum/Underserved (Total)	
	Available	Not Available	Available	Not Available	Available	Not Available
Quetta	42	239	2	32	44	271

Types of Informal Groups	Quetta
Health Committee	0
Jirga/Punchaiyat	16
Masjid/Church Committee	23
School Committee	0
Unregistered Community-Based Organization	3
Zakat Committee	0
No Informal Groups or Committees	239
Total	281

Types of Informal Groups	Quetta
Health Committee	0
Jirga/Punchaiyat	0
Masjid/Church Committee	2
School Committee	0
Unregistered Community-Based Organization	0
Zakat Committee	0
No Informal Groups or Committees	32
Grand Total	34

Types of Informal Groups	Quetta
Health Committee	0
Jirga/Punchaiyat	16
Masjid/Church Committee	25
School Committee	0
Unregistered Community-Based Organization	3
Zakat Committee	0
No Informal Groups or Committees	271
Grand Total	315

Cities	Slums			Underserved Areas			Slums/Underserved		
	Total Slums	Covered	Uncovered	Total Underserved	Covered	Uncovered	Total slums/Underserved	Covered	Uncovered
Quetta	281	34	247	34	0	34	315	34	281

Cities	Type of work	Loan Scheme		Stipend Scheme		Social Benefit Card		Vocational Skills Scheme		Other	
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Quetta	Slum	0	2	0	2	32	2	2	0
	Underserved	0	0	0	0	0	0	0	0	0	0
	Total	0	2	0	2	32	2	2	0	0	2

## Annex 6: Analysis of Health Resources of Union Councils

Quetta	
Town	Total UCs
Chiltan	24
Zarghoon	26
Total	50
Grand Total	626

Cities	UCs with Slums/Underserved	UCs without Slums/Underserved	Total
Quetta	22	28	50

Quetta	# of UCs	Population
Chiltan	24	1145777
Zarghoon	26	1301752
Total	50	2447529

Cities	Population
Quetta	2,447,529

Cities	Health Facilities in Total UCs
Quetta	63

Cities	# of UCs with Health Facilities	# of UCs without Health Facilities	Total
Quetta	40	10	50

Cities	Public EPI Facilities
Quetta	69

Cities	# of UCs with EPI Facilities	# of UCs without EPI Facilities	Total
Quetta	41	9	50

Cities	EPIs with Functional ILR	EPIs without Functional ILR	Total
Quetta	67	2	69

Cities	UCs with Outreach Vaccination	Total UCs
Quetta	50	50

Cities	Available in UCs	Not Available in UCs	Total
Quetta	9	41	50

Cities	Fixed	Temporary Sites	School Session	Sessions by LHWs	No Nutrition Services
Quetta	1	9	9	9	41

Cities	Total EPI Facilities	Total Vaccinators
Quetta	69	120

Cities	UCs Covered by LHWs	UCs Uncovered by LHWs	Total UCs	Total Number of LHWs
Quetta	31	19	50	516

Cities	Dengue Workers Available in UCs	Dengue Workers not Available in UCs	Total UCs
Quetta	0	50	50

## Annex 7: Analysis of Results of EPI Facility Assessment

Names of Towns	Number of UCs	UCs with EPI Facilities	Number of EPI Facilities
Quetta			
Chiltan	24	11	29
Zarghoon	26	11	25
Total	50	22	54

City	Owned	Rented	Total
Quetta	50	4	54

City	Government	Private	Charity	Total
Quetta	52	0	2	54

*Note: There is 1 EPI Centre Other than mentioned variables*

City	Less than 6 Hours	6 Hours	Total
Quetta	37	17	54

City	Available	Not Available	Total
Quetta	10	44	54

City	Available	Not Available	Total	Total # of LHVs
Quetta	32	22	54	45

LHVs are deployed according to the status of health facility. If some facilities offer only vaccination services then LHVs are not deployed there as per government system.

City	Available	Not Available	Total	Total # of Vaccinators
Quetta	54	0	54	99

Cities	Availability of Types of Vaccine Supplies			
	Auto Disable Syringes	Safety Boxes/ Sharp Containers	Vaccine Carrier (s)	Icepacks
Quetta	54	54	53	50

City	Infrequent Shortage	Frequent Shortage	No Shortage	Total
Quetta	16	3	35	54

City	Available Functional	Available Non-Functional	Not Available	Total
Quetta	52	2	0	54

City	Gender Mixed Waiting Area	Gender Segregated Waiting Area	Total
Quetta	28	26	54

City	Adequate	Inadequate	Total
Quetta	34	20	54

*Note: 12 EPI Facilities having no waiting areas*

City	Available	Not Available	Total
Quetta	28	26	54

City	Gender Segregated Available	Gender Mixed Available	Not Available	Total
Quetta	30	10	14	54

Cities	Useable	Not Useable	Toilet Not Available	Total
Quetta	33	7	14	54

City	Burial/Burnt	WMC Vehicle	Total
Quetta	54	0	54



## Annex 8: Analysis of Household Coverage Survey

Cities	Households	Mothers	Children
Quetta	1782	1786	1792

Cities	Boys	Girls	Total
Quetta	929	863	1792

Cities	1	2	3	Total
Quetta	1780	6	0	1786

Cities	Total Household members	Male	Female
Quetta	18946	9133	9813

Cities	Average Family Size	Average Male Members	Average Female Members
Quetta	11	5	6

Cities	With Card (Records)			Without Card (Recall)			Zero Dose	Total Children
	Male	Female	Total	Male	Female	Total		
Quetta	337	292	629	340	341	681	482	1792

Cities	Total Eligible Children	# of Fully Immunized Children	Male	Female
Quetta	1792	481	239	242

Cities	Total Eligible Children	# of Fully Immunized Children	Male	Female
Quetta	1792	198	97	101

Cities	Total Eligible Children	BCG	Penta 1	Penta 2	Penta 3	Measles 1
Quetta	1792	1271	1131	939	748	683

Cities	Total Eligible Children	BCG	Penta 1	Penta 2	Penta 3	Measles 1
Quetta	1792	624	574	486	377	343

Cities	FI (Records +Recall)	ZD	Partially Vaccinated
Quetta	481	482	829

Cities	Male	Female	Total
Quetta	438	391	829

Cities	FI (Records)	With Card	Partially Vaccinated
Quetta	198	629	431

Cities	Zero Dose		
	Male	Female	Total
Quetta	252	230	482

Reasons for Zero Dose	QTA
Mother Number of Zero Dose	482
Vaccination causes more diseases	45
Unavailability of Time for Vaccination/Wastage of time	57
Unaware of EPI/ outreach Centre	0
Unaware of Vaccination Timings	11
No Family Permission	208
Fear of Injection	40
Transport cost to EPI facility is High	55
Environment in EPI facility is not good	7
Unaware of Childhood Vaccination	78
Child Was Sick	0
No Facility Available	0

Cities	To Protect from Disease	Other Purpose	Do Not Know	Total
Quetta	992	223	571	1786

Cities	Mothers having knowledge		Mothers not having knowledge		Total	
Quetta	857	48%	929	52%	1786	100%

Cities	Promote Health Education	Supply Family Planning Products	Refer to Hospital	Information About Immunization	Give Guidance about treatment of illness	Help Vaccinator	Don't Know	Not Applicable	Total
Quetta	521	98	12	0	25	201	0	929	1786

Cities	T.V	Radio	Poster/Billboard	Leaflet	Health Worker	Others
Quetta	604	363	303	215	561	488

Cities	14-19	20-24	25-29	30-34	35-39	40+	Total
Quetta	53	278	518	558	282	97	1786

Cities	0	1-5	6-10	11-15	15+	Total
Quetta	1486	131	106	62	1	1786

Cities	Yes	No	Total
Quetta	76	1710	1786

Cities	Urdu	Punjabi	Potohari	Balochi	Pashto	Sindhi	Siraiki	Others	Total
Quetta	18	34	9	313	971	71	34	332	1782

Cities	Kacha	Kacha-Pacca	Pacca	Total
Quetta	1006	700	76	1782

Cities	1 Room	2-3 Rooms	4-6 Rooms	7-10 Rooms	10+ Rooms	Total
Quetta	277	994	446	59	6	1782

Cities	Houses With Electricity	Houses Without Electricity	Total
Quetta	1615	167	1782

Cities	Government Water Supply	Ground Water	Acquire Water	Total
Quetta	486	182	1114	1782

Cities	Less than 1 hour	1-5 hours	6-10 hours	11-15 hours	16-20 hours	20+ Hours	Total
Quetta	0	485	0	0	0	1	486

Cities	Connected with Street Drains	Traditional Latrine/ Open Pit	Houses Without Toilets	Total
Quetta	704	1039	39	1782

Cities	Average Toilets Users
Quetta	10

Cities	Neighbor's Toilet	Public Toilet	Open Defecation	Houses with Toilets	Total
Quetta	1	0	38	1743	1782

Cities	Job (Government Job, Private Job, Work in Foreign Country)	Small Business	Daily Wage Labor	Total
Quetta	384	434	964	1782

Cities	Debt (Always / Occasional)	No Debt, No Savings	Savings	Total
Quetta	1288	394	100	1782

#### Background Characteristics of Zero Dose Children

Cities	0 (Illiterate)	01—05	06—10	11—15	Total
Quetta	439	28	11	4	482

Cities	Job Holders	Small Business	Daily wage Labor	Other	Total
Quetta	61	116	294	7	478

Cities	Debt (Always / Occasional)	No Debt, No Savings	Savings	Total
Quetta	383	75	20	478

Cities	Average Family Size	Male Members	Female Members	Total Members
Quetta	11	2556	2655	5211

Cities	Kacha	Kacha-Pacca	Pacca	Total
Quetta	306	157	15	478

Cities	Connected with Street Drain	Traditional latrine/Open pit	Houses without Toilets	Total
Quetta	131	326	21	478

Cities	Neighbor's Toilets	Public toilet	Open Defecation	Total
Quetta	0	0	21	21

#### Background Characteristics of Fully Immunized Children

Cities	0 (Illiterate)	01--05	06--10	11--15	15+	Total
Quetta	384	31	43	22	0	480

Cities	Job Holders	Small Business	Daily wage Labor	Total
Quetta	113	124	243	480

Cities	Debt (Always / Occasional)	No Debt, No Savings	Savings	Total
Quetta	320	118	42	480

Cities	Average Family Size	Male Members	Female Members	Total Members
Quetta	10	2373	2556	4929

Cities	Kacha	Kacha-Pacca	Pacca	Total
Quetta	269	188	23	480

Cities	Connected With Drains	Traditional latrine/open pit	Houses without Toilets	Total
Quetta	212	260	8	480

Cities	Neighbor's Toilets	Public toilet	Open Defecation	Total
Quetta	0	0	8	8

