

# Health Sector

## Multan Regional Development Plan



**The Urban Unit**  
Urban Sector Planning & Management Services Unit (Pvt.) Ltd.



Urban Sector Planning and Management Sector Unit (Pvt.)Ltd. has prepared this report as Health Plan for Regional Development Plan of Multan division. Maximum care and caution were observed while developing this document.

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# Chapter 1: Introduction

The Multan division covers the districts of Multan, Khanewal, Lodhran and Vehari. The mandate of providing healthcare services in the division is split between the primary & secondary healthcare and specialized health care in Punjab. Where the former provides basic healthcare services through the unit like; BHUs, RHC, MCH centers, Dispensaries, THQs and DHQs etc. And Specialized Health & Medical Education department caters the units like; Specialized Hospitals, Medical Education, Medical Universities/ Colleges/ Schools, teaching hospital, nursing education, Health agencies, Punjab Health foundation, Punjab Pharmacy Council etc. A great number of private, small clinics and health units also operates in the region. District Health Authorities (DHA) of each district are responsible for the delivery of key health services to the people. The total composition of facilities in each district is given below, along with their number of beds:

Table 1: Health facilities in Multan Division

Facility Type		Facilities in Multan Division				Total
		Multan	Khanewal	Lodhran	Vehari	
Hospital	No.	20	6	4	4	34
	Beds	3238	473	283	510	4504
RHCs	No.	13	9	4	14	40
	Beds	160	180	80	280	700
BHUs	No.	87	81	48	74	290
	Beds	164	162	96	148	570
Dispensaries	No.	32	14	16	40	102
	Beds	0	0	12	-	12
MCH Centers	No.	19	4	1	5	29
	Beds	9	-	2	-	11
T.B.	No.	1	-	-	-	1
Clinics	Beds	52	-	-	-	52
Trauma Centers	No.	1	-	1	-	2
	Beds	72	-	10	-	82

Source: Punjab Development Statistics (PDS) 2022

Health is a critical element in human development and has significant impact on social progress. Investing in the health of a society is essential to enhance the productivity of workforce by increasing their physical capabilities, which include strength and endurance. However, the whole division suffers from high disparity in terms of health with relatively low performance on the major health indicators like infant mortality rates, antenatal care, number of doctors etc. Multiple factors contribute to poor healthcare status of the division such as low accessibility to health care services, low quality of services at primary health facilities, missing services at secondary facilities, poor emergency & waste management towards and infrastructure development.

Based on Household (HH) perception of the performance of BHUs in the Multan division, the following table shows the care seeking behavior during Acute Respiratory Infection (ARI), which is one of the top diseases in the region. More than half of the patients of ARI, reached out to private health facilities for advice and treatment as shown in the table below. While only a small proportion of respondents reported availing the facilities of public facilities which raises the question as to why citizens are not availing the public services. Moreover, HH satisfaction level by BHUs in Multan, Khanewal, Lodhran and Vehari is less than 90%.

Table 2: HH satisfaction level of BHUs

Care seeking behavior during diarrhea - top disease					
		Multan	Khanewal	Lodhran	Vehari
Advice or treatment was sought from	Public HF (%)	16.4	17.6	26.5	17.6
	Private HF (%)	55.5	61.8	49.8	62.8
No advice or treatment sought		27.3	23.1	22.7	23.5
HH satisfaction level by BHUs		75.35	70.74	86.21	89.46

Source: PSLM 2019-20 and MICS 2017-18

## Chapter 2: Methodology

Mixed method approach is used. Desk review of existing documents, datasets and reports on health sector has been done. Existing government policy documents has been consulted for strategic direction. After collection and review of secondary data, the next step was the ground truthing of the data and quality assessment of health

facilities through field visits/ stakeholder consultation. Analysis has been done on the collected data and the findings of stakeholder meetings. Furthermore, the spatial analysis of health accessibility in the districts has also been undertaken along with the identification of under-served inaccessible pockets/areas. Based on health infrastructure assessment, facilities have been identified with upgradation and strengthening needs, in order to reduce the burden of patient influx.

## 2.1: Strategic Direction

The strategic directions for Health Plan are extracted from the following policy documents of the Government of the Punjab, for synching short-term, medium-term and long-term goals provincial goals:

### Linkages between Health Plan and Punjab Health Sector Strategy 2019-2028

The Punjab Health Sector Strategy 2019-28 provides the framework for the future planning, management and service delivery for Punjab Health Departments for the next decade. The Strategy focuses on leading Punjab towards better performance for attaining the desired goal of providing quality healthcare to the people. Following are some of the strategic interventions identified in Punjab Health Sector Strategy, which are also included in this plan:



Table 3: Thematic areas of interventions as per Punjab Health Sector Strategy 2019-2028

Sr.#	Punjab Health Sector Strategy 2019-2028	
	Thematic Areas	Strategic Interventions
1	Reproductive Maternal Newborn Child Health, Nutrition & Family Planning	Establish MNCH Hospitals in public sector as well as in partnership with private sector which may be funded by Punjab Health Foundation
2	Medicines and Biomedical Equipment	Proper storage of medicines at provincial and district level
3	Health Management Information System	Develop and implement a uniform and Tertiary-level Health Information System

## Linkages between Health Plan and National Reference Manual on Planning and Infrastructure Standards 1983

The Manual identifies major standards and guidelines for the establishment of both primary and secondary health facilities such as coverage area, types of facilities provided etc. To facilitate the geographical distribution of health facilities, the manual has set a minimum standard of 2 beds/1000 population in the region. The table below shows the existing bed capacity in health facilities of Multan and the required beds per population as per the National Reference Manual on Planning and Infrastructure Standards.

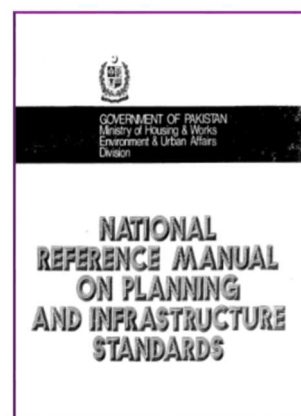


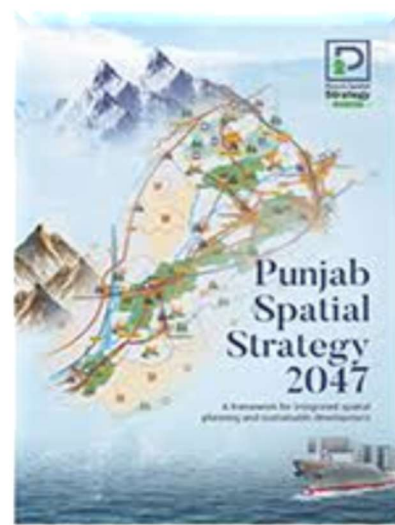
Table 4: Required Beds as per standards for health facilities

Districts	Population (Census 2017 - million)	Existing Beds (PDS 2021)	Beds per 1000 population	Required beds per population(2021)
Multan	4,746,166	3,695	0.8	5,797
Khanewal	2,920,233	815	0.3	5,025
Lodhran	1,699,693	483	0.3	2,916
Vehari	2,902,081	938	0.3	4,866
Total	12,268,173	5,931	0.5	18,605

Thus, to increase the beds to population ratio in the region, new facilities can be introduced in the unserved areas.

### Linkages between Health Plan and Punjab Spatial Strategy 2018-2047

For the achievement of SDGs, PSS calls for an integrated health ecosystem with adequate expenditure on health sector targeting the most deprived districts on high priority. The figure below depicts the health-related disparities and priority zones, based on the Health Dimension Index, incorporating major health indicators like infant mortality rate, child mortality rate (aged under 5), population diagnosed with major diseases (Hepatitis and Tuberculosis), immunization coverage and percentage of cases for pre- and post-natal consultation. Only focusing on the Multan division, it can be seen that the district Multan and Vehari are low priority districts in terms of healthcare provision and performance. While Lodhran and Khanewal are high priority districts in terms of healthcare provision and performance as they are lagging behind as compared to their neighboring districts. PSS points out that need remove disparities in health infrastructure development as compare the other region of Punjab.



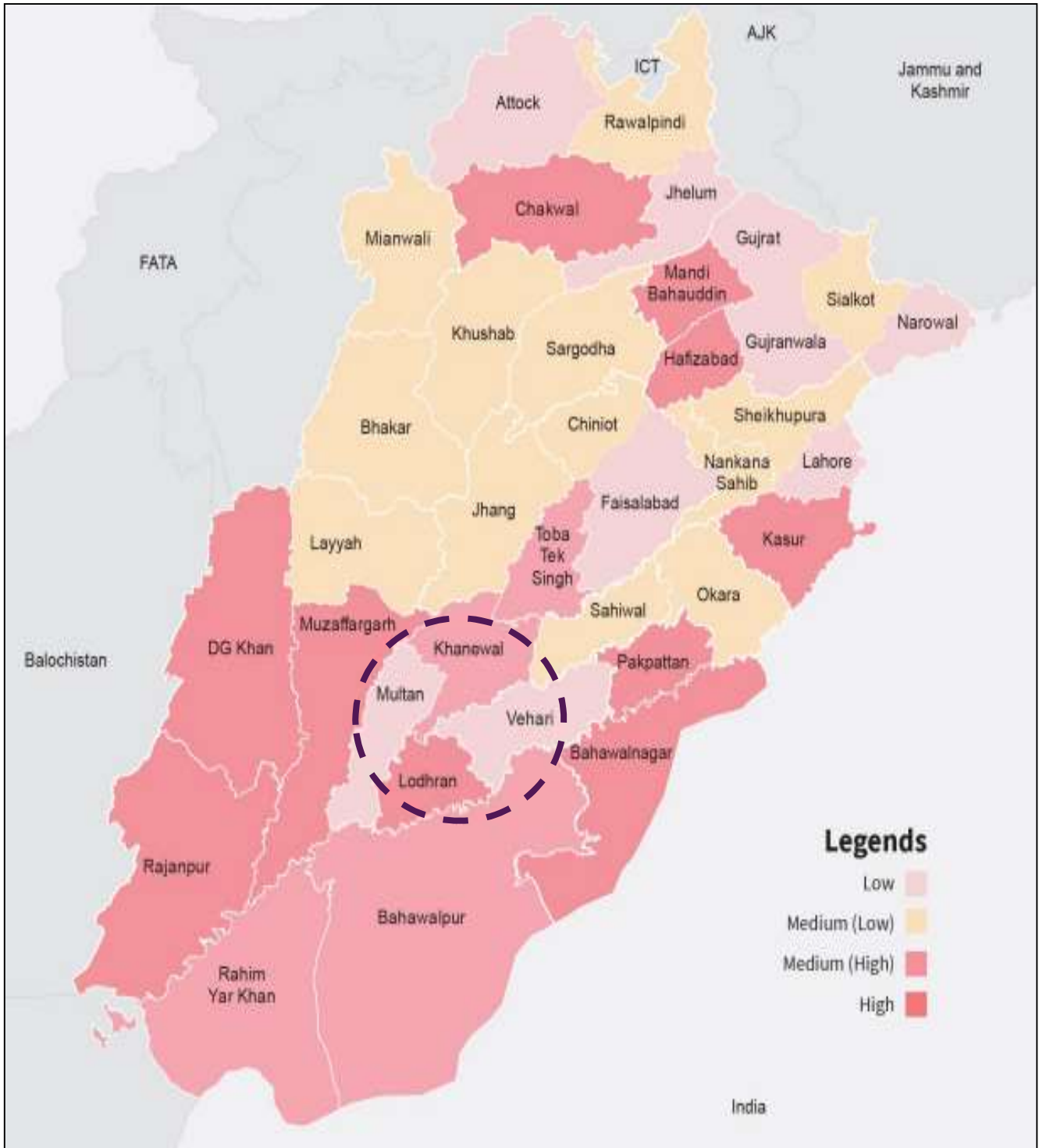


Figure 1: Multan division as a priority area for health interventions

Source: Punjab Spatial Strategy (PSS) 2047

## 2.2 Approach and Methodology

The project had two distinct phases. The first phase includes a detailed assessment and situation analysis of the region and identification of gaps using the mixed method research (quantitative and qualitative) through collection

and analysis of data from existing provincial and national surveys and reports, stakeholder consultations and field visits. Additionally, the spatial analysis (wherever the spatial coordinates and data available) using GIS tools was applied, which further assisted in identifying the gaps and operational issues prevailing in the health facilities. The second phase includes recommendations for sustainable interventions which can be implemented to increase the level of development in the region. Following five data collection and analysis techniques were utilized:

- Desk Review (using life course approach)
- Field visits for rapid condition assessment
- Stakeholder Engagement (using SWOT analysis)
- Spatial analysis using GIS tools

The following figure gives a preview of the methodological framework used in this health plan:

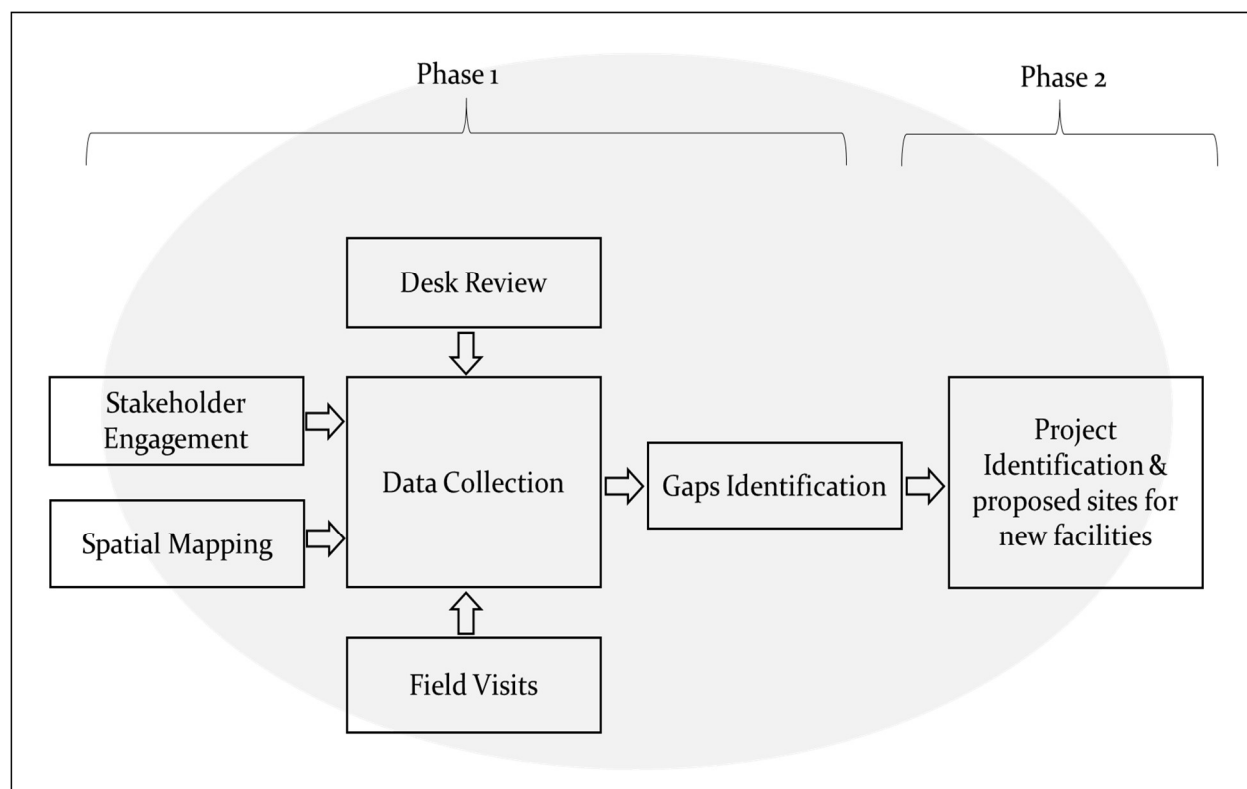


Figure 2: Methodological Framework

## 2.1 Desk Review:

Initial review of existing provincial and national reports and survey related to health was conducted to get collect baseline indicators and overview of the prevailing situation in the region. Secondary sources included District Health

Information System (DHIS) dashboard<sup>1</sup>, Population Census 2017, Pakistan Standard of Living Measurement (PSLM) 2019-20, Multiple Indicator Cluster Survey (MICS) 2017-18, Punjab Development Statistics (PDS) 2019 and others. Additionally, the Health Plan is based on the Life Course theoretical model which provided a framework for data collection. Life course model focuses on the importance of general health and wellness over the life course (i.e., childhood adolescence and adulthood) as it relates to maternal and child health. Adopting a life course approach is essential to explore the factors affecting children health and nutrition.

The figure below highlights the framework for analyzing major health indicators at different stages of life course, which gives an opportunity to explore the influencing factors on Mother and Child Health (MCH). At each point in the life course different services are required, for instance outpatient and outreach services can promote behaviour change and provide preventive care, while hospital or clinical care can provide services such as emergency obstetric care and care for small and sick newborns at large scale. This results in a matrix of integrated packages involving different types of care and the impacting health indicators at various points in a woman's life (adolescent, reproductive health, pregnancy and labour birth, post-natal maternal and newborn and child). Thus, mother and child health should be the key pillar of healthcare plan.

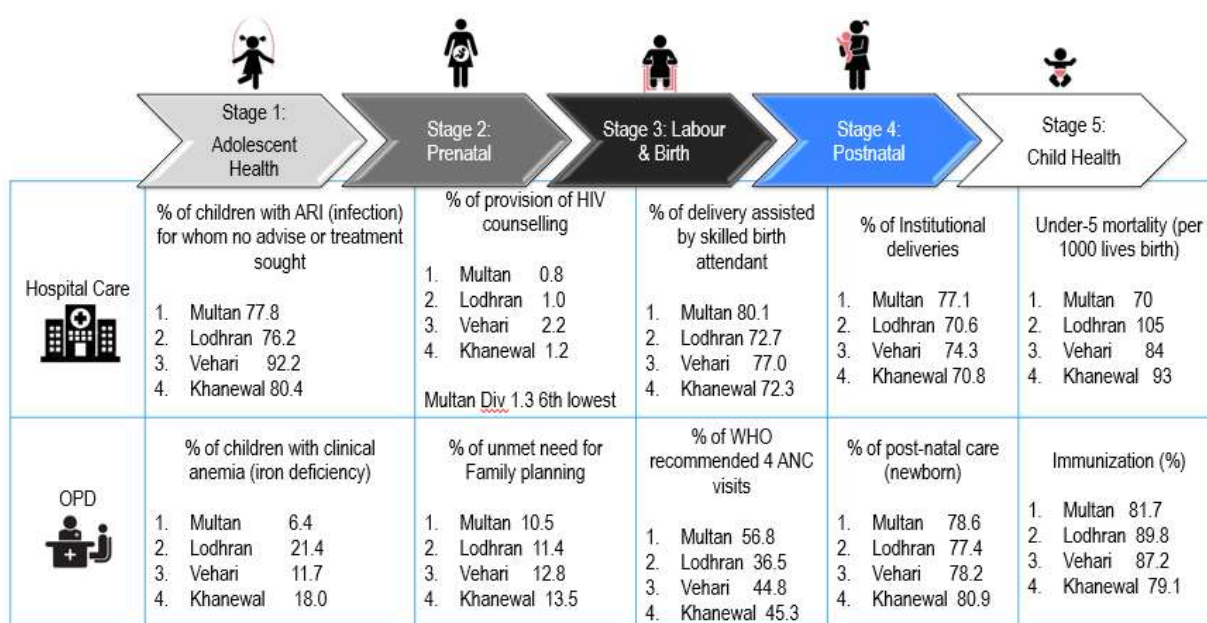


Figure 3: District-wise indicators using Life course approach

<sup>1</sup> P&SHD (2021). *District Health Information System*. Primary & Secondary Healthcare Department (P&SHD), Government of Punjab. Accessed from <<http://125.209.111.70:88/dhis/>>.

Source: Framework adopted from Oxford Textbook of Global Health of Women<sup>2</sup>, Newborns, Children, and Adolescents and data taken from MICS 2017-18

It can be seen that the region is performing well against few indicators such as percentage of woman whose delivery was assisted by skilled attendant, percentage of woman who received HIV counselling during antenatal care and immunization coverage etc. On the other hand, the situation of other major indicators such as percentage of children with ARI (infection) for whom no advise or treatment sought, unmet need for Family planning and under-5 mortality (per 1000 lives birth) etc. are worse in the region. The districts wise comparison showed that Lodhran district is the lowest performing district across the parameters mentioned above.

## 2.2 Stakeholder Consultations and Facility Visits

For condition assessment of the health facilities, the Urban Unit healthcare sector team visited all the districts of Multan division during March 2023. Figure below highlights the pictorial view of health facilities which were visited by the Urban Unit team. A rapid condition assessment survey was done to gauge the existing situation of the health facilities. These surveys were based on Minimum Service Delivery Standards (MSDS) 2017 (Punjab Health Commission) and are attached in the appendix A. The Urban Unit healthcare sector team during field visit for condition assessment of various health facilities in the Multan division in November 2022, also met various officials and stakeholder including:

1. Chief Executive Officer (CEO), Multan
2. Chief Executive Officer (CEO), Vehari
3. District Health Officer (DHO), Lodhran
4. Chief Executive Officer (CEO), Khanewal (online meeting)
5. Medical Superintendent at DHQ Hospital Multan
6. Medical Superintendent at DHQ Hospital Lodhran
7. Medical Superintendent at DHQ Hospital Vehari
8. Medical Superintendent at THQ Hospital Jalapur
9. Medical Superintendent at THQ Hospital Shujabad
10. Medical Superintendent at THQ Hospital Dunyapur

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<sup>2</sup> Lawn, J & Sadoo, S. (2018). Strategies through the lifecourse to improve maternal, newborn, child, and adolescent health. In D. Devakumar (Ed.). *Oxford Textbook of Global Health of Women, Newborns, Children, and Adolescents*. Oxford University Press.

11. Medical Superintendent at THQ Hospital Kahroor Pakka
12. Medical Superintendent at THQ Hospital Burewala
13. Medical Superintendent at THQ Hospital Mailsi
14. Doctor at Basic Health Unit (BHU) Kokhran
15. Doctor at Basic Health Unit (BHU) Chak 355 WB

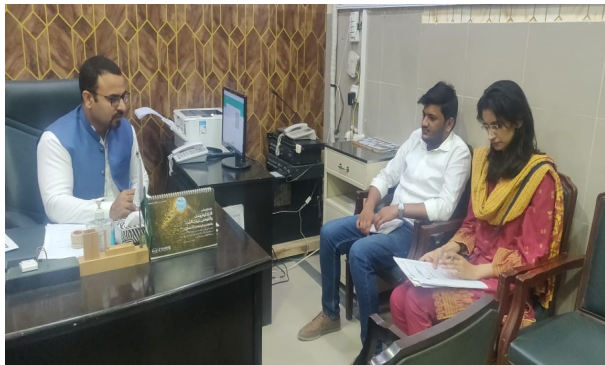




Figure 4: Stakeholder meetings

Consultations with stakeholders were conducted for the shared understanding of the prevailing health condition in Multan. Majority of the stakeholders involved were from district administration, and the rest of the participants were from primary and secondary healthcare facilities. The data was collected through individual interviews and respondents were asked to provide feedback through open comments approach, where they were asked to identify key challenges with relation to the four types of health facilities:

- Institutional Capacity & Budget Reform
- Improvement in existing health facilities & ambulance services
- Emergency and Waste Management

Challenges to existing health system were identified by the stakeholders and the following recommendations were proposed:

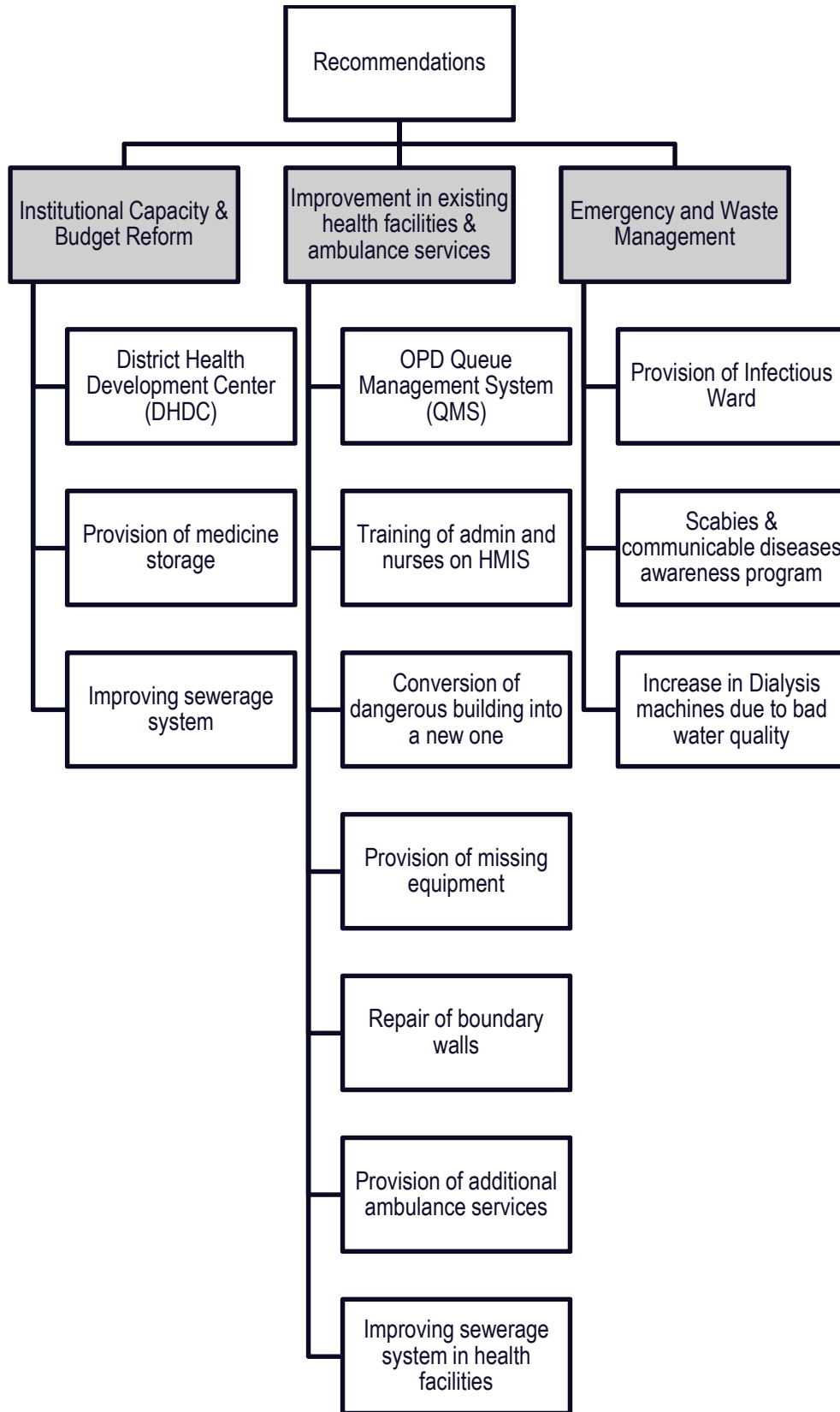


Figure 5: Recommendations proposed by the stakeholders

Recommendations for the Improvement in existing health facilities & ambulance services includes OPD Queue Management System (QMS), training of admin and nurses on HMIS, conversion of dangerous building into a new one, provision of missing equipment, repair of boundary walls, provision of additional ambulance services and Improving sewerage system in health facilities. Recommendations for the Emergency and Waste Management includes provision of Infectious Ward, scabies & communicable diseases awareness program and increase in dialysis machines due to bad water quality. Recommendations for Institutional Capacity includes establishment of District Health Development Center (DHDC) and provision of medicine storage rooms.

Budgetary issues were also highlighted in the stakeholder consultations. There is a need for an increase in budget for Repair and Maintenance (R&M) which is normally PKR 2 to 4 lakhs monthly, because of high operations costs and recent increase in the inflation. The figure below shows the components of health budget, where R&M component accounts for one percent of the total budget.

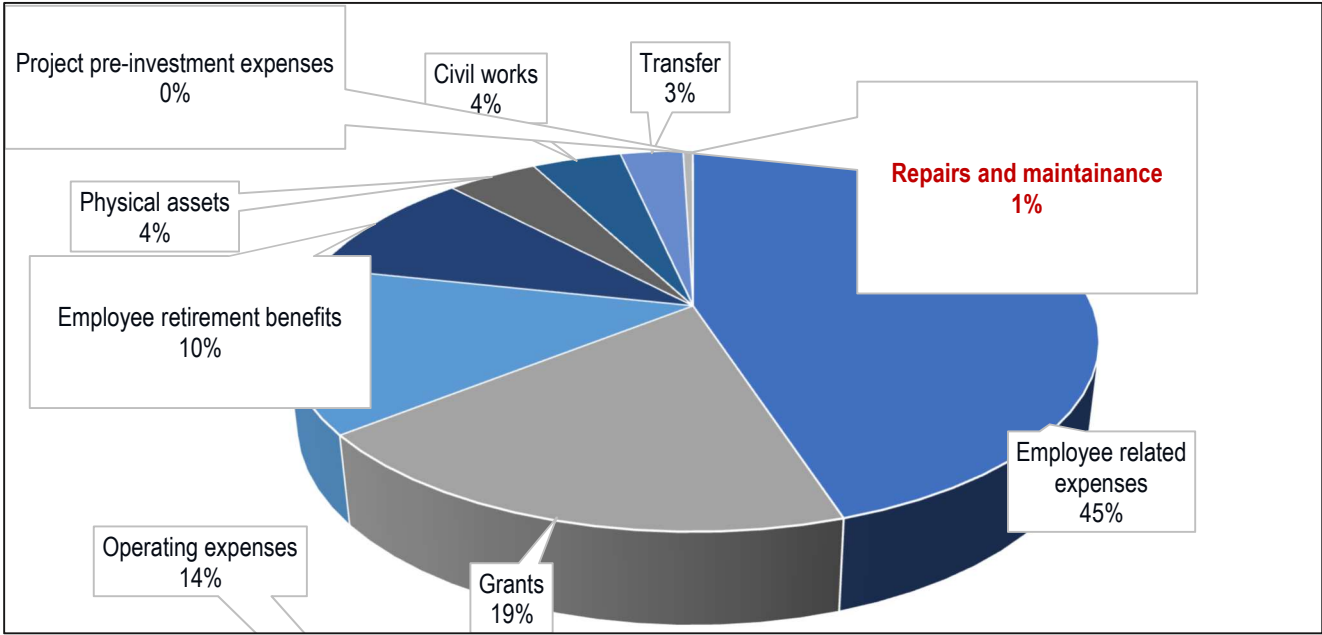


Figure 6: Components of Health Budget for 2017-18

Under Punjab government solarization of health facilities program, most of the facilities are adopting solar system, however the medical superintendent has highlighted the high cost of maintenance of solar system. However, maintenance of solar system is very costly (2 lakh for battery and 4 lakh for inventor, which expires after 4 years). DHQ Vehari and THQ Mailsi don't need solarization because of the transition cost.



Roads inside the facility cannot be constructed from R&M budget in THQ Jalalpur Pirwala



Non-functional lift to take patients to operation theater in DHQ Multan (estimated cost will be 9-10 million)

Figure 7: Challenges Identified due to insufficient R&M

## Chapter 3: Gaps Identification

The Health Sector Plan will highlight the situational analysis of the health system in the region and will identify the lagging areas which needs to be catered to.

### 3.1 Challenges and Constraints

#### 3.1.1 Poor progress against SDGs

Health is a critical element in human development and has a significant impact on social progress. Investing in the health of a society is essential to enhance the productivity of workforce by increasing their physical capabilities, which include strength and endurance. Moreover, provision of inclusive, affordable and quality healthcare is an important measure of the quality of life. Presently, the Multan region suffers from low performance on the major health indicators like infant mortality rates, antenatal care, number of doctors etc. The overall progress of the Multan Division is very poor against the major Sustainable Development Goals (SDGs) indicators related to health. It can



be seen from the following figure that high rate of under-five mortality of the division i.e., 84 lives per 1000 births, is very far away from SGD target 2030 of 25 lives per 1000 births. Similar is the case for other indicators.

Table 5: Progress against province average and SDG targets

	Multan Division	Province average	SDG targets
<b>Under-five mortality (lives per 1000 births)</b>	84	69	25
<b>Neo-natal mortality (lives per 1000 births)</b>	50	41	12
<b>Immunization Coverage</b>	83.30%	74.70%	100%
<b>Multi-dimension Poverty Index</b>	32.20%	26.10%	15.70%

Source: MICS 2017-18

### 3.1.2 Low Universal Health Coverage (UHC)

Pakistan is focused on achieving Universal Health Coverage (UHC) for all citizens by 2030 with a vision that everybody should have access to affordable and quality essential health services in the country. As defined by World Bank (WB) and World Health Organization (WHO), four groups for UHC monitoring, which are service capacity and access, reproductive, maternal, newborn, child and adolescent health and nutrition, non-communicable diseases and infectious diseases.



Universal Health Coverage is the main outcome of health-related SDGs and is measured with two targets, one for coverage of essential service delivery (3.8.1) and other for financial protection (3.8.2). As per UHC Service Coverage Index<sup>3</sup>, Multan is performing well as compared to other districts, however only half of the population in Multan has access to essential health services/ universal health coverage, which is far from the global UHC Service Coverage Index target of 80+ by 2030. Lodhran and Khanewal are the worst performing districts.

Table 6: District-level UHC Service Coverage Index 2021

	Multan	Lodhran	Khanewal	Vehari

<sup>3</sup> Pakistan: 2021 Monitoring Report Universal Health Coverage




UHC Service Coverage Index 2021	55.04 %	47.96 %	47.85 %	48.58
Ranking in Punjab	4 <sup>th</sup>	26 <sup>th</sup>	27 <sup>th</sup>	23 <sup>th</sup>

Source: Pakistan 2021 Monitoring Report Universal Health Coverage

### 3.1.3 Accessibility and quality of health facilities

There is a need to increase the service delivery in geographically poorer areas, to mitigate incidence of poverty. One of the major challenges faced by the region is that infrastructure is incomplete, and equipment are missing or non-functional. The existing capacity of health facility is demonstrated by beds to population ratio, which is a WHO indicator. The figure below shows required beds in some of the health facilities of the region, which is calculated by dividing the number of beds in the facility by its catchment population. Since the introduction of Millennium Development Goals (MDGs), it was identified that almost half of under-five deaths were in the neonatal period, thus led to focus on Maternal, Newborn, and Child Health (MNCH) and Reproductive, Maternal, Newborn, and Child Health + Adolescent health (RMNCH+A) to underline the crucial importance of reproductive health. However, mother and child healthcare indicators in Lodhran are worst off, since only 72.7% of the deliveries in the region were attended by a skilled person which is less than SDG 2030 target of 80%. Similar is the case for other districts.

Table 7: WHO-recommended 4 ANC visits, birth attended by skilled personals and beds per 1000 population

Indicators	WHO-recommended 4 Antenatal visits	Births Attended by Skilled Personals	Beds per 1000 population
Minimum threshold	 100%	 80%	 2:1000
Province Average	52.9	76.4	-
Multan	56.8	80.1	0.8
Khanewal	45.3	72.3	0.3
Lodhran	36.5	72.7	0.3
Vehari	44.8	77	0.3

Source: MICS 2017-18

Maternal healthcare services also need improvement in the region. A small percentage of the patients were not provided with ANC and PNC services, which is critical in preventing any serious damage to the mother’s health during and after pregnancy. Moreover, only few percentages of women have comprehensive knowledge about HIV, thus there’s a need for increased awareness campaigns and behavioral change interventions.

### 3.1.4 High prevalence of disease

Scabies, a highly contagious skin infestation, has become a significant health concern in the region. It affects individuals of all ages and socio-economic backgrounds. The graph below shows the prevalence of scabies in Multan Division, where Multan, Vehari and Khanewal has the high scabies incidence rate (per 1000 population).

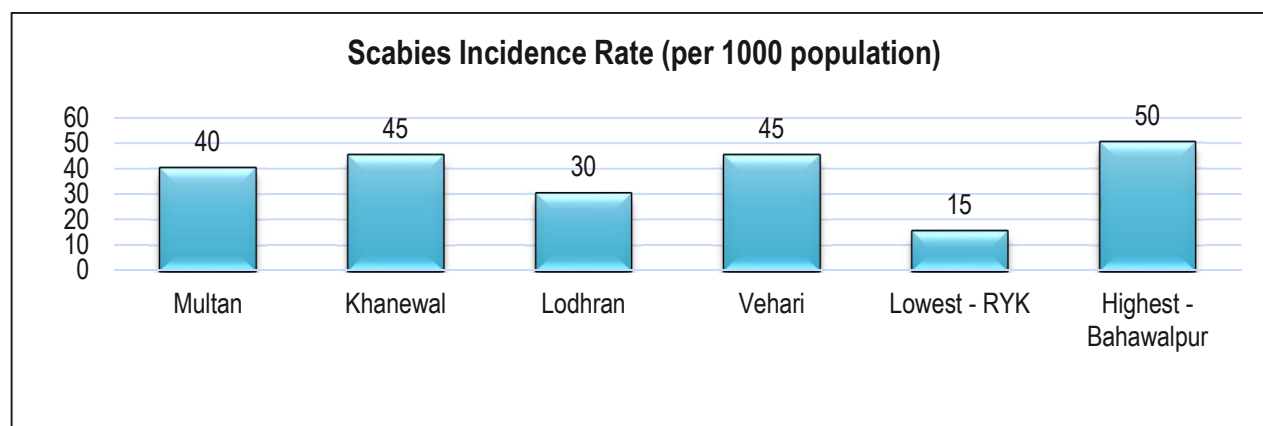


Figure 8: Scabies Incidence Rate

The lack of awareness about preventive measures, limited access to healthcare facilities, and overcrowded living conditions contribute to the spread of the infestation. Efforts should be made to address this issue comprehensively. Launching targeted awareness campaigns to educate the public about scabies, its transmission, and preventive measures such as personal hygiene, regular washing of clothes and bedding, and avoiding close contact with infested individuals. Providing healthcare professionals with specialized training on the diagnosis and treatment of scabies, ensuring proper identification of cases, and promoting appropriate management protocols. Improving access to healthcare facilities, especially in underserved areas, and ensuring the availability of affordable treatment options, such as topical creams and oral medications.

The poor quality of drinking water in Multan poses a substantial risk to the health of the community. The presence of contaminants, pollutants, and high levels of harmful substances in the drinking water supply has raised serious concerns about public health. As a consequence, an increasing number of individuals are experiencing renal complications, necessitating the need for dialysis treatment. The table below shows that there is low percentage of households having basic drinking water, sanitation and hygiene services. Districts are below the province average.

Table 8: Percentage of household having basic drinking water, sanitation and hygiene services

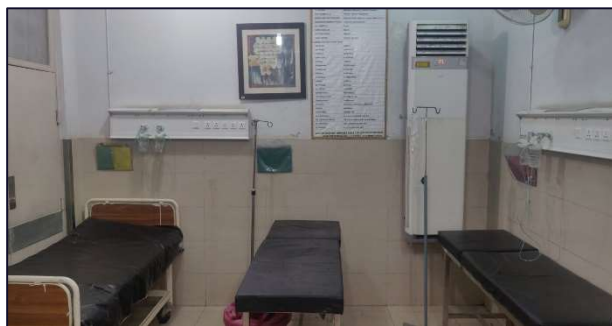
#	Districts	% of HH having basic drinking water, sanitation and hygiene services
1	Multan	50.1
2	Khanewal	58.1
3	Lodhran	39.9
4	Vehari	58.6
	Punjab	64.8

Source: PSLM 2018-19

To address this pressing issue, there is a need for conducting comprehensive and regular assessments of the drinking water sources in Multan to identify the specific contaminants and pollutants present, up gradation of Water Treatment and Infrastructure to ensure the supply of safe and clean drinking water to the residents of Multan. Along with launching of Public Awareness campaigns to educate the community about the importance of clean drinking water, potential health risks associated with poor water quality, and practices to safeguard their health and increasing access to Dialysis Facilities in health facilities to cater to the growing demand. By proactively addressing the poor quality of drinking water in Multan, the government can alleviate the burden on healthcare facilities and improve the overall health and well-being of the community.

### 3.1.5 Poor condition of existing facilities

Overcrowding, Unplanned or missing Infrastructure and Deteriorating Infrastructure are some of the major challenges faced by the existing health facilities in Multan division. Following figure highlights the observations from the field:



Emergency ward in the corridor due to low space in THQ Burewala



Overcrowding in dialysis center because of bad water quality in the region in THQ Burewala



Dialysis ward is being run by private doctor due to high demand in THQ Burewala



Patient area having no walls creates problem for patients in extreme heat and cold weather in THQ Mailsi



Due to no medicine storage, medical ward has been converted to storage area



Toilets located in the middle of patient waiting areas, can be replaced by OPD rooms



Repetitive drainage problem, caused damaged to boundary wall in BHU Chak 355 W/B



Dangerous declared buildings, which are not being renovated due to lack of funds in DHQ Multan

Figure 9: Challenges Identified due to insufficient R&M

### 3.2 Spatial Mapping of Uncovered Areas

The Multan division lies in the central region of Punjab. The geo-tagged locations of health facilities in the region are spatially mapped for further analysis. The current model of Punjab health system includes at least one BHU at

each UC, while RHC is established on cluster of BHUs. Moreover, one DHQ is established at each district and one THQ at each tehsil. Factors such as geographic spread, low population density, limited infrastructure and higher costs for delivering rural and remote health care create challenges for healthcare system. With increasing population of the region, there is increasing amount of pressure on existing health infrastructure network.

In this section, travel time analysis has been used to quantify populations' physical accessibility to healthcare infrastructure and identify the areas which are covered and not covered by the health services. The travel time analysis is displayed in the maps below.

### 3.2.1 Uncovered areas for BHU services

Basic Health Unit (BHU) is the lowest level of the health system. Every rural Union Council or District Council should have a BHU facility and it serves to a catchment population of 10,000 to 25,000<sup>4</sup>. By taking out total number of BHU facilities in the region, the data can be used to assume that there is a gap of 53 District Union Councils which does not have the BHU facility, thus new facilities can be constructed here to cater to the health needs of the people.

Table 9: Gaps in the availability of BHUs

	Districts	Existing BHUs	No. of Rural Union Councils	<b>GAP</b> No. of UCs with no BHUs
1	Multan	89	61	28
2	Khanewal	82	29	53
3	Lodhran	74	43	31
4	Vehari	48	9	39
<b>Total</b>		<b>293</b>	<b>142</b>	<b>151</b>

#### **Multan district**

99.6% of the population is adequately covered by BHU. While the rest of the population i.e. 0.4% of the population especially living in the west part of the division, which are more than 20 minutes away from the nearest facilities, as depicted by light green and orange area. Thus, spatial analysis confirms with the data shown in the above table,

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<sup>4</sup> Minimum Service Delivery Standards (MSDS) for Primary and Secondary Healthcare in Punjab. Punjab Devolved Social Services Programme (PDSSP) 2008

that there's a need for new BHU facilities in the under-served areas. A total of 28 rural Union Councils (UCs) does not have a BHU, thus new facilities can be constructed there.

Table 10: Proportion of population lying in served and unserved areas

	<b>Travel time in minutes</b>	<b>Associated colours</b>	<b>Proportion of population</b>
1	0-10	Green	93.5%
2	10-20	Blue	6.1%
3	20-30	Red	0.4%

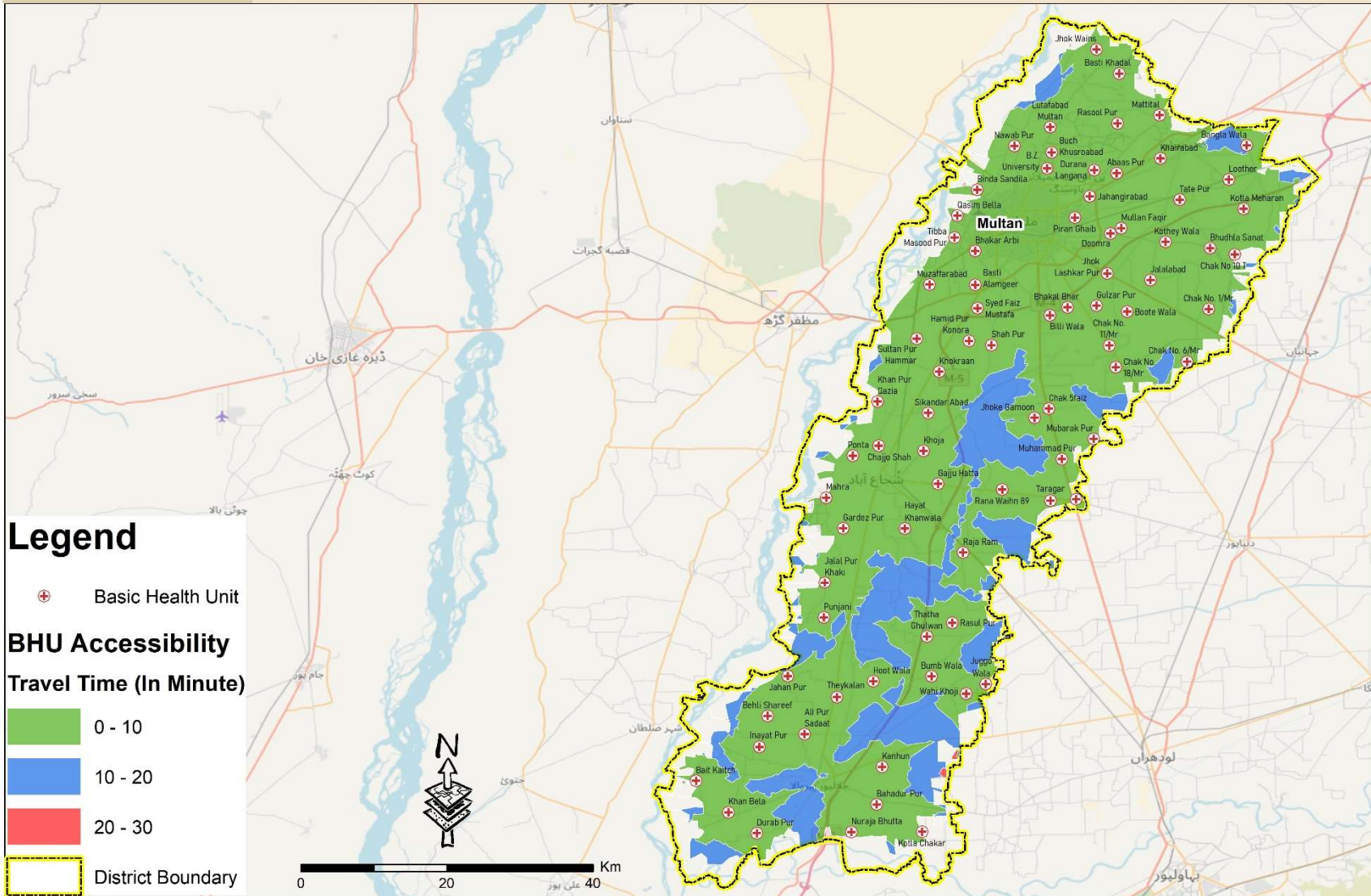


Figure 10: Uncovered areas in Multan – BHU

### ***Khanewal district***

98.4% of the population is adequately covered by BHU. While the rest of the population i.e. 1.6% of the population especially living in the west part of the division, which are more than 20 minutes away from the nearest facilities, as depicted by light green and orange area. Thus, spatial analysis confirms with the data shown in the above table, that there's a need for new BHU facilities in the under-served areas. A total of 53 rural Union Councils (UCs) does not have a BHU, thus new facilities can be constructed there.

Table 11: Proportion of population lying in served and unserved areas

	<b>Travel time in minutes</b>	<b>Associated colours</b>	<b>Proportion of population</b>
1	0-10	Green	91.2%
2	10-20	Blue	7.2%
3	20-30	Red	1.6%

# Health Facilities Accessibility Map

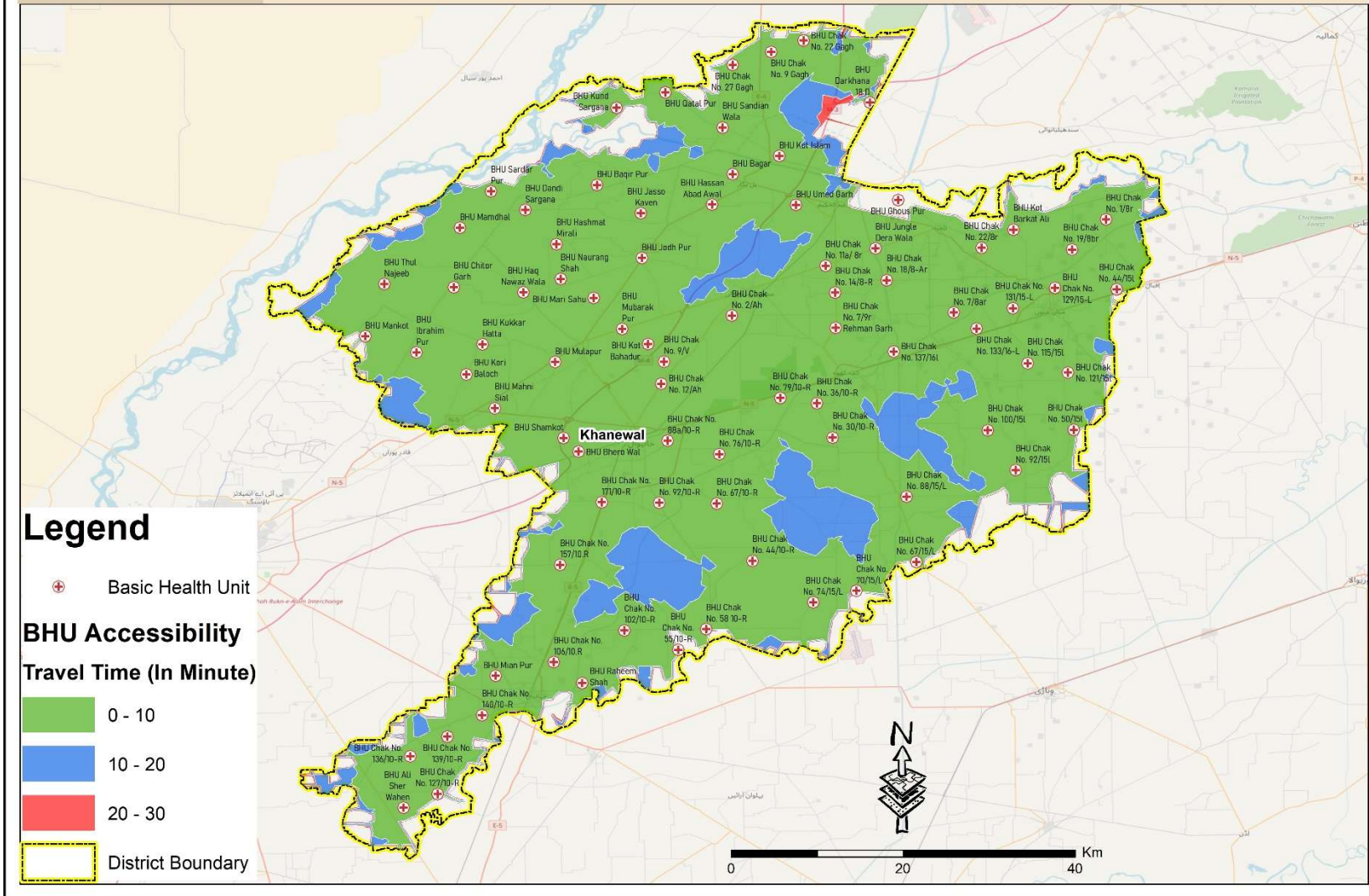


Figure 11: Uncovered areas in Khanewal – BHU

**Lodhran district**

86.6% of the population is adequately covered by BHU. While the rest of the population i.e. 1.8% of the population especially living in the west part of the division, which are more than 20 minutes away from the nearest facilities, as depicted by light green and orange area. Thus, spatial analysis confirms with the data shown in the above table, that there's a need for new BHU facilities in the under-served areas. A total of 31 rural Union Councils (UCs) does not have a BHU, thus new facilities can be constructed there.

Table 12: Proportion of population lying in served and unserved areas

	<b>Travel time in minutes</b>	<b>Associated colours</b>	<b>Proportion of population</b>
1	0-10	Green	86.6%
2	10-20	Blue	11.6%
3	20-30	Red	1.8%

# Health Facilities Accessibility Map

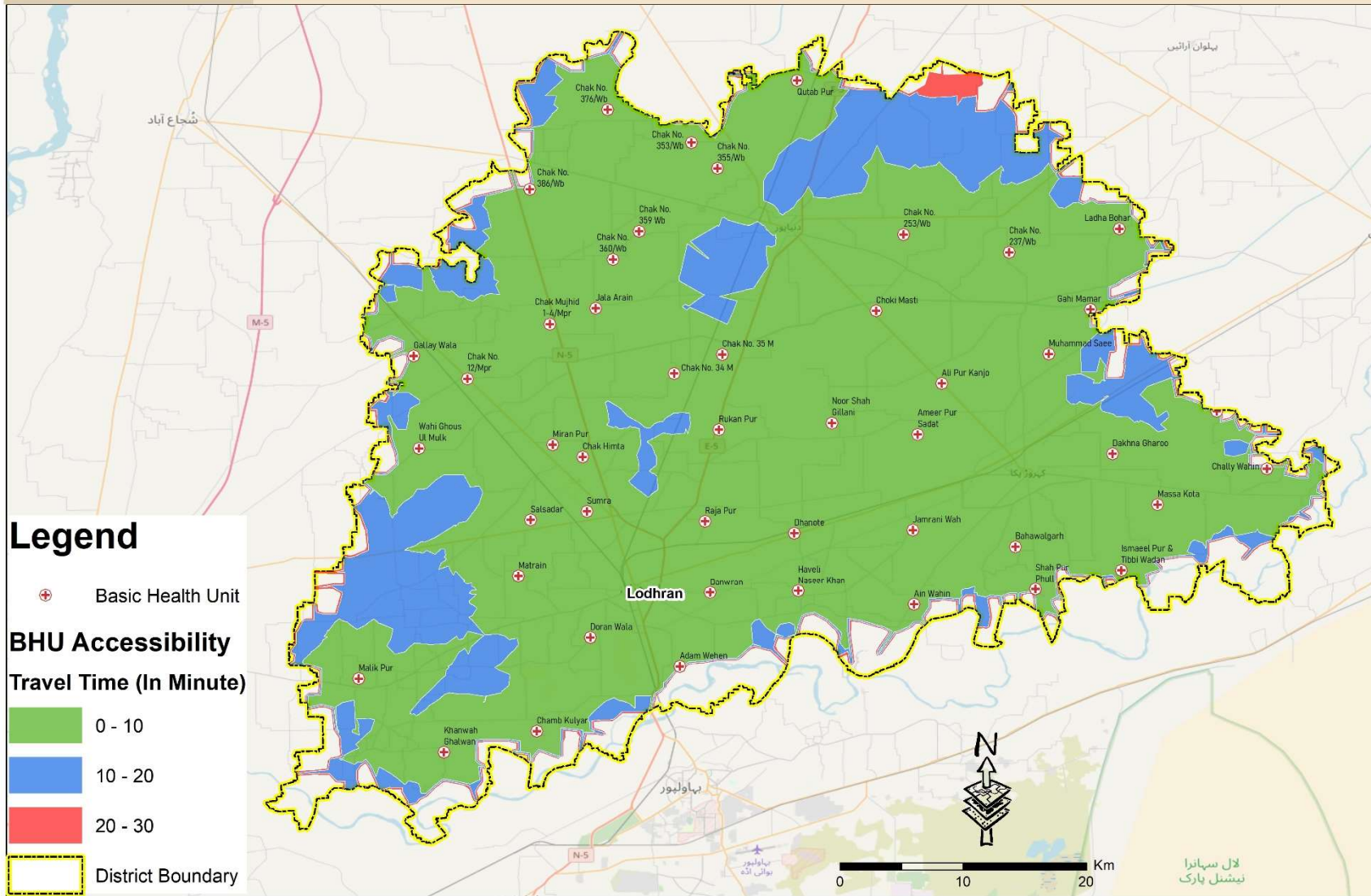


Figure 12: Uncovered areas in Lodhran – BHU

***Vehari district***

84.2% of the population is adequately covered by BHU. While the rest of the population i.e. 2.2% of the population especially living in the west part of the division, which are more than 20 minutes away from the nearest facilities, as depicted by light green and orange area. Thus, spatial analysis confirms with the data shown in the above table, that there's a need for new BHU facilities in the under-served areas. A total of 39 rural Union Councils (UCs) does not have a BHU, thus new facilities can be constructed there.

Table 13: Proportion of population lying in served and unserved areas

	<b>Travel time in minutes</b>	<b>Associated colours</b>	<b>Proportion of population</b>
1	0-10	Green	84.2%
2	10-20	Blue	13.7%
3	20-30	Red	2.2%

# Health Facilities Accessibility Map

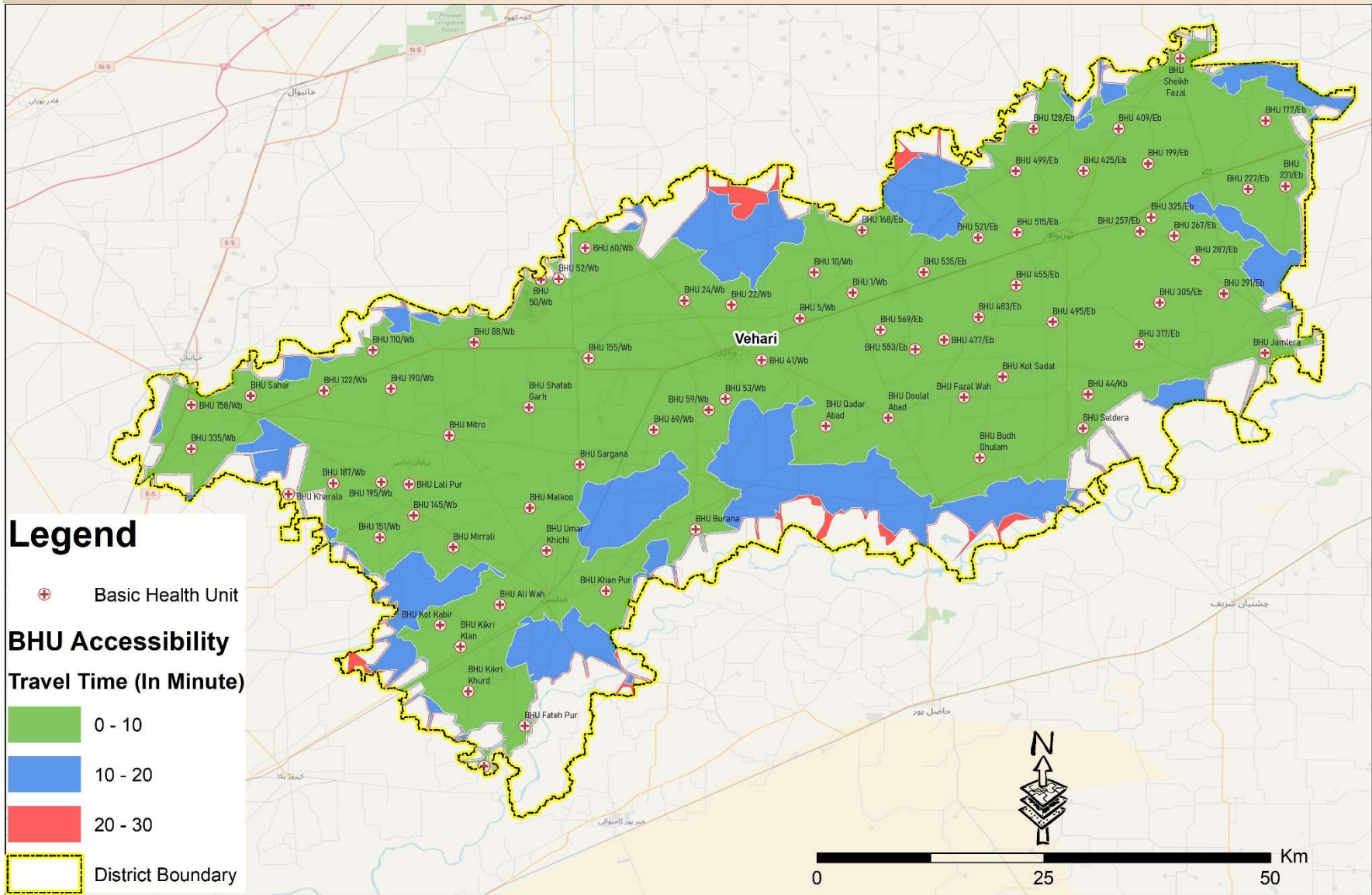


Figure 13: Uncovered areas in Vehari – BHU

### 3.2.2 Uncovered areas for Rural Health Centers (RHCs)

Rural Health Center (RHC) is the primary level facility of the health system in Punjab which serves a catchment population of 73,000<sup>5</sup>. Based on this population, the following table depicts the total number of RHCs and the net required RHCs, which should be available in each district. In Multan district, additional 28 RHCS is required to cater to the health needs of the people, whereas Khanewal, Lodhran, and Vehari district needs 17, 21 and 26 additional RHCs respectively.

Table 14: Gaps in the availability of RHCs

	Districts	Existing RHCs	Rural population (Census 2017)	<b>GAP</b> Net required no. of RHCs
1	Multan	13	2,687,246	28
2	Khanewal	9	2,333,801	17
3	Lodhran	4	1,434,092	21
4	Vehari	14	2,395,952	26

#### **Multan district**

The figure below shows the accessibility of Rural Health Centers (RHCs), where the green, blue and orange areas is the served population consisting of 98.6% of the total population of the region. The remaining area which is colour coded in red shows the uncovered population (i.e. 1.4) where population lies at more than 45 minutes away from the nearest health facilities. Thus spatial analysis confirms with the data shown in the above table, that there's a need for new RHC facilities in the under-served areas.

Table 15: Proportion of population lying in served and unserved areas

	Travel time in minutes	Associated colours	Proportion of population
1	0-15		74.7%
2	15-30		18.4%
3	30-45		5.4%
4	45-60		1.4%

<sup>5</sup> Minimum Service Delivery Standards (MSDS) for Primary and Secondary Healthcare in Punjab. Punjab Devolved Social Services Programme (PDSSP) 2008

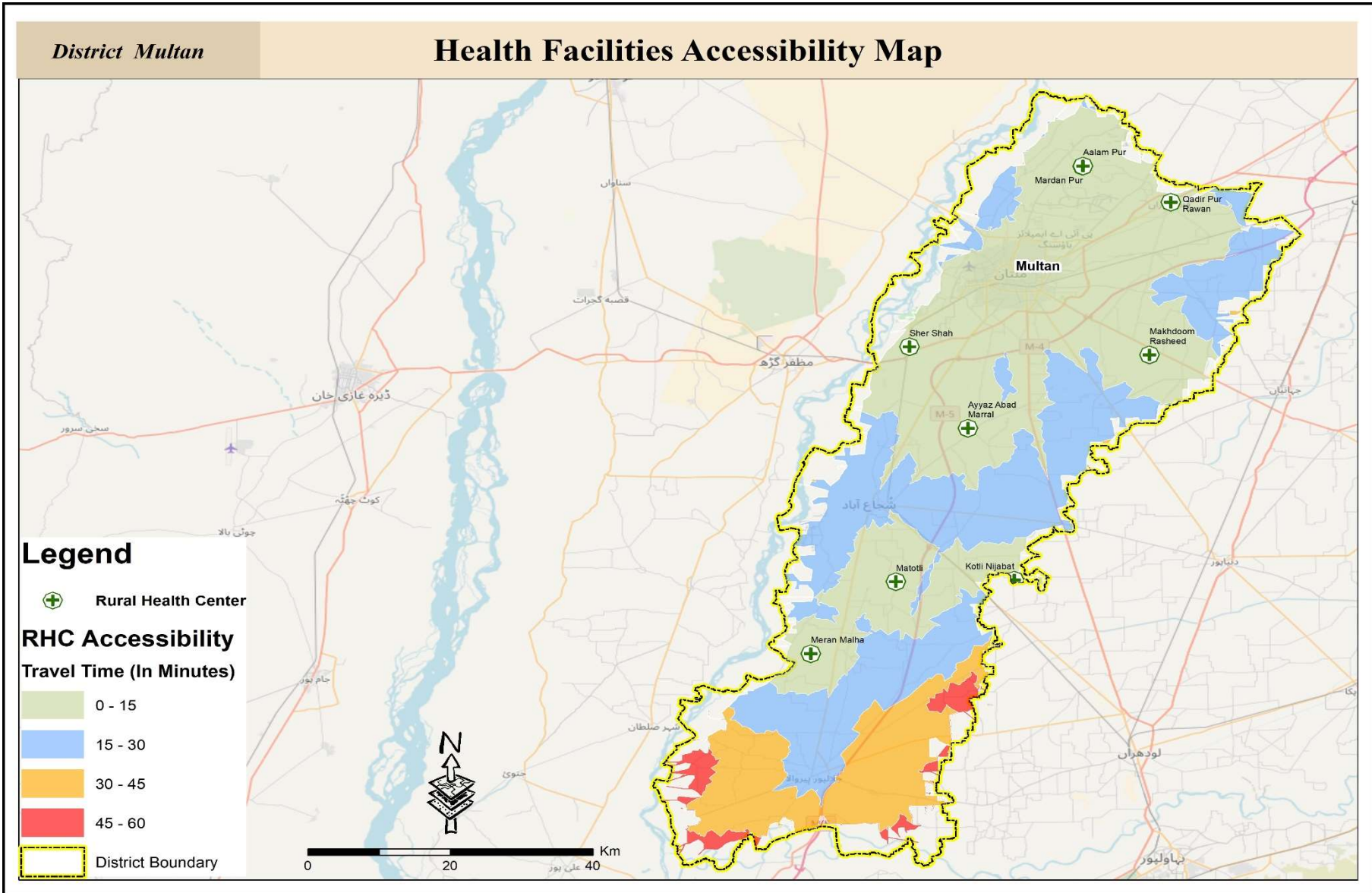


Figure 14: Uncovered areas in Multan – RHC

***Khanewal district***

The figure below shows the accessibility of Rural Health Centers (RHCs), where the green, blue and orange areas is the served population consisting of 97.5% of the total population of the region. The remaining area which is colour coded in red shows the uncovered population (i.e. 2.5) where population lies at more than 45 minutes away from the nearest health facilities. Thus spatial analysis confirms with the data shown in the above table, that there's a need for new RHC facilities in the under-served areas.

Table 16: Proportion of population lying in served and unserved areas

	<b>Travel time in minutes</b>	<b>Associated colours</b>	<b>Proportion of population</b>
1	0-15	Green	52.5%
2	15-30	Blue	35.6%
3	30-45	Orange	9.4%
4	45-60	Red	2.5%

# Health Facilities Accessibility Map

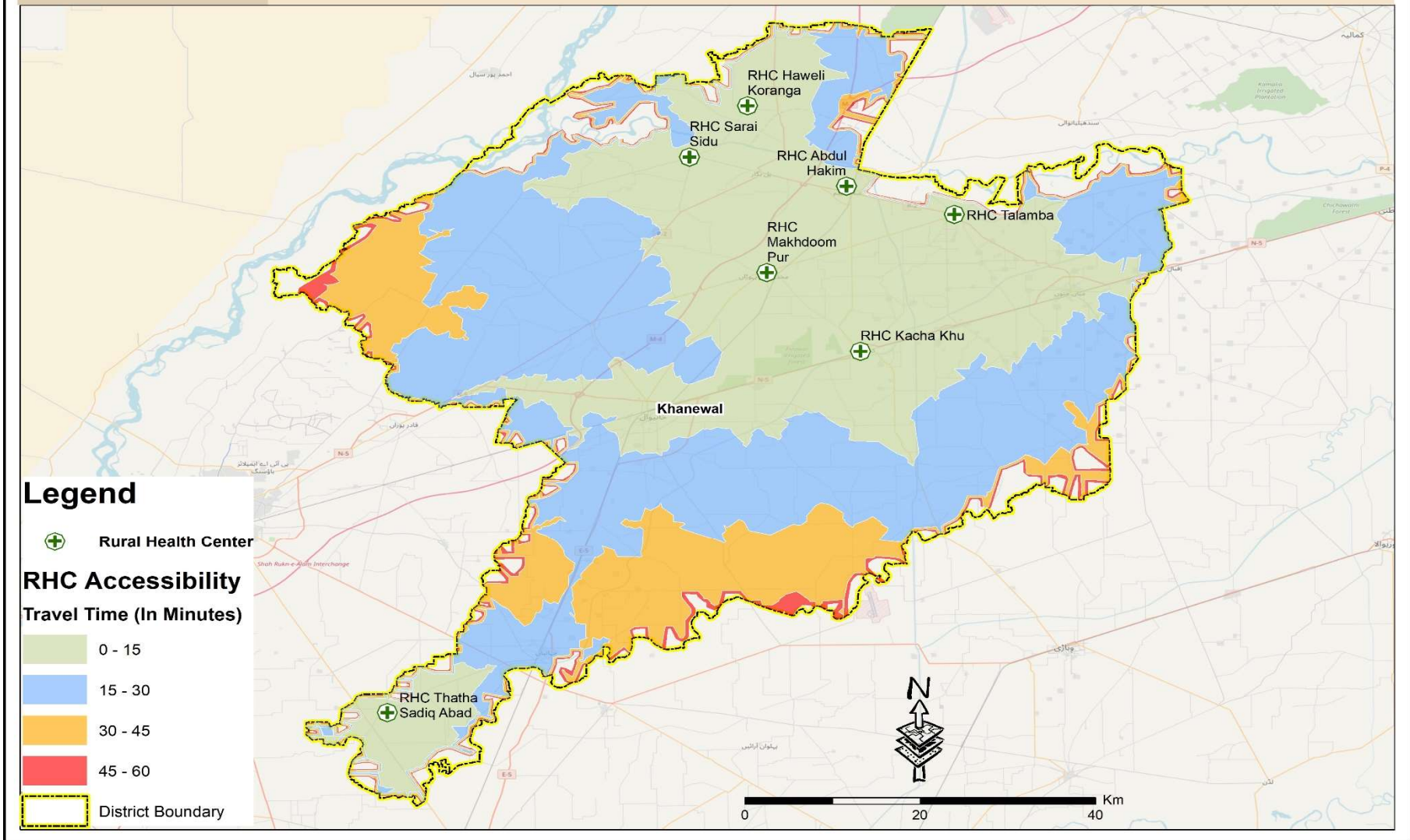


Figure 15: Uncovered areas in Khanewal – RHC

## Lodhran district

The figure below shows the accessibility of Rural Health Centers (RHCs), where the green, blue and orange areas is the served population consisting of 94.6% of the total population of the region. The remaining area which is colour coded in red shows the uncovered population (i.e. 5.4) where population lies at more than 45 minutes away from the nearest health facilities. Thus spatial analysis confirms with the data shown in the above table, that there's a need for new RHC facilities in the under-served areas.

Table 17: Proportion of population lying in served and unserved areas

	<b>Travel time in minutes</b>	<b>Associated colours</b>	<b>Proportion of population</b>
1	0-15	Green	32.2%
2	15-30	Blue	46.2%
3	30-45	Orange	16.2%
4	45-60	Red	5.4%

# Health Facilities Accessibility Map

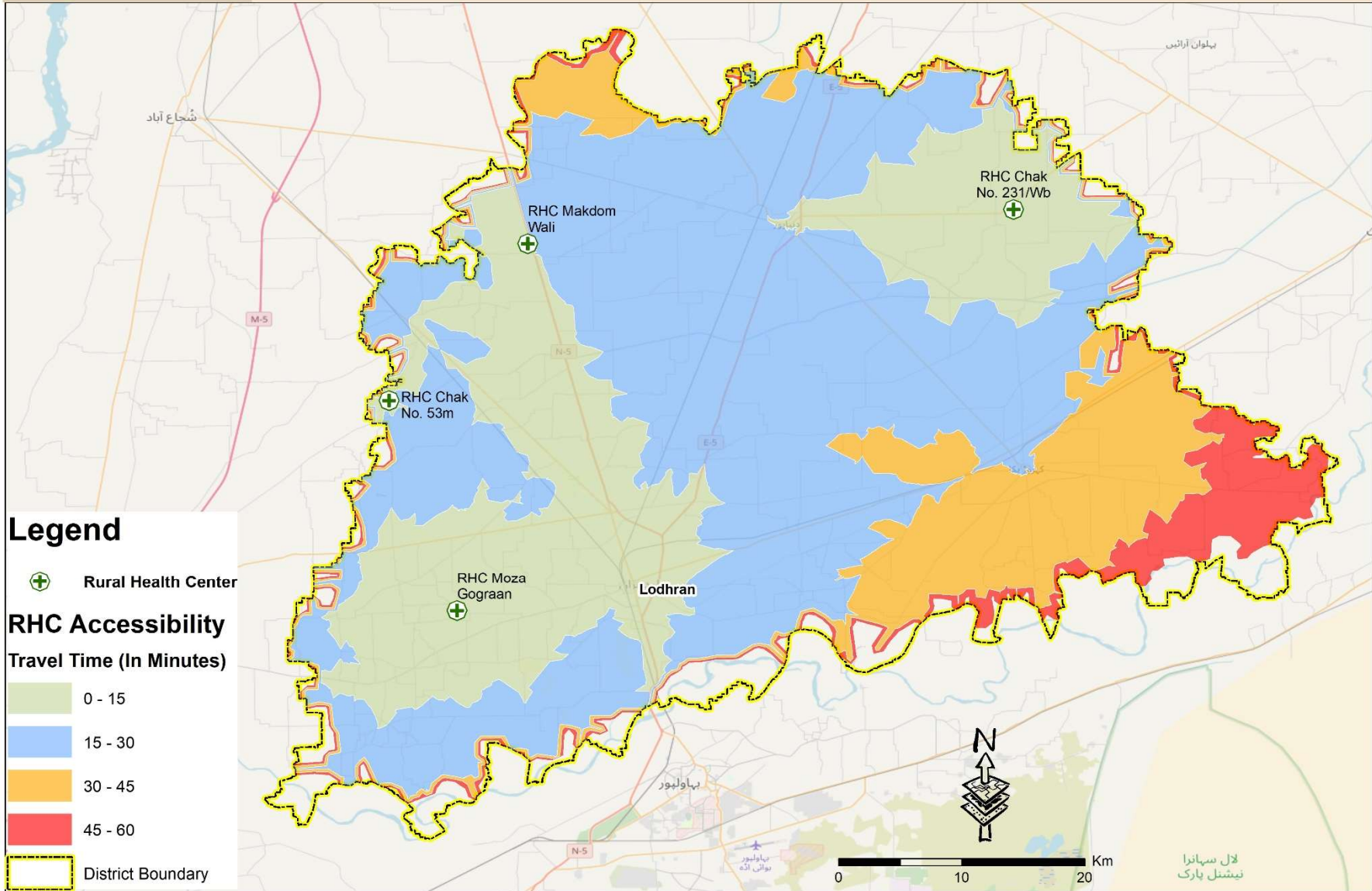


Figure 16: Uncovered areas Lodhran – RHC

**Vehari district**

The figure below shows the accessibility of Rural Health Centers (RHCs), where the green, blue and orange areas is the served population consisting of 98% of the total population of the region. The remaining area which is colour coded in red shows the uncovered population (i.e. 2%) where population lies at more than 45 minutes away from the nearest health facilities. Thus spatial analysis confirms with the data shown in the above table, that there's a need for new RHC facilities in the under-served areas.

Table 18: Proportion of population lying in served and unserved areas

	<b>Travel time in minutes</b>	<b>Associated colours</b>	<b>Proportion of population</b>
1	0-15	Green	63.3%
2	15-30	Blue	32.3%
3	30-45	Orange	2.5%
4	45-60	Red	2%

# Health Facilities Accessibility Map

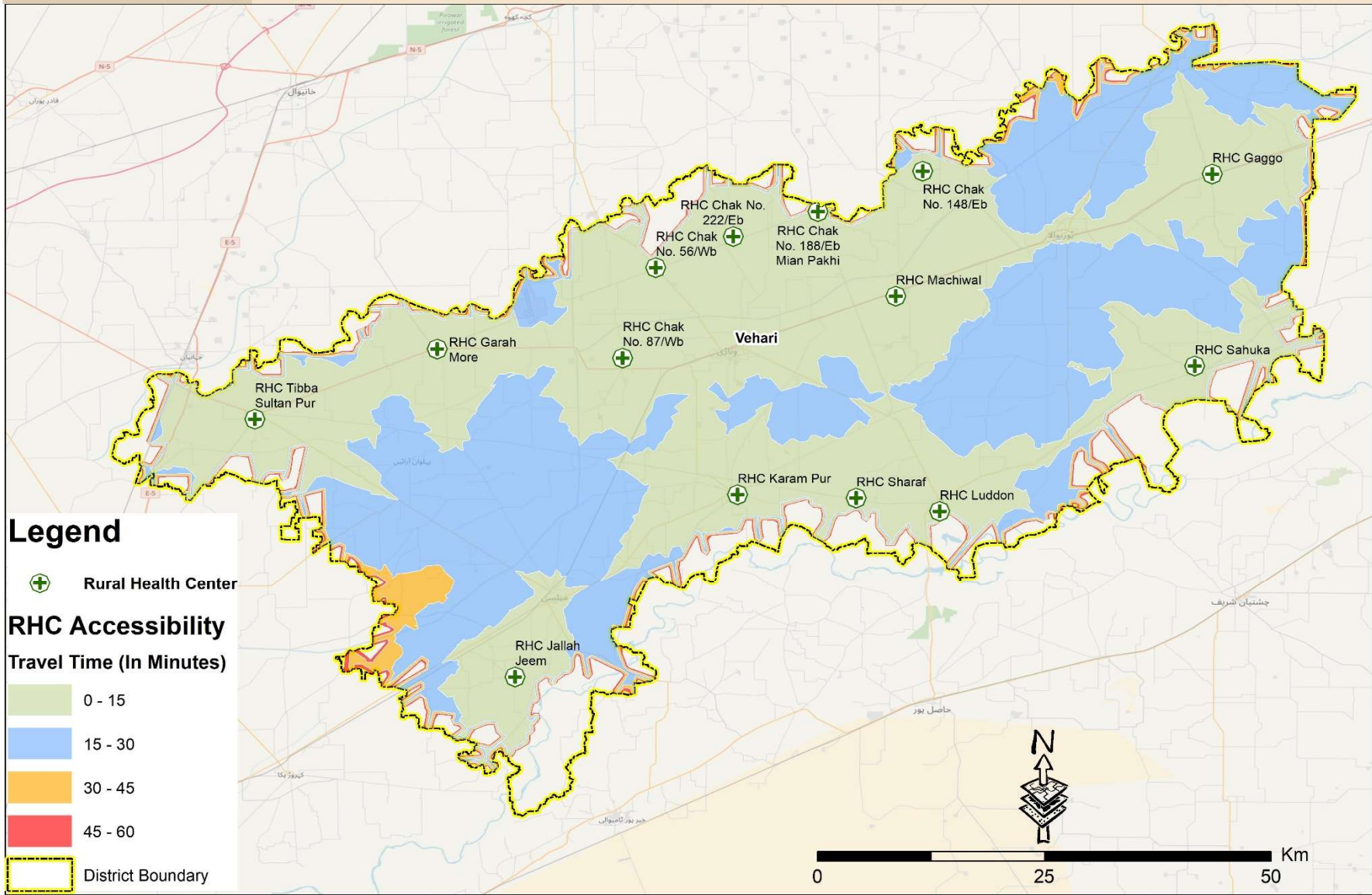


Figure 17: Uncovered areas in Vehari - RHC

### 3.2.3 Uncovered areas for Tehsil Headquarters (THQ) Hospital

Tehsil Headquarter (THQ) Hospital is a secondary level health facility which is established in each tehsil to cater to the healthcare needs of the population. The figures below shows the accessibility of THQ facilities.

#### ***Multan district***

94.4% of the population is adequately covered by THQs. While the rest of the population i.e. 3.6% of the population especially living in the north part of the division, which are more than 40 minutes away from the nearest facilities, as depicted by red area. Thus spatial analysis confirms with the data shown in the above table, that there's a need for new THQ facilities in the under-served areas.

Table 19: Proportion of population lying in served and unserved areas

	<b>Travel time in minutes</b>	<b>Associated colours</b>	<b>Proportion of population</b>
1	0-20		22.2%
3	20-40		74.2%
4	40-60		3.6%

### Health Facilities Accessibility Map

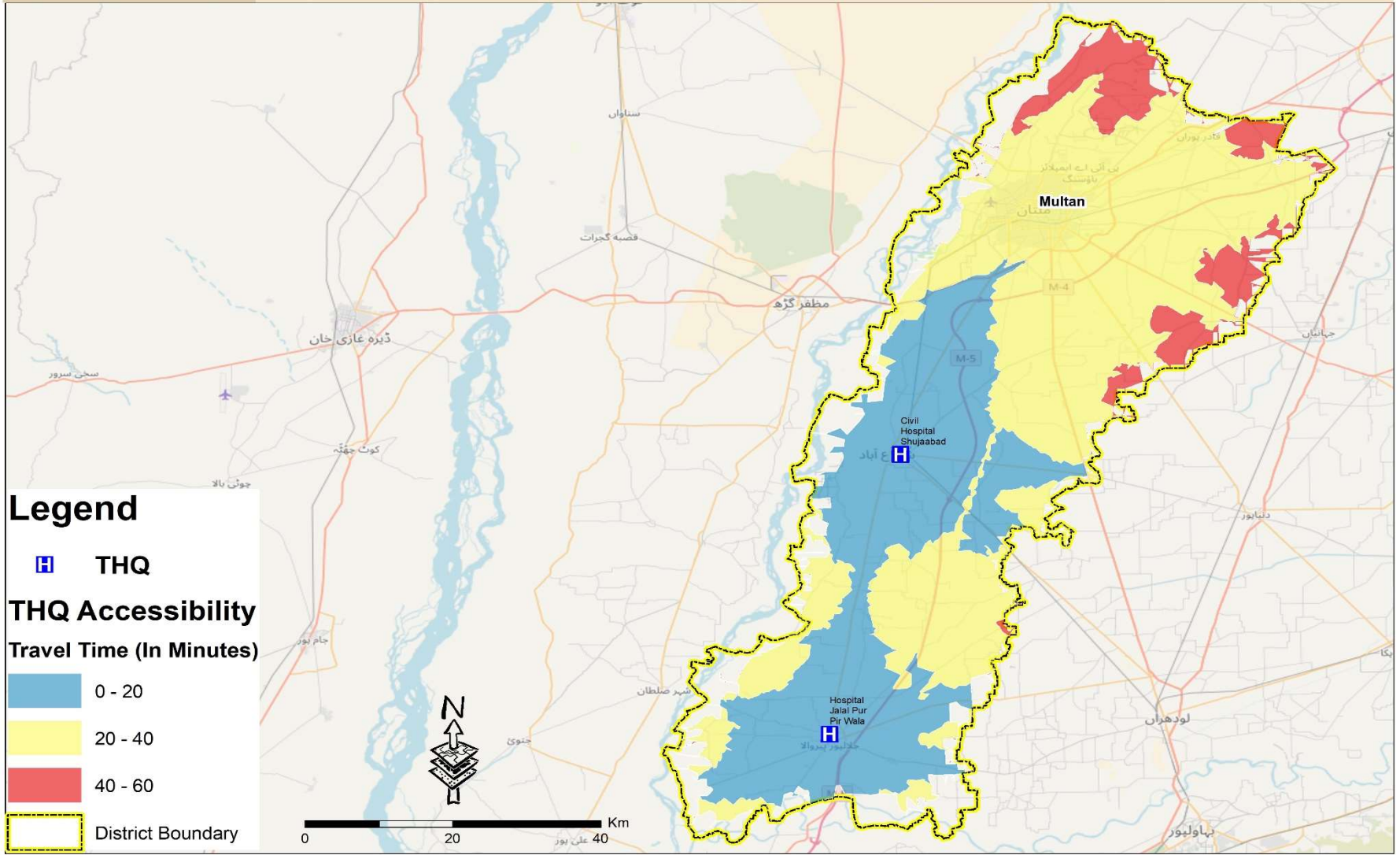


Figure 18: Uncovered areas in Multan – THQ

***Khanewal district***

94.9% of the population is adequately covered by THQs. While the rest of the population i.e. 5.1% of the population especially living in the north part of the division, which are more than 40 minutes away from the nearest facilities, as depicted by red area. Thus spatial analysis confirms with the data shown in the above table, that there's a need for new THQ facilities in the under-served areas.

Table 20: Proportion of population lying in served and unserved areas

	<b>Travel time in minutes</b>	<b>Associated colours</b>	<b>Proportion of population</b>
1	0-20		61.9%
3	20-40		33%
4	40-60		5.1%

# Health Facilities Accessibility Map

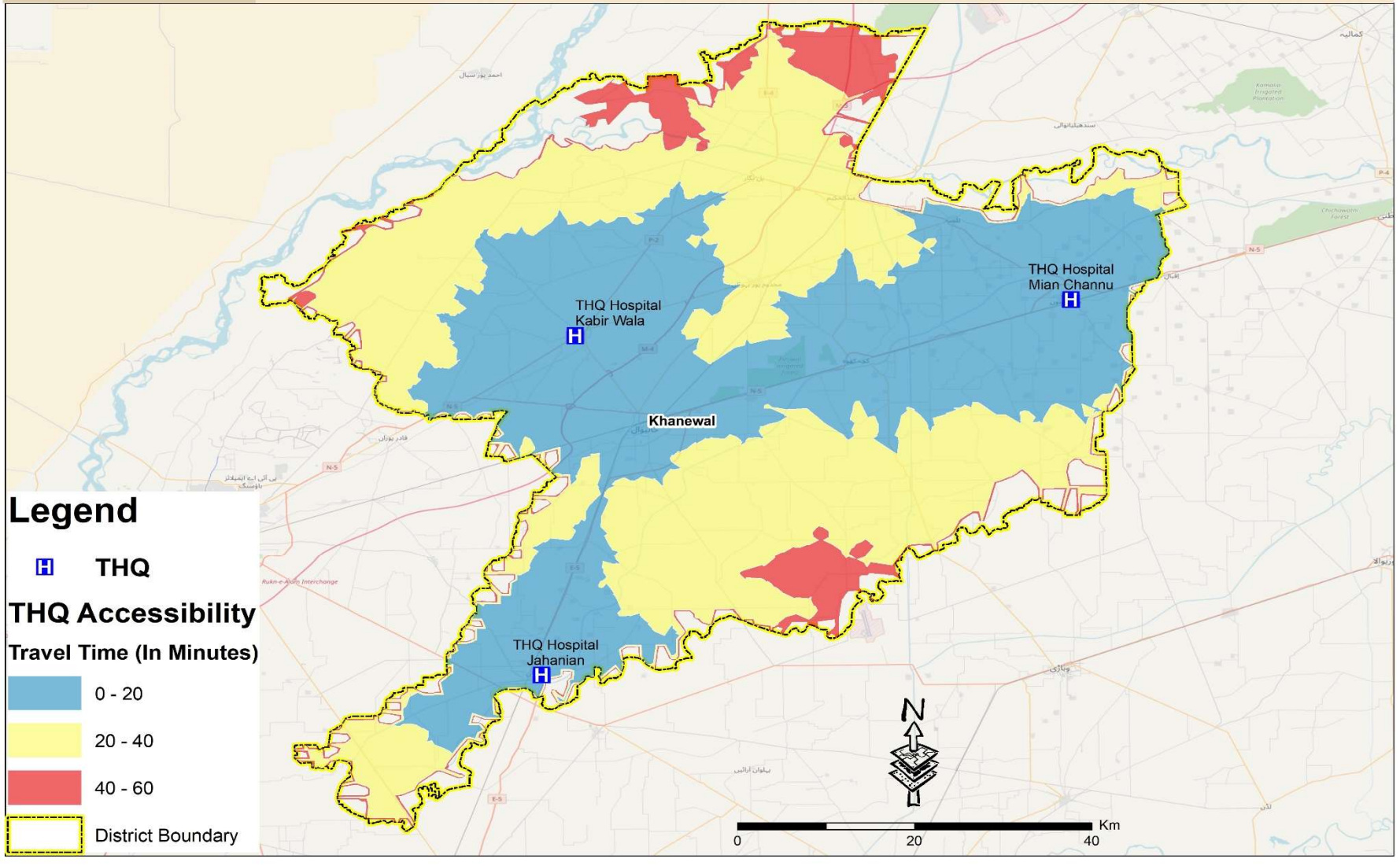


Figure 19: Uncovered areas in Khanewal – THQ

## Lodhran district

88.3% of the population is adequately covered by THQs. While the rest of the population i.e. 11.7% of the population especially living in the west part of the division, which are more than 40 minutes away from the nearest facilities, as depicted by red area. Thus spatial analysis confirms with the data shown in the above table, that there's a need for new THQ facilities in the under-served areas.

Table 21: Proportion of population lying in served and unserved areas




	<b>Travel time in minutes</b>	<b>Associated colours</b>	<b>Proportion of population</b>
1	0-20		50.4%
3	20-40		37.9%
4	40-60		11.7%



**Vehari district**

92.6% of the population is adequately covered by THQs. While the rest of the population i.e. 7.4% of the population especially living in the north and central part of the division, which are more than 40 minutes away from the nearest facilities, as depicted by red area. Thus spatial analysis confirms with the data shown in the above table, that there's a need for new THQ facilities in the under-served areas.

Table 22: Proportion of population lying in served and unserved areas

	<b>Travel time in minutes</b>	<b>Associated colours</b>	<b>Proportion of population</b>
1	0-20		41.7%
3	20-40		50.9%
4	40-60		7.4%



### 3.2.4 Uncovered area for District Headquarter (DHQ) Hospital

District Headquarter (DHQ) Hospital is a secondary level health facility which is established in each tehsil to cater to the healthcare needs of the population. The figure below shows the accessibility of DHQ facilities

#### *Multan district*

93.3% of the population is adequately covered by DHQs. While the rest of the population i.e. 6.7% of the population especially living in the eastern part of the district, are more than 60 minutes away from the nearest facilities, as depicted by orange area. Thus, spatial analysis confirms with the data shown in the above table, that there's a need for new health facilities in the under-served areas.

Table 23: Proportion of population lying in served and unserved areas

	<b>Travel time in minutes</b>	<b>Associated colours</b>	<b>Proportion of population</b>
1	0-20		75.3%
2	20-40		18%
3	40-60		6.7%

### Health Facilities Accessibility Map

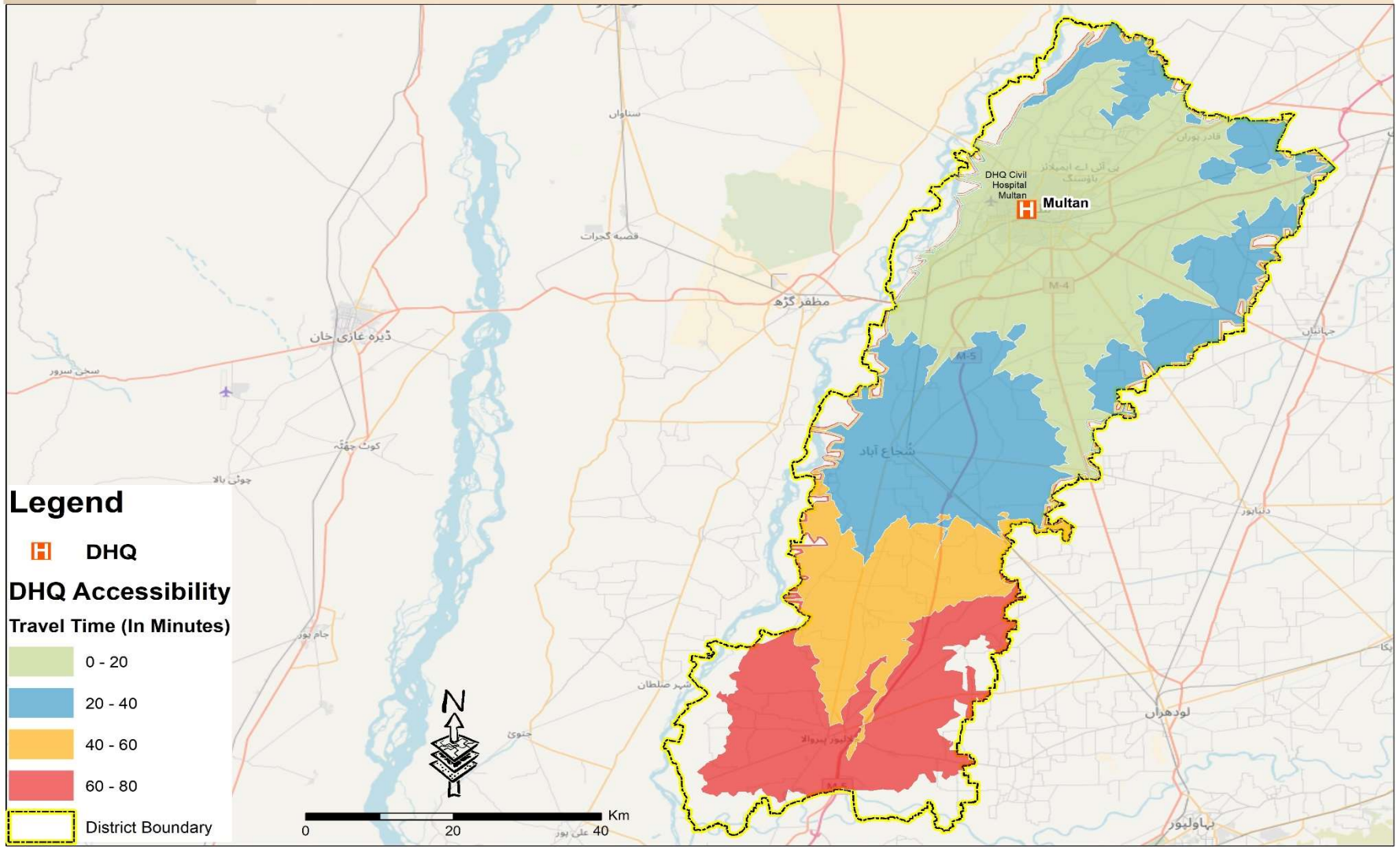





Figure 22: Uncovered areas in Multan

***Khanewal district***

87.2% of the population is adequately covered by DHQs. While the rest of the population i.e. 12.8% of the population especially living in the eastern part of the district, are more than 60 minutes away from the nearest facilities, as depicted by orange area. Thus, spatial analysis confirms with the data shown in the above table, that there's a need for new health facilities in the under-served areas.

Table 24: Proportion of population lying in served and unserved areas

	<b>Travel time in minutes</b>	<b>Associated colours</b>	<b>Proportion of population</b>
1	0-20		35.5%
2	20-40		51.7%
3	40-60		12.8%

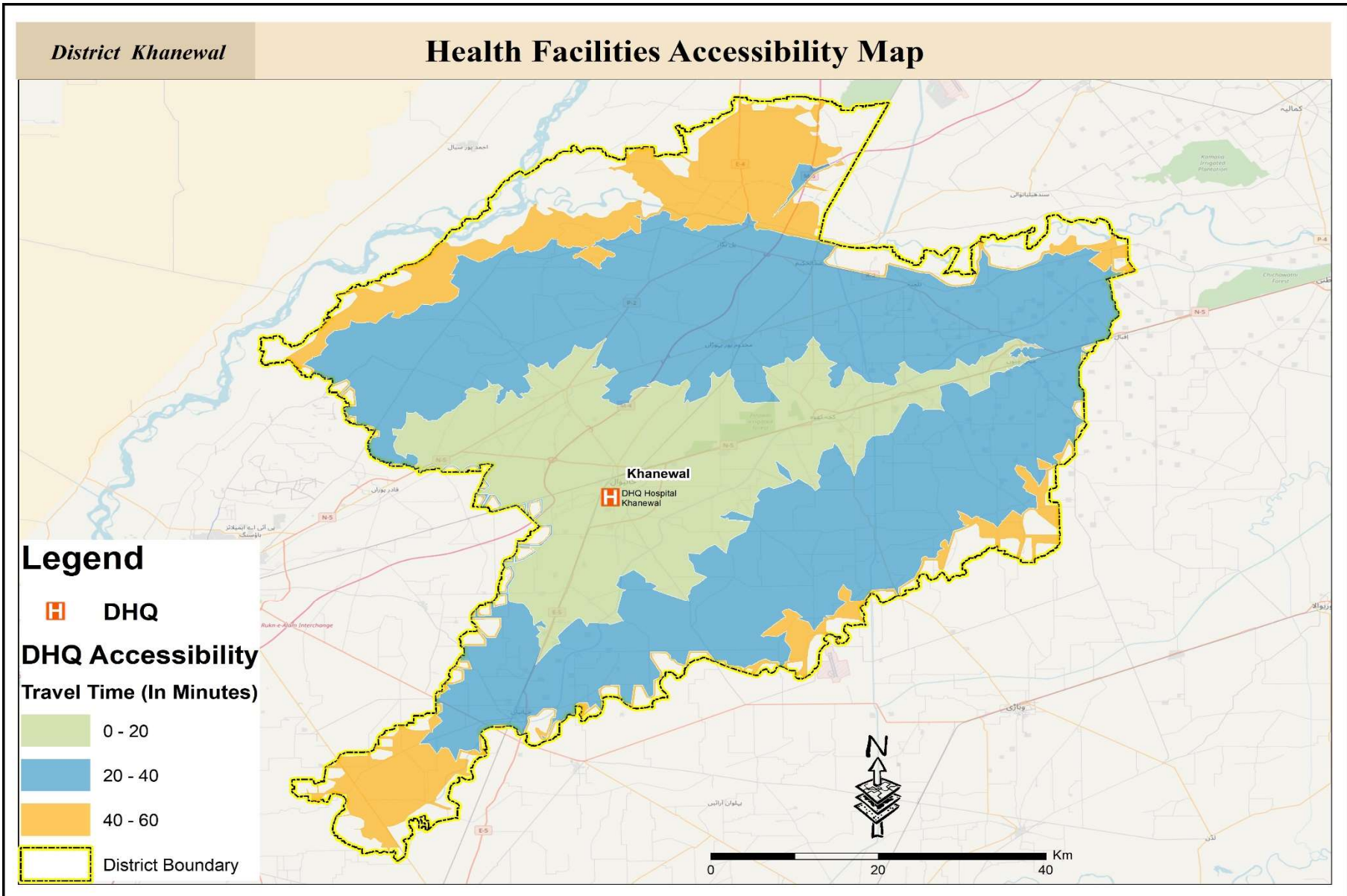





Figure 23: Uncovered areas in Khanewal - DHQ

**Lodhran district**

85.8% of the population is adequately covered by DHQs. While the rest of the population i.e. 14.2% of the population especially living in the eastern part of the district, are more than 60 minutes away from the nearest facilities, as depicted by orange area. Thus, spatial analysis confirms with the data shown in the above table, that there's a need for new health facilities in the under-served areas.

Table 25: Proportion of population lying in served and unserved areas

	<b>Travel time in minutes</b>	<b>Associated colours</b>	<b>Proportion of population</b>
1	0-20		37.4%
2	20-40		48.4%
3	40-60		14.2%

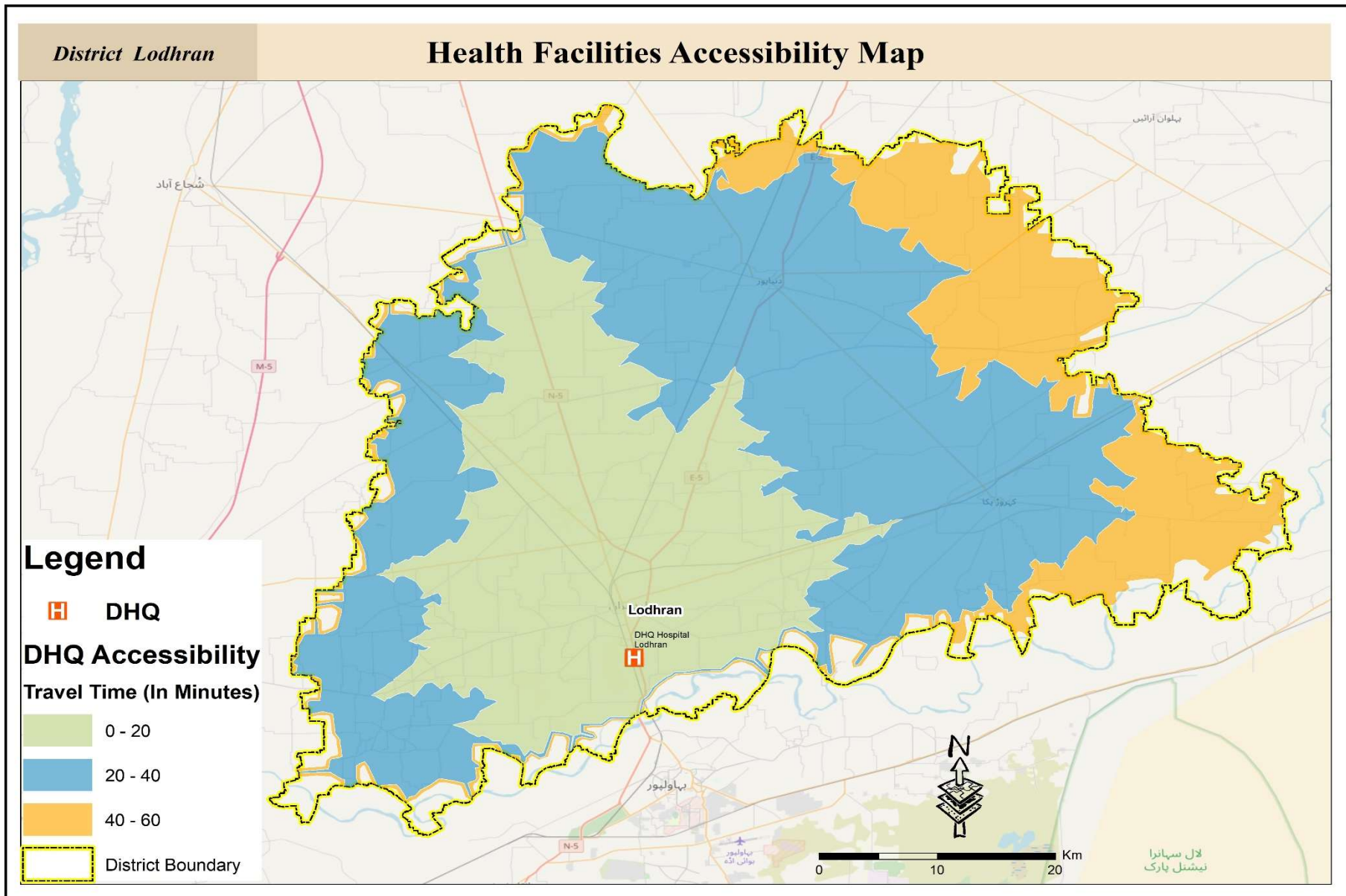





Figure 24: Uncovered areas in Lodhran - DHQ

**Vehari District**

74.9% of the population is adequately covered by DHQs. While the rest of the population i.e. 25.1% of the population especially living in the western and the eastern part of the district, are more than 60 minutes away from the nearest facilities, as depicted by orange area. Thus, spatial analysis confirms with the data shown in the above table, that there's a need for new health facilities in the under-served areas.

Table 26: Proportion of population lying in served and unserved areas

	<b>Travel time in minutes</b>	<b>Associated colours</b>	<b>Proportion of population</b>
1	0-20		24.9%
2	20-40		50%
3	40-60		25.1%

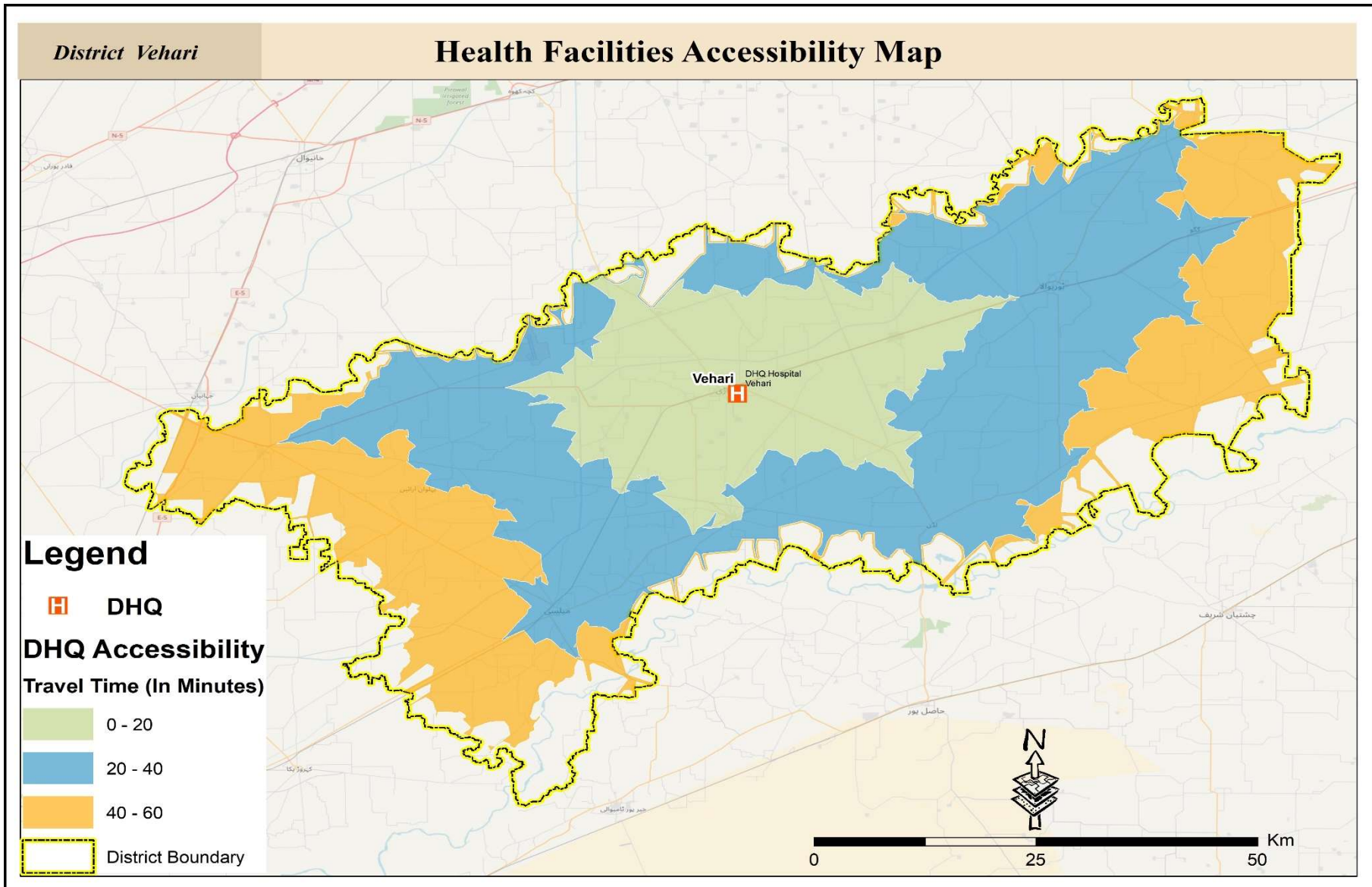


Figure 25: Uncovered areas in Vehari

## Chapter 4: Way Forward and Proposed Interventions

Based on rigorous spatial and non-spatial analysis, this section will integrate a future portrayal of short, medium- and long-term health interventions needed to give an overall project direction for the regional development plan.

Areas		Interventions
01	High Priority Diseases	Provision of Infectious Ward   Scabies & communicable diseases awareness program
02	Institutional Capacity & Budget Reform	District Health Development Center (DHDC)   Provision of medicine storage   Improving sewerage system
03	Improvement in existing health facilities & ambulance services	OPD Queue Management System (QMS)   Training of admin and nurses on HMIS   Conversion of dangerous building into a new one   Provision of missing equipment   Repair of boundary walls

Figure 26: Areas of intervention

Short term interventions are designed to respond to pressing problems in the existing health system of Multan division. It will include improving the quality of services delivery through construction of missing wards, provision of missing services and equipment in health facilities, etc.

Table 27: Short-term proposed projects

S. No	Project Name	District	Total Cost in PKR Million
1	Provision of District Health Development Center (DHDC) in District Health Authority Lodhran	Lodhran	30*
2	Provision of additional ambulance services at Rescue 1122 headquarters (Burewala - 1, Mailsi - 1 and Jalalpur - 5)	Vehari & Multan	50

3	Strengthening DHA offices (provision of medicine storage in DHA Vehari and DHA Khanewal and provision of car for field visit for CEO Khanewal)	Vehari & Khanewal	150
4	Digitalization of THQ Mailsi (provision of digital X-Ray and OPD Queue Management System)	Vehari	200
5	Provision of missing equipment in RHC Thata	Khanewal	20
6	Improving sewerage system in health facilities (provision of septic tank in DHA Office Vehari, relocation of toilets in DHQ Vehari as there is blockage and seepage) - Public Health Engineering Department (PHED)	Vehari	90
7	Provision of ultra sound machine in BHU Chak 355 W/B Duniyapur	Lodhran	2
8	Construction of boundary walls and toilet facilities in 34 Government Rural Dispensaries (GRD) in Vehari	Vehari	20
9	Revamping of residential building, provision of Gynea Ward, Cardiology Department and conversion of dangerous OT building onto new building in THQ Shujabad	Shujabad	40
10	Provision of missing facilities in DHQ Vehari (equipment in kidney center, advance technology in blood bank, CBC analyzer and laundry plant)	Vehari	70
Total			672

Further medium- and long-term healthcare interventions listed below focuses on bringing the institutional and structural changes necessary for achieving the long-term provincial health goals as well as the Sustainable Development Goals (SDGs). These includes establishment of new health services, renovation of rural dispensaries, upgradation of THQs and digital healthcare services. Following are the list of the medium-term proposed projects with their estimated cost:

Table 28: Medium-term proposed projects

Sr. no.	Proposed Interventions	Location	Cost (PKR Million)
---------	------------------------	----------	--------------------

1	Improving BHU Kokhran (provision of AC in labour room, residential buildings, boundary wall, sewerage system and solarization)	Multan	70
2	Provision of additional solar panels, repair of boundary wall, conversion of MO residential building into Labor room and improvement of LHW residential areas in BHU 12 MPR Lodhran	Lodhran	80
3	Construction of RHC in Kahroor Pakka	Lodhran	90
4	Provision of solarization, digital X-ray, purposeful medicine storage, 20-bedded emergency ward at THQ Kahroor Pakka	Lodhran	150
5	Provision of infrastructure (medicine storage, laundry plant, surgical tower including Gynea Ward, residential buildings for nurses, Infectious Ward) and expansion of emergency block in in DHQ Vehari	Vehari	150
6	Expansion of Infrastructure (120 bedded emergency ward, covered OPD waiting area) and provision of missing equipment (OPG X-ray for dental ward and adoption of net metering system for solar system) in DHQ Hospital Multan	Multan	150
7	Provision of missing facilities (30 baby cots in Peads Ward, 10 incubators, a dental chair and a digital scan) and solarization of THQ Burewala	Vehari	150
8	Expansion of emergency ward (with 20 beds) and construction of residential buildings (with 24 rooms ), 3-sided covered waiting area, general store and blood bank in THQ Burewala	Vehari	200
Total			1,040

Following are the list of the long-term proposed projects with their estimated cost:

Table 29: Long term proposed projects

Sr. no.	Proposed Interventions	Location	Cost (PKR Million)
---------	------------------------	----------	--------------------

1	Construction and repair of boundary walls in 74 BHUs and 14 RHCs in Vehari	Vehari	200
2	Expansion of infrastructure in THQ Mailsi [CT Scan room, Orthopedics department (which is currently in medicine storage room), diagnostic center and residential building for doctors (10 rooms) and residential building for nurses (20 rooms)]	Vehari	300
3	Expansion of 10-bedded emergency block, conversion of public washroom in OPD to MOs office, extension of labour room, provision of solarization, refresher training for staff, provision of medicine storage, construction of residence building and dental ward in THQ Duniyapur	Lodhran	300
4	Provision of Trauma Center, conversion of Family Hospital to Peads ward or children campus, training of admin and nurses on HMIS and improvement of residential buildings at DHQ Lodhran	Lodhran	300
5	Strengthening of Dialysis services (provision of dialysis machines/beds in DHQ Vehari, Dialysis Unit in THQ Burewala, additional 5 dialysis machines in THQ Duniyapur, additional 10-15 dialysis machines in THQ Shujabad, 10 dialysis machines in DHQ Khanewal	Vehari, Lodhran, Multan & Khanewal	380
6	Expansion of infrastructure in DHQ Khanewal (medical store, ICU, trauma center, cardiology department	Khanewal	400
7	Construction of boundary wall and residential buildings in 7 BHUs (Ibrahim Pur, Baqir Pur, Chak no. 27/10-R, Chak no. 30/10-R, Chak no. 18/R, Chak no. 121/15-N and 88/15-N)	Khanewal & Mian Channu	700
Total			3,480

# Annexure 1: Condition Assessment Forms

## Condition Assessment Form for health facilities

Condition Assessment Form			
based on Minimum Service Delivery Standards			
General information			
1	UC name		
2	Type of BHU (BHU, BHU plus or BHU 24/7)		
3	Geo-coordinates		
4	Is the facility connected to a street or main road? (MSDS 1)		
5	Name, designation and number of the in-charge		
6	Catchment population (max 25,000 as per MSDS)		
7	Functional/non-functional?		
8	Average OPD in a day		
Facility Outlook			
9	How many beds are available? (max 2 for BHU & max 20 for RHC)		
10	Which equipment are not functional? (ultra sound machine, baby warmer etc.)		
11	Which health services are missing? (labour, family planning etc.)		
12	How many Lady Health Workers are working under LHVs? (as per IRMNCH)		
		Yes	No
13	Is there a need for whitewash?		
14	Availability of OPD Service?		
15	Availability of patient waiting area?		
16	Is the Labour Room functional?		
17	Availability of electricity, gas, toilet, water (MSDS 4)?		
18	Is free of cost medicine available?		
19	Are the drugs out of stock?		
20	Is the medical doctor available?		
Required Pictures			
21	Sign board and boundary wall (MSDS 1)		<input type="checkbox"/>
22	Organogram in the in-charge room (MSDS 3)		<input type="checkbox"/>
23	'Sanctioned vs filled posts' chart in the in-charge room (MSDS 3)		<input type="checkbox"/>
24	List of essential drugs displayed in the in-charge room (MSDS 17)		<input type="checkbox"/>
25	Colour coded (yellow, red, white) registers and waste bins for waste generation (as per Infection Control Program)		<input type="checkbox"/>

26	Staff residence building		<input type="checkbox"/>	<input type="checkbox"/>
23	'Sanctioned vs filled posts' chart in the in-charge room (MSDS 3)		<input type="checkbox"/>	<input type="checkbox"/>
24	List of essential drugs displayed in the in-charge room (MSDS 17)		<input type="checkbox"/>	<input type="checkbox"/>
25	Colour coded (yellow, red, white) registers and waste bins for waste management (as per Infection Control Program)		<input type="checkbox"/>	<input type="checkbox"/>
26	Staff residence building		<input type="checkbox"/>	<input type="checkbox"/>