7th Population and Housing Census-2023

"FIRST-EVER DIGITAL CENSUS"

PROVINCIAL CENSUS REPORT

SINDH

7th Population and Housing Census-2023

(First-ever Digital Census of Pakistan)

PROVINCIAL CENSUS REPORT

SINDH

Government of Pakistan
Ministry of Planning Development and Special Initiatives
Pakistan Bureau of Statistics
Mauve Area, G-9/1, Islamabad, Pakistan

www.pbs.gov.pk

Foreword

Professor Ahsan Iqbal
Minister for Planning, Development and Special Initiatives

The 7th Population and Housing Census-2023, in pursuance of the decisions made in 49th meeting of Council of Common Interests (CCI), was conducted digitally in the country during March to May, 2023. The exercise was accomplished by the Pakistan Bureau of Statistics with the assistance of national agencies, NADRA, NTC and SUPARCO, and cooperation of provincial and district administration in providing all kind of administrative and human support and Armed Forced for providing security during the whole census process including the Pilot Census and Post Enumeration Survey of the Digital Census. I extend my sincere gratitude to the officers and staff of Provincial Government Departments, as well as the personnel of the Armed Forces, who played a pivotal role in the success of this operation. Their dedication and involvement were truly commendable.

I would also like to extend my congratulations to the entire staff of PBS for their untiring efforts. Their motivation and efforts are truly praiseworthy as they worked passionately to accomplish this challenging task.

PBS has done a commendable job by conducting the huge exercise in a transparent way, which has led to approval of this Census in CCI by Consensus. Thus, this Census has helped in strengthening the Federation. This Census gets us the population count and status of access the basics. Now it is upto relevant stakeholders to use this information for inclusive development of population by using this granular data. I urge upon PBS to continue working with Federal and Provincial stakeholders for informing public policy and programs for inclusive development.

Lastly, I am grateful to the officers and staff of the Ministry of Planning, Development and Special Initiatives for their exceptional cooperation with the PBS staff. Together, they worked tirelessly to efficiently finalize the results of Census-2023 in a remarkably short period of time, thus enabling us to reach this significant milestone.

Preface

Dr. Naeem uz Zafar
Chief Statistician
ستارۂ امتیاز

Population and Housing Census is a crucial national undertaking which serves as a comprehensive data collection exercise to gather information on various aspects of the population and housing conditions. It provides essential demographic information such as population size, age distribution, gender ratio, and other demographic indicators, as well as data on various socioeconomic factors such as education, employment, disability/ functional limitation, and household amenities. This information is crucial for policymakers to formulate development plans and policies that address the specific needs of different segments of the population. The census data is also used for electoral representation. It is a major source for resource allocation, both at the national and local levels, and helps in determining distribution of funds for development projects, social welfare programs, and infrastructure development based on the population's needs.

PBS was asked to do very complex huge task of digital census in early 2022 in very challenging timelines. At the outset the journey was unvarying, and milestone looked unachievable but thanks to already embarked upon journey of digital transformation for data collection and dissemination. PBS conceived, designed, planned, processed, tested and implemented the system to do census in a transparent and inclusive way, thus paving the way for acceptance of results. Successful achievement of these milestones has significantly boosted management and technical capabilities of PBS officials both at headquarter and in field offices.

I would like to thank and congratulate Mr. Muhammad Sarwar Gondal, Member (Support Services/RM) (Project Lead Digital Census), Mr. Ayazuddin, Member (Census & Surveys), Ms. Rabia Awan, Deputy Director General (Census Planning and Coordination/ CPMU) and their whole team for their tireless dedication and efforts for successful completion of the census operation under challenging circumstances. I would also like to render my thanks to the provincial and district administrations for their active participation in providing administrative and human support; the agencies, NADRA, NTC and SUPARCO for timely arrangements of all the necessary hardware and software, and other stakeholders for their active and valuable support. I also thanks to Armed Forces for their untiring efforts without which success of this task was not possible. And finally, I would also like to thank the enumerators without dedicated field work this would not have been possible, for which I express my deep appreciation and admiration.

Digital Census - A Success Story

Muhammad Sarwar Gondal
Member (Support Services/ RM)
Project Lead Digital Census
ستارۂ امتیاز

In 49th meeting of the Council of Common Interests (CCI), held on January 13, 2022, where conduct of the 7th Population & Housing Census in a digital format was approved. The CCI also approved the Census Work Plan, Census Questionnaire, and Census Monitoring Committee (CMC) in the meeting along with the recommendation of Census Advisory Committee (CAC).

PBS accordingly started work for 7th Population and Housing Census by digitizing the whole census process starting from HR and Task Assignment Web Portal Inventory Management, Communication Application, Complaint Management System, CATI Support Module and provision of Dashboards at provincial and census district level for monitoring and complete coverage. For census data collection, tablet devices equipped with various software applications, including house/structure listing and household enumeration software, were utilized. Many of the Modules envisioned for the Digital Census were thoroughly checked and their performance and output were verified during the pilot census conducted in 33 administrative districts across Pakistan during 20th July, 2022 to 3rd August, 2022.

The main aim of the pilot census was testing of validity and suitability of the entire census plan and its organization.

Despite many impediments and challenging timelines, PBS completed main census related activities on time including training of 300 Master Trainers at Islamabad, training of 3460 Trainers at Divisional level and training of 120,000 Enumerators at Census District level on both subject matter and IT related aspects of the Digital Census. Similarly, PBS and its stakeholders achieved major milestones, including, digitally updating of census blocks; acquisition of 126,000 tablets and their hardening; development of ERP system and acquisition of latest imagery of Pakistan prior to start of the main census field operation. The Digital Census also implemented a distinctive feature of self-enumeration through a web portal, thus enabling 2.6 million households to conveniently submit their census related information online.

The Digital Census project has proven to be are sounding success, and I would like to extend my heartfelt appreciation and congratulations to Mr. Ayazuddin, Member (Census & Surveys), Dr. Amjad Javaid Sandhu, Director General Administration, Ms. Rabia Awan, Deputy Director General (Census Project Management Unit/Census Planning and Coordination) and the whole team of Support Services, GIS, Field Services/Operations and the Subject matter for their untiring efforts and dedication throughout the entire census operations. Their devotion and commitment were truly commendable, especially considering the challenging circumstances.

Core Team of Pakistan Bureau of Statistics

Dr. Naeem uz Zafar, Chief Statistician/Chief Census Commissioner

Names	Designation	Area of Work
Mr. Muhammad Sarwar Gondal	Member (Support Services / Resource Management)	Team lead/Focal person for Digital Census
Mr. Ayazuddin	Member (Census & Surveys)	Coordination/ PES and finalization of preliminary results
Dr. Amjad Javed Sandhu	Director General Administration	Coordination/Admin & Logistics Support
Ms. Rabia Awan	DDG(CPMU/CP&C)	Procurement, Coordination, Reporting, documentation, Analysis & Report writing

CPMU/CP&C

Project Lead: Mr. Muhammad Sarwar Gondal Member (SS/RM)

Section Incharge: Ms. Rabia Awan DDG (CPMU/CP&C)

Names	Designation
Dr. Naveed Iqbal	Joint Agriculture Census Commissioner
Ms. Rumana Sadaf	Chief Statistical Officer
Ms. Ayesha Sajid	Instructor
Mr. Saeed Ahmed	Assistant Census Commissioner
Mr. Saqib Sultan Khawar	Statistical Officer
Ms. Sana Habib Chaudhry	Statistical Officer
Ms. Hina Kanwal	Statistical Officer
Mr. Javed Ahmed	Assistant Census Commissioner
Mr. Zubair Ahmed	Data Processing Officer
Mr. Asif Khawaja	Data Processing Officer
Syed Farhan Ali	Data Processing Officer
Mr. Sabahat Nadeem	Data Processing Officer
Mr. Zameer Ahmed	System Analyst
Ms. Momina Babar	System Analyst
Ms. Tayyaba Rehman	System Analyst
Mr. Ali Raza	System Analyst
Mr. Umair Saeed	System Analyst
Mr. Fakher Hashmi	Librarian/TW

Provincial Incharges Team

Names	Designation
Mr. Shaukat Ali Khan	Deputy Director General (Incharge KPK)
Mr. Munawar Ali Ghanghro	Director (Incharge Punjab)
Mr. Muhammad Suhaib	Director (Incharge Balochistan)
Dr. Syed Waseem Abbas	Director (Incharge Punjab)
Syed Rahat Ali	CSO (Incharge GB)
Mr. Muhammad Waseem	CSO (Incharge AJK)

DP/Support Services Section Core Team

Names	Designation
Mr. Muhammad Ehtesham	Director
Ms. Sobia Munawar	Director
Mr. Muhammad Yasir Ishfaq	Director
Mr. Mudassir Akhtar	Chief System Analyst
Mr. Tahir Mahmood	Chief System Analyst
Mr. Asif Usman Khattak	Chief System Analyst
Mr. Arsalan Bashir	Data Processing Officer
Mr. Muhammad Zubair	Data Processing Officer
Mr. Ghulam Kibria	Data Processing Officer
Ms. Sumaira Yasmeen	System Analyst
Ms. Asma Hamza	System Analyst
Ms. Samra Iqbal	System Analyst
Mr. Waqar Ahmad Khan	Data Processing Assistant
Mr. Saddam Hussain	Data Processing Assistant
Mr. Usman Ali	Data Processing Assistant
Ms. Mehreen Syed	Data Processing Assistant
Ms. Aleena Qadeer	Data Processing Assistant

CP&C Section Core Team

Names	Designation
Dr. Arshad Mehmood	Chief Statistical Officer
Mr. Hazrat Khan	Deputy Census Commissioner
Mr. Muhammad Awais	Statistical Assistant
Mr. Arsalan Anwar Bajwa	Statistical Assistant
Mr. Muhammad Babar Usman	Statistical Assistant

FS Section Core Team

Names	Designation
Mr. Rafiq Hussain Talpur	Director
Mr. Farukh Jalees	Director
Mr. Sayyad Anwar	Chief Statistical Officer
Ms. Kanwal Murtaza	Chief Statistical Officer

GIS Section Core Team

Names	Designation
Qazi Ismatullah	Joint Census Commissioner(G)
Mr. Muhammad Nadeem Baig	Geographical Assistant
Syed Akbar Ali	Geographical Assistant
Mr. Rafaqat Mehmood	Geographical Assistant
Mr. Kanwar Ikram	Geographical Assistant

Administration Section Core Team

Names	Designation
Dr. Amjad Javed Sandhu	Director General Admn
Qazi Saeed ul Hassan	Deputy Director (Admn)
Mr. Dildar Hussain	Deputy Agricultural Census Commissioner
Mr. Muhammad Zareef	Librarian
Mr. Tajammul Hussain	Supervisor Printing

Budget Matters / Field Operation Core Team

Names	Designation
Dr. Amjad Javed Sandhu	DG Admn
Ms. Rabia Awan	DDG(CPMU/CP&C)
Mr. Tahir Khattak	Director (Budget)
Mr. Muhammad Saleem	Assistant Census Commissioner
Mr. Tariq Mustafa Awan	Statistical Officer
Mr. Shahbaz Ashraf	Statistical Officer

Sample Design Section Core Team

Names	Designation
Ms. Rumana Sadaf	Chief Statistical Officer
Ms. Madiha Amjad	Statistical Officer

Coordination Core Team

Names	Designation
Mr. Imran Saleem	Director
Mr. Muhammad Sarfaraz	Chief Statistical Officer

Training Management Core Team

Names	Designation
Ms. Rabia Awan	DDG(CPMU/CP&C)
Dr. Naveed Iqbal	JACC
Ms. Ayesha Sajid	Instructor
Mr. Mudassir Akhtar	Chief System Analyst
Mr. Asif Usman Khattak	Chief System Analyst
Ms. Kanwal Murtaza	Chief Statistical Officer
Mr. Muhammad Saleem	Assistant Census Commissioner
Mr. Saeed Ahmed	Assistant Census Commissioner
Ms. Hina Kanwal	Statistical Officer
Ms. Sana Habib	Statistical Officer
Mr. Saqib Sultan Khawar	Statistical Officer
Ms. Ehsana Anum Syed	Statistical Officer
Ms. Sumaira Yasmin	System Analyst
Mr. Ziaullah	System Analyst
Mr. Zubair Ahmad	Data Processing Officer
Mr. Irfan Bajwa	Data Processing Assistant

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Names	Designation
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Mr. Mudassir Akhtar	Chief System Analyst
Mr. Tahir Mehmood	Chief System Analyst
Mr. Saeed Ahmed	Assistant Census Commissioner
Ms. Sana Habib	Statistical Officer
Mr. Saqib Sultan Khawar	Statistical Officer
Ms. Hina Kanwal	Statistical Officer
Mr. Najeeb ullah	Statistical Officer
Ms. Madiha Amjad	Statistical Officer
Mr. Zubair Ahmed	Data Processing Officer
Ms. Tayyaba Rehman	System Analyst
Ms. Ehsana Anum Syed	Statistical Officer
Mr. Haseeb ur Rehman	Statistical Officer
Mr. Waqar Ahmad Khan	Data Processing Assistant
Mr. Saddam Hussain	Data Processing Assistant
Mr. Usman Ali	Data Processing Assistant
Mr. Abdul Manan Butt	Statistical Assistant
Mr. Muhammad Awais	Statistical Assistant

Data Quality Assurance Team

Names	Designation
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Mr. Mudassir Akhtar	Chief System Analyst
Mr. Saeed Ahmed	Assistant Census Commissioner
Ms. Sana Habib (Housing)	Statistical Officer
Ms. Hina Kanwal (Education)	Statistical Officer
Mr. Najeeb ullah (Employment)	Statistical Officer
Mr. Saqib Sultan Khawar	Statistical Officer
Ms. Madiha Amjad	Statistical Officer
Mr. Waqar Ahmad Khan	Data Processing Assistant
Mr. Saddam Hussain	Data Processing Assistant
Mr. Usman Ali	Data Processing Assistant

Media Group Core Team

Names	Designation
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Ms. Ayesha Sajid	Instructor
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Mr. Umair Saeed	System Analyst
Ms. Sumaira Yasmin	System Analyst
Ms. Bushra Warsi	Statistical Assistant
Ms. Nobeed Sohail	Statistical Assistant
Ms. Sana Naz	Statistical Assistant
Ms. Bilqees Nazir	Statistical Assistant
Ms. Sadia Maryam	Statistical Assistant
Ms. Irum Sultana	Statistical Assistant

Core Team for Conduct of PES and Finalization of Preliminarily Results

Names	Designation
Mr. Muhammad Sarwar Gondal	Member (SS/RM)
Mr. Ayazuddin	Member (C&S)
Dr. Amjad Javed Sandhu	DG Admn
Ms. Rabia Awan	DDG (CPMU/CP&C)
Mr. Muhammad Ehtesham Abbassi	Director
Ms. Sobia Munawar	Director
Mr. Yasir Ishfaq	Director
Dr. Syed Waseem Abbas	Director (R/O Lahore)
Mr. Rafique Hussain Talpur	Director
Mr. Farrukh Jalees	Director
Ms. Rumana Sadaf	Chief Statistical Officer
Mr. Mudassir Akhtar	Chief System Analyst
Mr. Tahir Mahmood	Chief System Analyst
Ms. Hina Kanwal	Statistical Officer
Mr. Saqib Sultan Khawar	Statistical Officer
Ms. Sana Habib	Statistical Officer
Ms. Madiha Amjad	Statistical Officer
Mr. Arsalan Bashir	Data Processing Officer

Report Writing Team for Provincial Census Report, Punjab

Names	Designation
Ms. Rabia Awan	DDG (CPMU/CP&C)
Ms. Madiha Amjad	Statistical Officer
Ms. Khushbakhat Tariq	Statistical Assistant
Ms. Faiza Aslam	Statistical Assistant

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MIGRATION

HOUSING CENSUS

ACRONYMS

ASC	Annual School Census
AJK	Azad Jammu and Kashmir
BHU	Basic Health
CPR	Contraceptive Prevalence Rate (CPR)
CCI	Council of Common Interests
DHQ	District Head Quarters
FP&PHC	Family Planning and Primary Health Care
FATA	Federally Administered Tribal Areas
GDP	Gross Domestic Product
ICR	Intelligent Character Recognizer
ICT	Islamabad Capital Territory
LHW	Lady Health Worker
LFO	Legal Framework Order
MCH	Mother and Child Health (Center)
NADRA	National Database and Registration Authority
NLC	National Logistics Cell
PBS	Pakistan Bureau of Statistics
PCO	Population Census Organization
RHC	Rural Health Center
THQ	Taluka/Tehsil Head Quarter
UNFPA	United Nations Population Fund
AP	Airport
T.B	Tuberculosis
MCHC	Mother Care Health Centre

EXECUTIVE SUMMARY

In its 45th meeting on 12th April, 2021, the Council of Common Interests (CCI) approved the final results of the 6th Population and Housing Census-2017 and decided to initiate the next census as early as possible using the latest technology. In pursuance of the decision, the Government of Pakistan formed a Census Advisory Committee comprising of renowned demographers and experts to recommend a framework for the 7th Population and Housing Census. The committee recommended conducting the census digitally with real-time monitoring for transparency, which, along with the census work plan, census questionnaire, and Census Monitoring Committee, was approved by the CCI in its 49th meeting held on 13th January, 2022.

In the light of the recommendations of Census Advisory Committee, PBS initiated a consultative process with provinces and regions and organized sensitization workshops for stakeholders and government functionaries, including Divisional Commissioners and Deputy Commissioners, to plan and prepare for the digital execution of the 7th Population and Housing Census.

To ensure smooth execution, Census Support Centers were set up at the district level, equipped with necessary IT infrastructure. A technical committee finalized the census questionnaire, incorporating new elements on economic activity, demographics, and disability. Training was conducted in three tiers, ensuring enumerators were well trained and thoroughly prepared. Given the technological advancements and associated risks, PBS conducted a pilot census from 20th July to 3rd August, 2022, across 33 districts to test methodologies, logistics, and security arrangements. The pilot revealed issues such as weather disruptions, delays in tablet distribution, and mapping errors, leading to adjustments before the main census rollout.

Following deliberations on enumeration methodologies, the Census Advisory Committee recommended the dejure method of enumeration for the 7th Population and Housing Census, counting individuals based on their usual residence, with some adjustments for temporary absences and the homeless population. This decision considered the practical realities on the ground, the effectiveness of the dejure method, and the significant financial and human resource requirements of the defacto method.

The data collection process for the 7th Population and Housing Census began with the launch of a web portal for self-enumeration on 20th February 2023. By its closure on 10th March 2023, approximately 2.6 million individuals had submitted their data through the portal. For the main census field operation, house and structure listing was carried out from 1st to 10th March 2023, followed by field enumeration starting on 12th March 2023, with an initial completion date of 4th April 2023. However, at the request of provincial governments to ensure complete enumeration, the Census Monitoring Committee extended the census field operation multiple times, ultimately concluding on 30th April 2023. In some districts, the filed operation continued until 21st May 2023 due to under-enumeration.

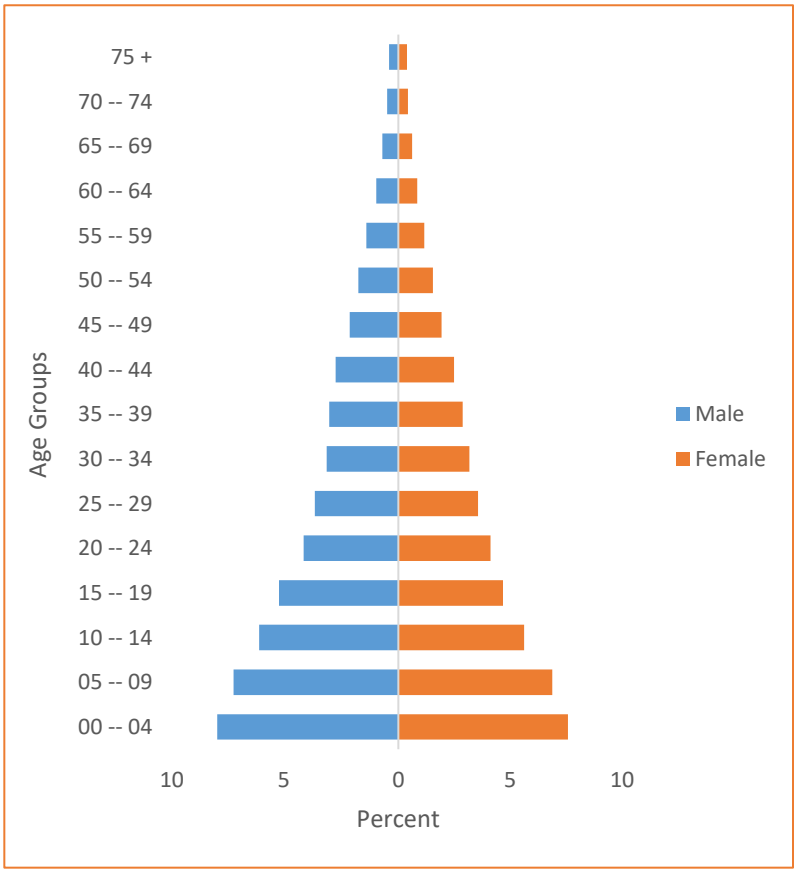
In order to ensure security of the census field staff, enumerators were accompanied by provincial police, while the Civil Armed Forces and Pakistan Army provided additional support as second- and third-tier responders. To assess accuracy and coverage of the census, Post Enumeration Survey was conducted

from 8th – 19th July, 2023, following the decisions made in the 49th meeting of the CCI and the 15th-16th meetings of the Census Monitoring Committee.

Census Results

According to the Census-2023 results, population of Sindh is recorded as 55.69 million increasing from 47.85 million as reported in the previous Census-2017, indicating an average annual population growth rate of 2.57% during the intercensal period of 2017-2023. The total population living in urban areas is 30.06 million with a share of 53.96% and 25.64 million in rural areas with a share of 46.03%. The male population constitutes 57.09% of the total population, whereas female population constitutes 47.89%, and transgender barely population makes up 0.008% of the total population. Data regarding the Transgender population was collected for the first time in this census, and due to various challenges before and during data collection, the size of transgender population is suspected to be understand.

The total number of housing units according to Census-2023 results are 9.86 million, compared to 8.48 million recorded in the previous census held in 2017. The average household size has increased from 5.55 persons in Census-2017 to 5.65 persons in Census-2023.



The division-wise distribution of population shows that Karachi has the highest proportion i.e. 36.60%, followed by Hyderabad 20.93%, Larkana 12.74%, Sukkur 10.79%, Shaheed Benazirabad 10.79% and Mirpur Khas having 8.29% of the total population.

Total population data by age and sex reveals that 21.78% of the population is under 15 years and 15-24 years population is between 18.37%, indicating a young population with high dependency ratio. Other socio-demographic indicators such as population density, sex ratio, literacy and educational attainment, marital status and disability indicate some change from the previous census which are presented in detail in Part-II of this report.

STRUCTURE OF PROVINCIAL CENSUS REPORT (PCR)

The Census Report on Sindh Province consists of six parts.

Part I is History and methodology of Census 2023

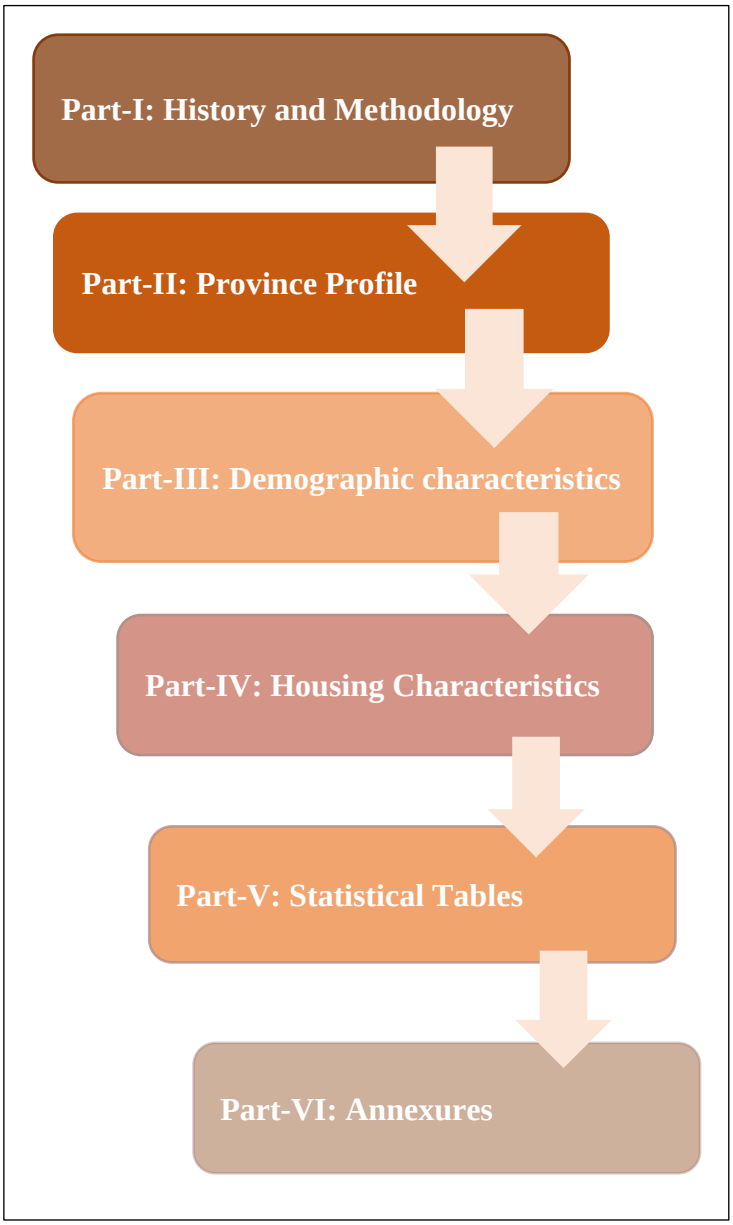
Part II is the profile of Sindh Province covering facts about its physical features and topography, water resources, climate, flora and fauna, history, administration, culture, economy, agriculture, transport and communication, along with health and education.

Part III of the report presents the broad analysis of demographic characteristics of population including information on indicators such as population growth, population density, sex ratio, age structure, marital status, nationality literacy ratio, out of school children (5-16 years) educational attainment, disability, employment and migration

Part IV provides an analysis of Housing Characteristics pertaining to information about housing units, persons per room, nature of tenure, period of construction and construction material used for construction in walls and roofs, source of drinking water, source of lighting and source of fuel used for cooking in the house.

Part V contains 30 statistical tables, out of which 19 tables relate to population data while 6 tables pertain to housing data and 5 pertains to listing information.

Part VI has annexures including Census Forms and maps of Sindh Province. Concepts and definitions are also given to facilitate the reader's understanding.



Structure of PCR

POPULATION AND HOUSING CENSUS-2023 AT A GLANCE

S. No.	Key Indicators	Population and Housing Census 2017	Population and Housing Census 2023
1	**Population**		
	Sindh	47,854,510	55,696,147
	Male	24,876,186	29,014,424
	Female	22,972,370	26,677,501
	Transgender	5,954	4,222
2	**Rural**		
	Total	23,021,876	25,639,408
	Male	11,927,892	13,245,373
	Female	11,091,837	12,393,405
	Transgender	2,147	630
3	**Urban**		
	Total	24,832,634	30,056,739
	Male	12,948,294	15,769,051
	Female	11,880,533	14,284,096
	Transgender	3,807	3,592
4	**Population of Divisions**		
	Hyderabad Division	10,596,049	11,659,246
	Karachi Division	16,024,894	20,382,881
	Larkana Division	6,190,926	7,093,706
	Mirpur Khas Division	4,224,945	4,619,624
	Shaheed Benazirabad Division	5,275,426	5,930,649
	Sukkur Division	5,542,270	6,010,041
5	**Average Annual Growth Rate**	**2.41**	**2.57**
6	Population Density	339.60	395.25
7	Sex Ratio	108.29	108.76
8	**Population by Religion (%)**		
	Muslim	90.34	90.09
	Christian	0.85	0.98
	Hindu	6.99	6.43
	Qadiani/Ahmadi	0.55	0.03
	Scheduled Castes	1.74	2.38
	Others	0.03	0.08
9	**Marital Status (%) (15 years and above)**		
	Never Married	29.34	29.59
	Married	65.87	66.38
	Widowed	4.49	3.61
	Divorced	0.30	0.28
	Sepration	-	0.14
10	**Mother Tongue**		
	Urdu	18.20	22.30
	Punjabi	5.31	4.07

S. No.	Key Indicators	Population and Housing Census 2017	Population and Housing Census 2023
	Sindhi	61.60	60.14
	Pushto	5.46	5.31
	Balochi	2.00	2.17
	Kashmiri	0.15	0.10
	Saraiki	2.23	1.64
	Hindko	1.58	1.49
	Brahvi	0.73	0.48
	Others	2.75	2.29
11	**Nationality**		
	Total	47,854,510	55,638,409
	Pakistani	47,734,596	55,426,749
	Non Pakistani	119,914	211,660
12	**Literacy 10 Years & Above(%)**		
	Total	54.57	57.54
	Male	62.52	64.23
	Female	45.95	50.21
	Transgender	34.16	37.45
13	**Out of School (5-16) Years (%)**		
	Total	-	46.29
	Male	-	42.22
	Female	-	50.74
	Transgender	-	80.46
14	**Disability (%)**		
	Total	-	2.33
	Male	-	2.39
	Female	-	2.28
15	**Economic Activity**		
	Total	-	-
	Rural	-	-
	Urban	-	-
16	**Migration**		
	Total	-	-
	Rural	-	-
	Urban	-	-
17	**Households**		
	Total	8,478,047	9,862,870
	Rural	4,148,451	4,718,683
	Urban	4,329,596	5,144,187
18	**Households Size**		
	Total	5.55	5.65
	Rural	5.47	5.43
	Urban	5.62	5.84

S. No.	Key Indicators	Population and Housing Census 2017	Population and Housing Census 2023
19	**Source of Drinking Water (%)**		
	Inside	85.58	63.63
	Outside	14.42	36.37
20	**Source of Lighting (%)**		
	Electricity	80.44	70.33
	Solar Panel	-	12.58
	Kerosene Oil	5.6	2.07
	Gas Lamp	0.25	0.01
	Generator	-	0.03
	BioGas	-	0.06
	Others	13.71	14.92
21	**Fuel Used for Cooking (%)**		
	Wood	49.50	44.80
	Sui Gas	47.39	47.37
	LPG/LNG (Cylinder)	-	1.94
	Kerosene Oil	0.31	0.17
	Electricity	-	0.08
	Bio Gas	-	0.19
	Dung Cake	-	4.07
	Others	2.80	1.38
23	**Availability of Kitchen, Bathroom and Latrine Facility (%)**		
	Kitchen		
	Separate	56.16	55.33
	Shared	24.57	23.70
	None	19.27	20.97
24	Bathroom		
	Separate	54.27	56.64
	Shared	23.6	21.44
	None	22.13	21.92
25	Laterine/Toilet		
	Separate	81.40	58.68
	Shared	-	21.97
	None	18.59	19.34

Note: **These religions were included in the Census Form as separate options for the first time in Census-2023*

***Negligible percentages have not been included.*

HISTORY AND METHODOLOGY OF CENSUS

1.1 Background

Pakistan Bureau of Statistics (PBS), in accordance with the General Statistics (Reorganization) Act 2011, is responsible for conducting population and housing censuses in the country. Alongside its other data collection activities, PBS conducted censuses in the years 1951, 1961,1972, 1981, and 1998. Following the 1998 census, the 6th Population and Housing Census, which was originally scheduled for the year 2008, was delayed and eventually conducted from March to May in 2017. The provisional summary results of Census-2017 were released after the requisite approval from the Council of Common Interests (CCI) in its meeting held on August 25, 2017. These results were made available to government officials, academia, researchers, and the general public through press releases and the PBS website.

There was reservation on Census-2017 results for Sindh. As a result, census which was completed in 2017 got approved by the CCI in its 45th meeting held on 12th April, 2021. The CCI also directed PBS to start the process of the next census as early as possible according to the international best practices by using latest technology.

In compliance to the CCI decision, PBS initiated preparatory work to conduct the 7th Population and Housing Census in Pakistan. To achieve this end, the Government of Pakistan established Census Advisory Committee consisting of distinguished demographers and experts with the aim of formulating recommendations to implement the latest technology and adopt international best practices, as well as to devise strategy to build confidence among all the stakeholders, guarantee smooth completion of census operation and improve credibility and reliability of the census results. The Committee conducted several meetings and after detailed deliberations finalized the recommendations to carry out the census "digitally" with real-time monitoring for transparency and broader acceptability.

Figure 1.1: Glimpses from Meetings of Census Advisory Committee

The main recommendations of Census Advisory Committee are given as under.

- Census must be conducted Digitally with real-time online monitoring & geo-tagging of all structures
- Ensure Universality: Counting of whole population residing in country at the time of the census irrespective of its Status/ Holder of CNIC or not.
- De-jure Method of enumeration is recommended (person is enumerated at usual place of residence). This method is the widely used method internationally and used in all previous Censuses in Pakistan.
- Single Census questionnaire may be administered which should be strictly in relevance to the Objectives of Census.
- Law enforcement agencies may be used for security but not for enumeration / verification.
- Field Data collection / Monitoring may be carried out by Provincial Government staff. Comprehensive trainings and involvement of graduate students in the enumeration process is recommended.
- Involvement of Stakeholders (especially provinces / political parties) from start to end (Planning to Finalization of results)
- Establishment of National Census Coordination Center (N3C) with representation of Provincial Governments for effective monitoring, coordination and policy decisions.
- Effective publicity campaign with effective use of social media for clarity regarding the primary objective of Census which may begin early and extend right up to the release of the first initial results
- Conduct of Pilot Census for checking the whole process and conduct of Post Enumeration Survey for assessing reliability of data and coverage

The Federal Cabinet in its meeting held on 5th October, 2021 approved the recommendations of the Census Advisory Committee for forwarding to the CCI. The CCI in its 49th meeting held on 13th January, 2022 approved the recommendations of Census Advisory Committee for the conduct of 7th Population and Housing Census, along with census work plan with timelines, census questionnaire, Census Monitoring Committee (CMC) and its TORs. The CMC was constituted with representation of all Chief Secretaries, relevant Provincial Secretaries (Education, Health, Local Government etc.), Senior Members of Board of Revenue, Secretary IPC, DG Military Operation and others for prompt decision making and coordinated efforts for the successful conduct of the census.

1.2 Requirements of Digital Census

Technological developments and subsequent access to modern technology has largely eased the way in which the business of a population census is undertaken. Modern technology permits end-to-end embedding of processes in the census value chain. This possibility ranges from planning, monitoring and

implementation to evaluating outcomes. Many facets of census activities can benefit from the use of technology.1

However, it is of utmost importance to comprehend the significance of technology and carefully choose the most appropriate option. Introducing technology can be an expensive and risky endeavor if not aligned with the unique circumstances of the country. Hence, in order to guarantee successful implementation of electronic data collection technology in the census process, it was imperative to precisely identify all the essential requirements and formulate comprehensive plans for integrating this technology at an early stage of the census life cycle. Figure 1.2 gives a schematic representation of the hardware and IT-related requirements envisaged for DigitalCensus-2023.

Figure 1.2: Hardware and IT Related Requirements of Digital Census

The 7th Population and Housing Census marked a significant milestone in Pakistan as it became the first-ever digital census in the country. The implementation of this census posed unique challenges that required careful planning and preparation from the very beginning. These challenges included development of step-by-step procedures for the entire process, creation of high-resolution digital maps, acquisition of tablet devices, development of specialized census software to perform various tasks such as structure listing, enumeration, real-time monitoring, and field coordination, as well as establishment of data infrastructure and storage facilities. Additionally, extensive efforts were made to ensure transparency and reliability of the census by addressing key processes, some of which will be discussed in the subsequent sections. It is important to highlight that the recommendations of the Census Advisory Committee for the Digital Census were thoroughly taken into account during both the planning and execution stages of these processes.

[1] "Principles and Recommendations for Population and Housing Censuses" (Revision 3), Department of Economic and Social Affairs, Statistics Division, United Nations, New York, 2017. (Emphasis added)

1.2.1 Consultative and Sensitization Process

One of the main recommendations of Census Advisory Committee approved by the CCI in its 49th meeting was involvement of stakeholders through the entire census process. To accomplish this objective, PBS conducted various rounds of engagement sessions with provincial administrations, civil society organizations, and academia. In this regard, five meetings were conducted with provinces from 6th September, 2021 to 16th September, 2021, whereas six sensitization workshops were held at provincial capitals from 24th December, 2021 to 10th January, 2022. Additionally, another round of sensitization process was commenced on 23rd May, 2022, with workshops conducted by the PBS team at all the provincial and regional headquarters.

The purpose of these sessions was to inform about the transparent data collection of census digitally and role and responsibilities of all federal and provincial stakeholders. Additionally, stakeholders were made aware of their access to GIS-enabled monitoring, which facilitated tracking progress of the census. It is worth noting here that the representatives of the provincial governments remained actively engaged from the planning phase of the census until its completion in the field.

Figure 1.3: Glimpses from Workshops Held at Provincial Capitals

1.2.2 Role of Consulting Agencies

After approval of the recommendations of Census Advisory Committee and work plan of 18 months to conduct 7th Population and Housing Census-2023 by the CCI in its 49th meeting, PBS, keeping in view the challenging timelines, engaged for the Government to Government (G2G) solution National Database and Registration Authority (NADRA), Space and Upper Atmosphere Research Commission (SUPARCO) and National Telecom Corporation (NTC) for provision of software, hardware, latest high resolution imagery and allied services required for successful completion of the digital census field operation.

The following Table 1.1 summarizes the role of consulting agencies, NADRA, SUPARCO and NTC regarding provision of hardware and software during the conduct of 7th Population and Housing Census-2023.

Table 1.1: Role of Consulting Agencies during the Digital Census-2023.

Task	Description	Responsibility
Tablet device and allied accessories	Provision of 126000 tablet devices and allied accessories Provision of 126000 secure data SIMs Hardening and preparation of tablet devices Dispatching and retrieval of tablet device	NADRA
Datacenter and Infrastructure	Compute storage and network resources Two sites, one primary site at NTC Islamabad and one disaster recovery site at NTC Lahore Intranet and internet connectivity of sites Software licenses required for the datacenter	NTC
Census Support Centers	IT support to field staff Provision of internet devices	NADRA NTC
Call center	Establishment of call center at PBS HQ Operationalization of call center for 6 months Technology transfer to PBS	NTC
Census Software	Provision of complete turnkey solution Hosting of census software solutions at infrastructure provided by NTC Syncing of data and data security	NADRA
GIS imagery	Provision of GIS imagery	SUPARCO

1.2.3 Census Software

For the Digital Census-2023, initially eighteen software modules were considered to facilitate various tasks in a digital format. However, upon careful internal discussions and considerations, it was determined that some of these modules shared similar features. As a result, the Supervisor Dashboard and Data Synchronization modules were combined with the Indicator and Trend Analysis and Android House Listing and Enumeration Data Collection modules, respectively. The final list of modules, comprising sixteen in total, can be seen Table 1.2.

Table 1.2: Software Modules Finalized for Digital Census-2023

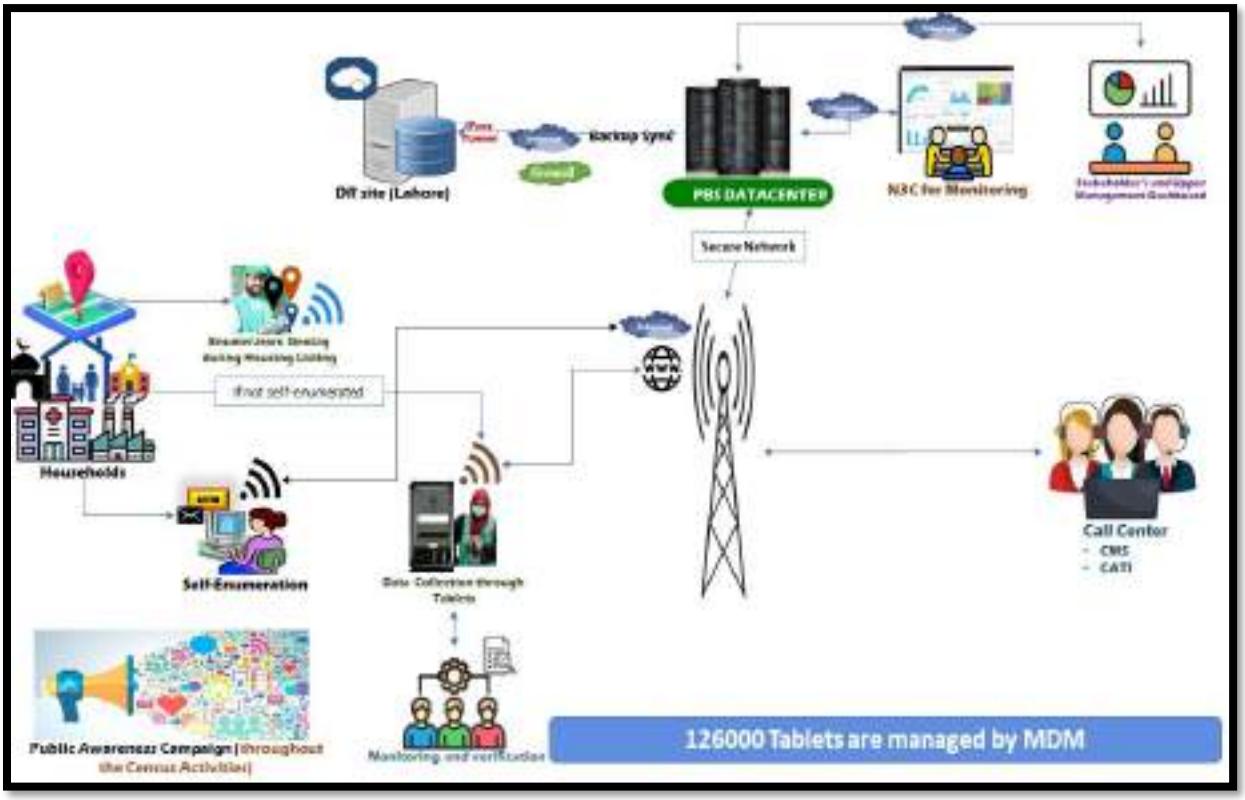
S. No.	Software Modules	S. No.	Software Modules
1	Self-enumeration web portal	9	GIS based Dashboard Monitoring System
2	HR & Task Assignment Web Portal	10	Dashboard for Trend Analysis
3	Training Web portal	11	Data Cleaning Module
4	Inventory Management	12	Complaint Management System
5	Android House listing App	13	Reporting Module
6	Android Enumerator Data Collection app	14	Public Data Dissemination Portal
7	Communication application	15	CATI support module
8	Area Frame Updation Application	16	MDM

1.2.4 Census Hardware and IT Infrastructure

The digital infrastructure, PBS already have, was not reliable enough to support the extensive census operation. As a result, it was necessary to upgrade the entire datacenter to meet the necessary standards for power backups, precision cooling, network and server security, environmental monitoring and control, fire suppression systems, and access control systems. Additionally, a secondary site with disaster recovery capabilities had to be introduced. However, given the tight schedule for the census, procuring and completing the necessary upgrades for the datacenter was not feasible. Therefore, the well-established tier-III Datacenter Infrastructure of National Telecom Corporation (NTC) suitable for this exercise was utilized to provide round-the-clock support, with multiple active sites including a dedicated disaster recovery site.

The hardware and IT related requirements chalked out for the Digital Census-2023 included 126000 tablet devices with allied accessories, hardening and preparation of tablet devices, internet SIMs from Telco's, compute storage and network resources, two sites one primary site and one disaster recovery site, intranet and internet connectivity of sites, data security, IT support to field staff from Census Support Centers, and establishment of call centers. PBS accordingly engaged National Database and Registration Authority (NADRA) for provision of 126000 tablets with allied accessories (secured, hardened devices), Census Software Solution (Enterprise Resource Planning - ERP), Data SIMs and secure data connectivity, and census field support services.

Figure 1.4: The Digital Architecture Used in Census-2023



1.2.5 Acquisition of High Resolution Imagery

Digital maps of area frame are at the crux of digital enumeration. PBS had already digitized its area frame, which consisted of approximately 182,000 blocks and conducting surveys through tablets using the digitized block boundaries. However, due to the sensitivity and magnitude of the census project, PBS decided to acquire the latest satellite imagery accurate to a level that does not affect the accuracy of geo-tagging of structures. For this purpose, PBS held several meetings with SUPARCO, the National Space Agency of Pakistan specializing in GIS and Space Science research, to discuss and determine the imagery and GIS requirements. After extensive discussions between the technical experts from both sides, the following services were decided to be acquired from the SUPARCO.

- High resolution digital satellite imagery of 0.3-meter resolution for 18 districts and 0.98-meter resolution for remaining areas for reconciliation and ground reference (not more than 6 months old).
- Support in terms of infrastructure and human development for hosting of Digital Enumeration Area Maps on PBS server.

1.2.6 Provision of Call Center Services

A call center by the NTC was established at the PBS headquarters to facilitate smooth communication between the public and the Census administration during and after the census exercise. This call center served as a central hub of information, handling not only general complaints but also inquiries from the public regarding the census process, on-field activities, and frequently asked questions about the census. Additionally, it was utilized for Computer-Assisted Telephone Interviewing (CATI) approach after the census field operation.

A call center was set up by the NTC within the premises of PBS headquarter to serve as an information hub for a seamless interface between Public and Census administration, during and after the census exercise. It was used not only for general complaint resolution, but also for enquiries generated by the public for PBS about the census process, on-field activities and other census frequently asked questions. It was also used for Computer-assisted telephone interviewing (CATI) approach after the census field operation.

1.2.7 Deployment of Census Field Staff

As per the previous practices, the field operation of 7th Population and Housing Census was conducted and supervised through the respective provincial government's machinery. The Provincial Chief Secretaries being the administrative heads of the provinces implemented the census plan prepared by the Federal Government, and all the orders and instructions in this respect were issued from their offices down to the level of Divisional Commissioners, Deputy Commissioners and Assistant Commissioners.

Similarly, from administrative and organizational point of view, Census Districts were established all over the country, including Gilgit-Baltistan and Azad Jammu & Kashmir, for effective coordination and implementation of Digital Census activities. In Punjab, Sindh and Khyber

Pakhtunkhwa, tehsils were declared as Census Districts, whereas in the rest of the country including Gilgit-Baltistan and Azad Jammu & Kashmir, Admn. districts were declared as Census Districts. The respective administrative heads of the admn. districts and tehsils were notified as Census District Officers (CDOs). These Census Districts were divided into Census Charges, Census Circles, and Census Blocks.

PBS ensured effective coordination with provincial and regional administration by deploying its own staff members, including Statistical and Geographical assistants, to work alongside Census District Officers at 495 Census Districts. These staff members acted as a crucial link between PBS administrations, provincial and regional administration, and local field staff. They facilitated timely and efficient communication regarding census instructions, complaints and suggestions, as well as logistic support.

1.2.8 Establishment of Census Support Centers

Since the Digital Census was being carried out first time in the country, therefore, to keep the process smooth and ensure availability of system alive 24/7, dedicated Census Support Centers on the recommendation of Census Advisory Committee were established at the Tehsil/Census District level. These centers played a vital role in facilitating the census field operation. They were responsible for a range of tasks, including the distribution and collection of tablet devices, as well as installation and configuration of census applications. Moreover, they performed as Control Room and Complaint Inquiry Office in each Census District. These centers were equipped with all the necessary IT equipment, furniture, fixtures, and technical staff. The technical staff, mostly from PBS, were assigned to provide support to the technical field staff, enumerators, and supervisors.

1.2.9 Training of Census Staff

In order to provide comprehensive training both on the subject matter and IT related aspects of the Digital Census to the census field staff, supervisors and enumerators, a three-tiered plan was devised. The first tier involved training Master Trainers in Islamabad; the second tier consisted of training Trainers at the Divisional level; and finally, the third tier involved training supervisors and enumerators at the Tehsil level. The training for 328 Master Trainers took place at NIBAF in 5 batches during 5th - 15th December, 2022. These Master Trainers then imparted training to 3460 Trainers in 94 batches during 18th - 23rd December, 2022. Subsequently, the Trainers trained a total of 121,000 census field staff in 2000 batches during 7th - 20th January, 2023. To provide a glimpse of the master training sessions, a selection of photos is shown in Figure 1.5.

Figure 1.5: Training of Master Trainers for the Digital Census Field Activities

1.3 Pilot Census of Digital Census-2023

Pilot census serves as a thorough assessment of all the census procedures. Its primary objective is to evaluate effectiveness and suitability of the complete census plan and its organizational framework by conducting a trial run. This entails ensuring comprehensive coverage of both geographic areas and population segments. More specifically, pilot census aims to test the accuracy of cartography, methodology, data collection methods, questionnaires, logistical planning, as well as the interaction and coordination among all the resources involved in the census.

The pilot census of Digital Census-2023 encompassed twelve specific objectives aimed at rigorously testing the following aspects.

i. Effectiveness and comprehensibility of training materials and procedures to impart trainings to the master trainers and enumerators.
ii. Capabilities of enumerators to comprehend the census concepts within a short span of time and implement in the field with maximum efficiency and accuracy.
iii. Applicability and suitability of census questionnaire, clarity of its wording, sequence of questions, and response biases.
iv. The enumeration workload and time required to carry out the enumeration.
v. Suitability of coordination mechanism for logistic support in the field and necessary communication to and from PBS representatives in the field and other field staff such as enumerators/ supervisors etc. to devise effective strategy to deal with day to day issues.
vi. Census tablets and other hardware for their suitability in the field, especially durability of tablet battery and charge banks to keep tablets alive during the whole enumeration time of a day.
vii. Census software and GIS for their reliability, accuracy, efficiency and security.
viii. Digital block maps with high-resolution imagery and capability to properly identify to the enumerators their assigned blocks and to help recognize block overlapping/ non-coverage etc.
ix. Compatibility between the hardware and different census software and to sort out issues prior to start of full scale census enumeration.
x. Network availability and proper and easy log-in capability of the devices.
xi. Proper, effective and secure data synchronization and transmission to the central database.
xii. Real-time monitoring in the field and at PBS headquarter to deal with block identification/ overlapping, non-coverage and other issues requiring regular and immediate action from the concerned in the field and at PBS headquarter.

In light of the objectives of the pilot census, which was to thoroughly test all the new technologies adopted for the Digital Census, the PBS Technical Committee decided that instead of utilizing a representative sample, the main focus should be on evaluating the entire process of the Digital Census under diverse conditions. In order to accomplish this, a study was conducted on the block-wise information and after detailed deliberation it was decided to select a sample of around 500 blocks from clusters of districts keeping in view factors such as density, accessibility, and topography of the area. Consequently, a total of 417 blocks were selected from 33 administrative districts for the pilot census. The selected administrative districts for Pilot Census can be seen in Figure 1.6, whereas breakdown of the selected blocks, both by province/district and rural-urban areas, is given in Table 1.3 and Figure 1.7, respectively.

Field operation of the pilot census was carried out from July 20, 2022 to August 3, 2022 in 33 selected Administrative Districts across Pakistan, including Azad Jammu & Kashmir and Gilgit Baltistan. For the pilot census field operation, a three-day training session for the Master Trainers was held at the PBS headquarters from July 5 to July 7, 2022. The Master Trainers then imparted training to the enumerators in the field at the selected 27 stations from July 13 to July 17, 2022. The district

administration of each province/district provided the enumeration and supervisory staff. The enumerators were selected from various provincial departments, and the enumeration was conducted under the supervision of the tehsil and district administration in their respective jurisdictions. As the pilot census was digital, tablet devices were used, and two software modules were developed and utilized for this purpose.

Several key issues were identified during the pilot census. Firstly, the tablets used during the process experienced fast battery drainage, resulting in frequent interruptions. The SIM cards provided did not always match the local network, causing connectivity problems. Another challenge was the technical deficiency of the staff deputed at the Census Support Centers in each census district. This hindered smooth execution of the data collection process. Moreover, the enumeration blocks in Balochistan and Khyber Pakhtunkhwa were situated far away from the Census Support Centers, leading to delays and logistic difficulties. Furthermore, there were delays in resolving technical problems that arose during the enumeration. Adverse weather conditions also posed a challenge in conducting the field operation effectively. Lastly, there were compatibility issues between the SUPARCO satellite imagery and PBS maps, which impacted accuracy of the data collection process.

The issues identified during the pilot census were assessed thoroughly and appropriate corrective measures were taken prior to commencement of the main census activities and field operation for the census data collection.

Figure 1.6: Map Showing Admn, Districts Selected for the Pilot Census

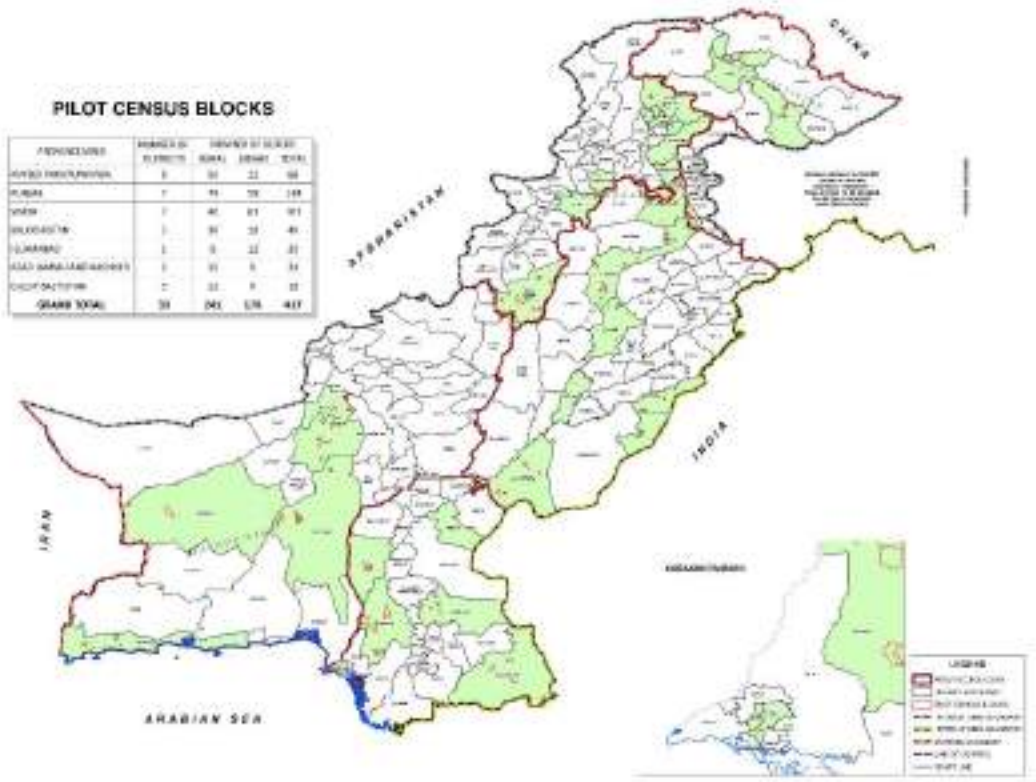
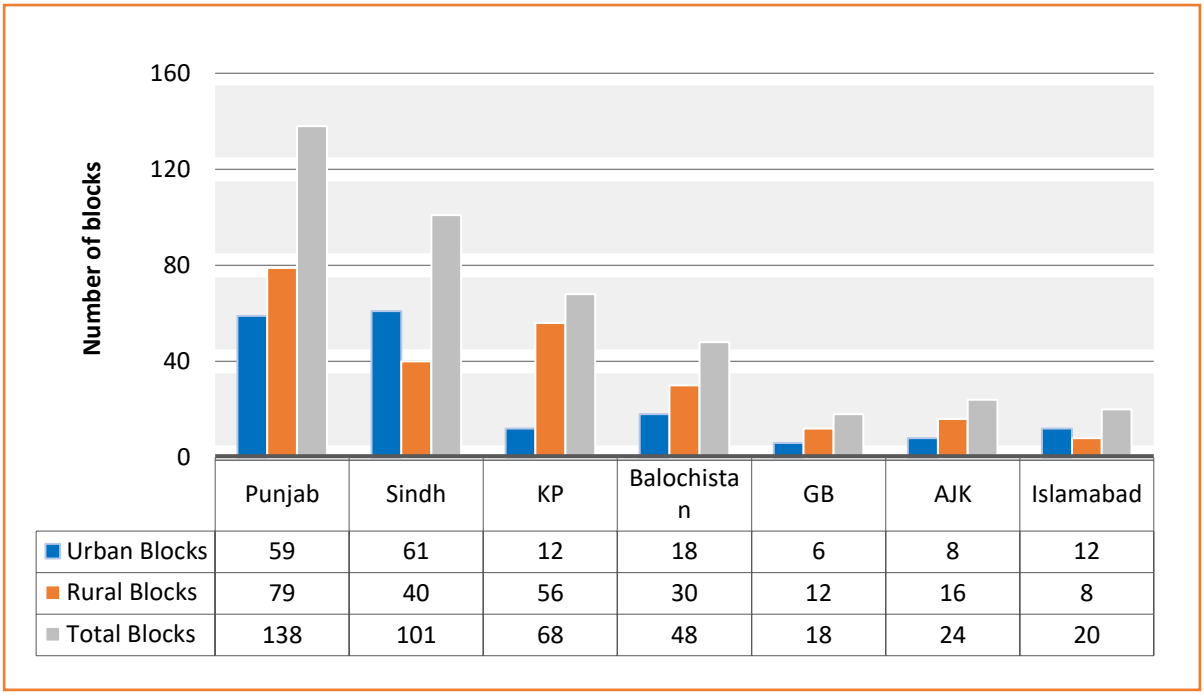


Table 1.3: Province / District-wise Blocks Selection for the Pilot Census

Province/ Region	Selected Districts	No. of Blocks	Visual Presentation of No. of Blocks Selected from each District
Islamabad	Islamabad	20	
Punjab	Bahawalnagar	16	
	Rahim Yar Khan	36	
	Jhang	16	
	Multan	20	
	Jhelum	12	
	Rawalpindi	26	
	Khushab	12	
Khyber Pakhtunkhwa	Dera Ismail Khan	24	
	Abbottabad	4	
	Mansehra	4	
	Lower Kohistan	8	
	Upper Kohistan	12	
	Kohistan	8	
	Kohat	4	
	Nowshera	4	
Sindh	Dadu	12	
	Jamshoro	18	
	Karachi Central	16	
	Karachi East	21	
	Tharparkar	14	
	Sanghar	16	
	Sukkur	4	
Balochistan	Kalat	10	
	Mastung	8	
	Khuzdar	14	
	Washuk	4	
	Gwadar	12	
Azad Jammu and Kashmir	Jhelum Valley	8	
	Mirpur	16	
Gilgit-Baltistan	Baltistan	4	
	Gilgit	8	
	Nagar	6	
Total		417	

Figure 1.7: Rural/ Urban Breakdown of the Blocks Selected for the Pilot Census



	Punjab	Sindh	KP	Balochistan	GB	AJK	Islamabad
Urban Blocks	59	61	12	18	6	8	12
Rural Blocks	79	40	56	30	12	16	8
Total Blocks	138	101	68	48	18	24	20

1.4 Enumeration Method and Field Operation

The 6th Population and Housing Census-2017 of Pakistan, similar to earlier censuses, was conducted using a mixed approach, defecto cum dejure. The census mainly followed the dejure concept, which considers the usual place of residence for counting the population. However, only the "homeless" population was counted using a defacto basis. This mixed approach is also commonly used in other countries of the sub-continent.

The Census Advisory Committee after detailed deliberations on the advantages and disadvantages of both defacto and de-jure methodologies, taking into account the practical realities on the ground, evaluating effectiveness of the de-jure method, as well as considering the significant financial and human resource requirements of the defacto method, recommended the de-jure method of enumeration for the 7th Population and Housing Census-2023. The de-jure method of enumeration involves counting individuals based on their usual residence, which was defined as the place where they have continuously lived for at least six months (excluding temporary absences for holidays or work). Additionally, the intention to live in a particular place for at least six months was also considered when determining usual place of residence. Individuals who were temporarily residing in a place were not counted, as they were enumerated at their usual places of residence. Likewise, individuals who were temporarily out of the country or city to attend religious events, weddings, or trainings for less than six months were counted at their usual places of residence.

The data collection process of the Digital Census-2023 began with the deployment of a web portal for self-enumeration on 20th February, 2023. This marked a significant milestone, as only a few countries worldwide have attempted and achieved such an endeavor for their population. Around 2,600,000 individuals submitted their data through the self-enumeration portal till its closing date on 10th

March, 2023. The process of listing houses and structures took place between 1st – 10th March, 2023, while the census field enumeration began on 12th March, 2023, with an initial completion date of 4th April, 2023. However, based on the requests from provincial governments for complete enumeration, the field operation was extended four times by the Census Monitoring Committee until 30th April, 2023. In certain districts, the census field operation was further extended until 21st May, 2023, mainly due to under-enumeration.

1.5 Post Enumeration Survey

One of the main recommendations made by the Census Advisory Committee was to conduct Post Enumeration Survey (PES) of the 7th Population and Housing Census-2023. The recommendation was approved by the CCI during its 49th meeting held on 13th January, 2022. Moreover, during the census field operation, PBS constituted two Committees: *Technical/ Expert Committee on Census-2023* for periodic review with provincial and district stakeholders to ensure credible census field operation and committee on *Trend Analysis of Census Data for 7th Population and Housing Census (Digital Census)* to analyze trends and determine suitability of the census data prior to placing it before the competent forum for approval. The Committee held several meetings and after detailed review of the census data recommended to conduct Post Enumeration Survey to address the issues of over- or under-enumeration identified through demographic techniques in certain areas of the county.

Therefore, during the 15th meeting of the Census Monitoring Committee chaired by the Minister for PD&SI on 7th June, 2023, it was decided that Post Enumeration Survey may be conducted in order to assess accuracy and the coverage extent of the Digital Census-2023. The methodology for conducting the PES and incorporating its findings into the final Digital Census-2023 results was approved in the subsequent 16th meeting of the Census Monitoring Committee held on 27th June, 2023. Accordingly, the Post Enumeration Survey (PES) of Digital Census-2023 was conducted from 8th to 19th July, 2023, in accordance with the decision made in the 49th meeting of CCI and 15th-16th meetings of Census Monitoring Committee.

For the PES, a sample of 2500 Enumeration Blocks was selected from 48 administrative districts (overall level) with relative margin of error (RMOE) of 1.1%. The sample was selected using stratified random sampling where strata within provinces were made on the basis of similar characteristics like growth rates, population etc. Each stratum represented distinct districts. The 48 selected districts represented their respective stratum from which the sample was selected. The sample size was further proportionally allocated to urban and rural part of each district. Provincial and rural/urban breakdown of the PES sample is given in Table 1.4.

Table 1.4: PES Sample Allocation with Provincial and Rural/Urban Breakdown

Province	Rural	Urban	Total
Khyber Pakhtunkhwa	287	93	380
Punjab	471	586	1057
Sindh	313	538	851
Balochistan	124	43	167
Islamabad	23	22	45
Total	1218	1282	2500

The PES enumerators and supervisors who were selected from the Digital Census-2023 staff, were assigned new blocks during the PES field activities in order to ensure independence of the survey. To further ensure that the PES field staff was well-prepared, they underwent a refresher course and were equipped with the training materials, including a comprehensive manual. The manual was designed with the PES objectives in mind and provided clear guidelines on understanding the objectives, methodology, and techniques of the survey.

Figure 1.8: Training of Enumerators for the PES Field Activities

The PES field operation lasted for a total of 12 days. On the 8th of July 2023, the PES field operation was commenced with clear instructions to the enumerators to conduct listing and enumeration as separate activities. The initial three days of the PES field operation were dedicated to listing, while the remaining nine days were allocated for enumeration. To ensure comprehensive and accurate coverage, SUPARCO maps of the blocks were provided to the enumerators in both electronic form on their Tablets and in hard copy. Enumerators were instructed to assign a unique PES number to each structure within the selected

block, regardless of the numbering used in the census. For example, structures were labeled as PES 001, PES 002, and so forth. Each enumerator was required to enumerate only one PES block.

During the PES field activities, it was crucial to ensure safety and trust of the enumerators, as they faced resistance from respondents who were skeptical due to isolated incidents reported in the media. To address this, man-to-man security was provided to the enumerators, not only for their protection but also to encourage better response rates. The main census field operation had previously suffered from non-response and less coverage, largely attributed to the lack of security measures. Recognizing this, it was imperative to prioritize the provision of man-to-man security for the field staff during the PES, in order to achieve more accurate and reliable results.

1.6 Finalization and Approval of Final Results

Census is the 9th subject of the Federal Legislative List Part-II and according to the Article 154 of the Constitution of the Islamic Republic of Pakistan, the Council of Common Interests (CCI) is entrusted with the responsibility of formulating and regulating policies pertaining to matters in Part-II of the Federal Legislative List. Additionally, the CCI is also responsible for exercising supervision and control over the relevant institutions.

Accordingly, the final summary results of the 7th Population and Housing Census-2023 were compiled by factoring in the findings of the Post Enumeration Survey and submitted for the approval of CCI on 2nd August, 2023. In its 50th meeting held on 5th August, 2023, the CCI considered the final summary results and unanimously approved the results of 7th Population and Housing Census-2023, as follows:

> *"The CCI considered the Summary titled "Results of 7th Population and Housing Census-2023 (The Digital Census)" dated 2nd August, 2023, submitted by Ministry of Planning, Development and Special Initiatives and unanimously approved the results of 7th Population and Housing Census-2023 (The Digital Census), as mentioned in Annex-V of the Summary and reproduced at para-7 above, for publication and for use / information of general public."*

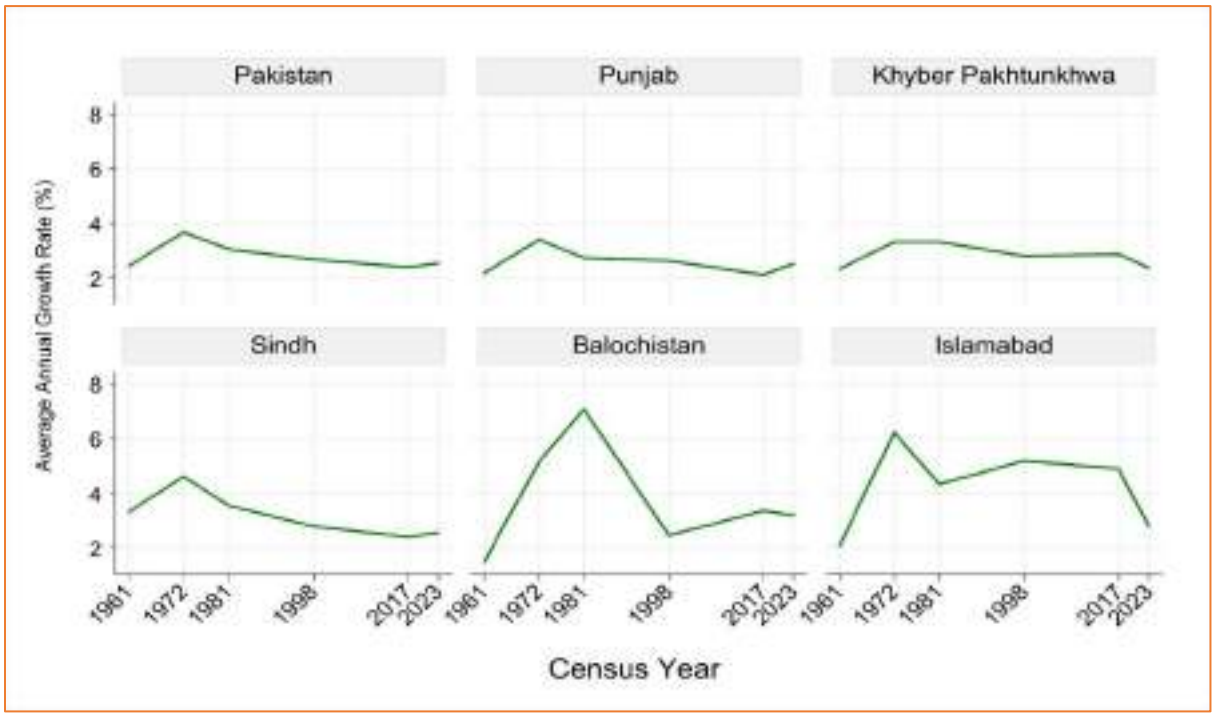
Figure 1.9: Glimpses from the 50th Meeting of CCI Held on 5th August, 2023

The official announcement for the final results of the Digital Census-2023 was made on 7th August, 2023 through the gazette notification. Table 1.5 below provides a breakdown of the population and average annual growth rates for each province, as well as a comparison of Digital Census-2023 with the previous censuses conducted during 1998 and 2017. Similarly, for a further comparison purpose, Figure 1.10 depicts the average annual growth rates observed for Pakistan, the four provinces and Islamabad Capital Territory *(excluding FATA)* during the last six censuses held in the country.[2]

Table 1.5: Population and Annual Growth Rates for Census-1998, 2017 and 2023

Region/ Province	Population (Million Nos.)			Annual Growth Rate (%)		
	1998	2017	2023	1998	2017	2023
Pakistan	132.35	207.68	241.49	2.69	2.40	2.55
Khyber Pakhtunkhwa	20.92	35.50	40.85	2.72	2.82	2.38
Punjab	73.62	109.98	127.68	2.64	2.13	2.53
Sindh	30.44	47.85	55.69	2.80	2.41	2.57
Balochistan	6.57	12.34	14.89	2.47	3.37	3.20
Islamabad	0.81	2.01	2.36	5.19	4.91	2.81

Figure 1.10: Average Annual Growth Rates observed during the Last Six Censuses

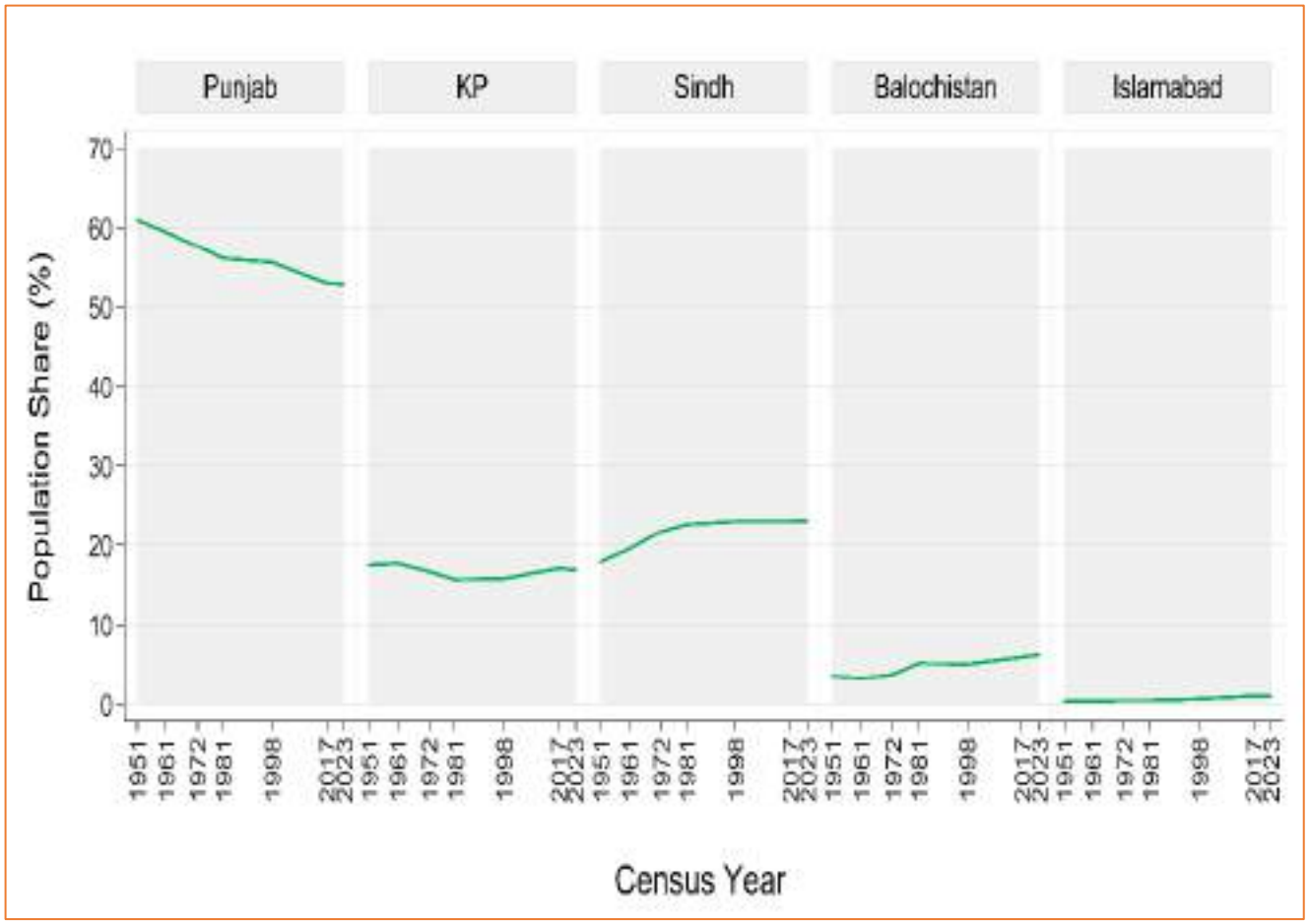


[2] In Pakistan, since the country gained independence in 1947, six population and housing censuses have prior been conducted at various intervals. These censuses took place in 1951, 1961, 1972, 1981, 1998, and 2017.

It is pertinent to mention here that in this census there due to access issues in the sensitive restricted areas and some collective residences only head counts were provided, therefore the detailed tables except gender, urban/ rural will for 240,458,089 as detailed characteristics were not provided for 1,041,342.

Figure 1.11 portrays the population share trends at the provincial level and for Islamabad Capital Territory during all the Population and Housing censuses conducted in the country. It is evident that the share of Punjab has consistently declined over the years. For instance, in the 1951 census, Punjab accounted for 60.9% of the population, but this figure decreased to 52.9% during the Digital Census-2023. The decline in Punjab's share can be attributed towards the historic relatively higher population growth observed in Sindh and Balochistan provinces. During this period, the population share of Sindh increased from 17.9% to 23.1%, while Balochistan's share grew from 3.5% to 6.2%. On the other hand, Islamabad Capital Territory experienced a moderate increase in its share, approximately 0.7% during the same period.

Figure 1.11: Trends observed in Provincial Shares



1.7 Engagement of Media

In regards to communication strategy for 7th Population and Housing Census-2023, the Census Advisory Committee reviewed previous practices in Pakistan, as well as other developed and developing countries.

Based on their findings, they recommended initiation of an early and impactful awareness campaign during the census implementation process. This campaign was to be designed to ensure clear communication regarding the importance of the census, comprehensive description of the entire census process, duration of the census field enumeration, and to address any lingering ambiguity, particularly among groups who had not agreed with the previous census results. The ultimate goal was to foster cooperation and seek their participation in the census.

Furthermore, over the past decade or so, the rise of popular social media platforms like Twitter, Facebook, LinkedIn, Instagram, and YouTube has paved the way for a new era of global digital interaction. These platforms have revolutionized the way people connect and communicate, breaking down geographical barriers. They have become instrumental in the rapid dissemination of information, enabling widespread sharing of news, trends, and ideas on an unprecedented scale. Additionally, the social media is also providing platform for individuals to express their opinions, share experiences, and engage in discussions, thereby fostering a sense of community and inclusivity.

Figure 1.12: PBS's Social Media Platforms

PBS, in conjunction with a comprehensive print and electronic media campaign, engaged based on their impressive presentation and creative work expertise of a social media advertising firm. Since the beginning of the Digital Census activities, the firm has successfully handled PBS's online presence across six prominent social media platforms, including Facebook and X (previously known as Twitter), and consistently excelled in effective spreading of census-related news and information to a wider audience.

GENERAL DESCRIPTION OF SINDH

2.1 Introduction

Sindh is the Sanskrit word Sindh or Sindhu, literally means a river or an ocean. Its name was chosen to relate to the river Indus, the first great body of water encountered by the Aryan invaders.

Sindh remained the center of the Indus Valley Civilization for decades. Evidence shows that an advanced urban civilization at Kot Diji in central Sindh dates back to 3300 B.C.E. and is considered the fore- runner of the Indus Valley Civilization that flourished in the region for the next 2,000 years. Arab invaders brought Islam to the region during the 8th century C.E. and the Sindhi language developed in Arabic distinctive Nakshi script. Much of the region came into the orbit of the Mughal Empire during the 17th Century-Muslim emperors ruled first through the local Kalhora clan and later through Talpurs from northern Sindh-until two major British military victories in 1843, and Sindh was subsequently ruled by the Bombay Presidency which was an administrative division of British India.

Its largest city Karachi is among the world's largest metropolitans. Sindh stretches from the Jacobabad District in the North to the vast Indus River Delta wetlands abutting to the Arabian Sea. The Dadu District is in the West, and the Thar Desert is in the East of the Province[3].

The area of Sindh Province is 140,914 km². Arabian Sea coastline (700 Kilometers) is also situated in Sindh. Sindh is bounded by the provinces of Balochistan on the west and north, Punjab on the northeast, the Indian states of Rajistan and Gujrat on the east. Pakistan's largest river namely Indus River, runs 3180 km from its origin in the Tibetan Plateau to a 41,440 km delta at the Arabian Sea near Karachi. Karachi is famous for its major seaport/business center.

The province is notably more urbanized as compared to other Provinces of Pakistan. According to Census-2023, 53.97% of Sindh's population lives in urban areas as compared to other provinces where the urban population is less than 47%.

The Sindh Province (Sindh Minerals Statistics 2020-21, Bureau of Statistics, Planning and Development Department Sindh) has large quantities of minerals. Total 20 minerals are mined and quarried in the nine different districts of Sindh. According to the number of minerals, district Jamshoro and Thatta are called the minerals rich districts of Sindh while according to the ranking of value of

[3] (Kronstadt 2015).

minerals (in PKR) the top five districts in 2020-21 are Tharparkar, Jamshoro, Karachi, Dadu and Thatta. Total 100% clay of Sindh is produced in Karachi while the shares of Gravel, Limestone and Ordinary-sand in the total mineral wise production of Sindh are 79%, 49% and 31% respectively. District Jamshoro produced 15% of total production of coal of Sindh and the share of limestone production of Jamshoro is around 30% out of total production at Sindh level. In Tharparkar, five different minerals namely, China Clay, Coal, Granite, Lake Salt and Laterite are produced. The main minerals of Tharparkar are Coal, Granite, Lake Salt and China Clay. The shares of Coal and Lake Salt in the total mineral-wise production of Sindh are 74% and 98% respectively. District Thatta is the most minerals rich district of Sindh, according to the given time series, 16 different minerals are found and extracted, which is the maximum number of minerals in a district. Thatta is the only district of Sindh which produced Iron-ore and Marble while the 80% laterite is also produced in district Thatta.

The Sindh Province has six (6) divisions and thirty (30) districts. According to the Census-2023, the population of Sindh has increased by 16.38% from Census-2017 with an average annual growth rate of 2.57%.

2.2 Topography

Sindh Province can be divided into four parts, i.e., Kirthar range on the west, a central alluvial plain bisected by the Indus River in the middle, a desert belt in the east and an Indus delta in the south.

a) Kirthar Range: Kithar range is composed of three parallel tier of ridges which run in north south direction and vary in width from 20 to 50 kilometres. The range consists of ascending series of ridges from east to west which are about 4000 to 5000 metres high.
b) Central Alluvial Plain: The fertile central plain constitutes the valley of the Indus River. This plain is about 580 km long and about 51,800 square kilometres in area and gradually slopes downward from north to south.
c) Eastern Desert Belt: Eastern Desert belt includes low dunes and flats in the north, the Achhrro Thar (white sand desert) to the south and the Thar Desert in the south east. In the north it extends up to Bahawalpur division where it is called Cholistan.
d) Indus Delta: The distributaries of the Indus starts spreading out near Thatta across the deltaic flood plain in the sea. The even surface is marked by a network of flowing and aban- doned channels. A coastal strip 10 to 40 kms wide, is flooded by high tide and contains some mangrove swamps.

2.3 Water Resources

Rainfall in Sindh Province is low but there are considerable variations within the province, with the lowest rainfall in the Indus valley around the Guddu and Sukkur barrages. Rainfall is only slightly higher in Kohistan to the west of the Indus, and the only wet zone is around the Karoonjhar hills of Nagarparkar in Tharparkar in the extreme south east of Sindh. The mean annual rainfall is only 460 mm. Low rainfall reduces the number of potentially viable sites for storage and recharge structures but also increases the need for them as groundwater resources outside the Indus valley are limited and tend to be seasonal in nature as well as brackish. To improve water resources, physical interventions include canal structures,

gates and stabilization works on the main canal and within the branches to ensure capacity to convey water to all distributaries and minors. Agriculture depends largely on water from the lower Indus irrigation system. Most of the rural population in Sindh Province is employed in agriculture with a large majority as landless poor.

2.3.1 River

There are three notable rivers in the Sindh province:

1. The Ghaggar-Hakra River
2. River Hub, and
3. Indus River

1) The Ghaggar-Hakra River

The Hakra is the dried-out channel of a river near Fort Abbas City in Pakistan that is the continuation of the Ghaggar River in India. Hakra or Hakro Darya streamed through Sindh and its sign can be found in Sindh areas such as Khairpur, Nawabshah, Sanghar, and Tharparkar. Several times, but not continuously, it carried the water of the Sutlej and Ghaggar during the Bronze Age period. Many early settlements of the Indus Valley Civilisation have been found in this area. Hakra Ware culture is believed to be the earliest pre-Harappan culture of India. Many early settlements are found along the river beds in this area[4].

2) River Hub

River Hub starts from the Pab Range in the south eastern Balochistan and continues along the border of Sindh and reaches Hub and then falls into the Arabian Sea. Hub river emerges from mountains near Zahri village of Jhalawan, and it flows along the border of Sindh and Lasbela for 96 km and ends at Arabian sea near Ras Monzi[5].

3) Indus River

The Indus River originates originating in the Tibetan Plateau in the vicinity of Lake Manasarovar. The river runs a course through the Ladakh region of Jammu and Kashmir (India), towards Gilgit-Baltistan and the Hindukush ranges, and then flows in a south- erly direction along the entire length of Pakistan to merge into the Arabian Sea near the port city of Karachi in Sindh. It is the longest river of Pakistan.

Kotri Barrage on River Indus near Hyderabad city

[4] Revolvy n.d.
[5] LLC Books 2010

After receiving the water of the Punjab Rivers, the Indus becomes much larger, and during the flood season (July to September) it is several kilometres wide. It flows through the plain in western and southern Punjab province in Pakistan at an elevation of about 260 feet (80 metres). Because it moves so slowly across the plain, it deposits accumulate silt on its bed, which is thus raised above the level of the sandy plain; indeed, most of the plain in Sindh province has been built up by alluvium laid down by the Indus. Embankments have been constructed to prevent flooding, but occasionally these give way, and floods destroy large areas.

2.3.2 Climate

The climate of Sindh Province is similar to those in desert areas and that prevailing in the tropical region of low and dry low lands. The tropic of Cancer passes a little below its southern boundary and the thermal equator (the line of greatest mean heat of the globe) passes through it which makes the solar heat more severe coupled with longer hours of sunlight in the summer season. These conditions are accentuated by its physical features, the Thar Desert in the east, the sea in the south, and the Kirthar range with their peculiar re-entrant angle, in the west and North West. Thus, the temperatures are exceptionally high in summer but in winter they are comparatively low. Near to the sea coast, the daily range of temperature is least. The monthly range increases from south to north, and from summer to winter.

The weather is drier and hotter but more bearable in the north than in the south. The skies are generally clear, and frost is not uncommon. While in upper Sindh, it is generally calm for nearly half of the year; nearer the coast of Sindh, wind velocity is about 24 kilometers per hour in the monsoon season. Dust storms are common at the beginning of summer and winter. The predominant wind directions at Karachi are westerly (blow- ing from west towards the east) before the monsoon season begins, while in winter the wind's direction is north- east or north-west. In Upper Sindh, it varies from south-east to north-east in summer and from north east to north-west in winter.

Sindh lies between two monsoon zones i.e. South West and North East. It misses the influence of south west monsoon, while the north east monsoon does not extend much beyond the Ganges basin. Also, the mountains on the west of Sindh are not sufficiently high to catch the South West monsoon current in one part of the year, and to prevent the cold blasts from the Iranian Plateau from entering the region on the other.

The scanty rainfall which the province gets is often due to cyclonic storms, caused by eastern and western disturbances. In Upper Sindh (Jacobabad), the average annual rainfall is about 120 millimeters, whereas in lower Sindh (Karachi), it is 176 millimeters.

The coastal districts of Sindh have also been adversely affected by heavy rainfall and cyclones. The districts of Thatta and Badin have been badly affected on several occasions. Cyclones not only wiped out the human settlements and resulted in the huge losses of human and animal lives, but they also destroyed and damaged fishing boats, therefore badly affected the livelihood of residents of these two districts.

Major cyclones reaching Sindh during the last 100 years happened in May 1902, June 1926, June 1964. Nov. 1993, June 1998, May 1999 and June 2007 (Cyclone- 02A). Keti Bunder town was

wiped out four times in recent history[6].

Table 2.1: Average Monthly Minimum and Maximum Temperature

Months	January	February	March	April	May	June	July	August	September	Octobe	November	December
Station	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min
	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max
Hyderabad	9.4	14.7	20.2	23.7	27.4	28.4	28.3	26.8	27.7	23	18.2	13.2
	24	31.2	36.2	39.4	40.6	39.1	37	35.6	37.1	35.7	31.3	24.6
Karachi (AP)	9.2	15	21.6	25.1	28.9	29.6	28.5	27.4	28	23.1	17.6	13.9
	26.6	31.6	34.6	37.3	37.5	36.1	34.5	32.6	36.3	34.8	34.4	27.6
Sukkur	5.3	12	18.2	22.2	26.8	28.4	29.6	27.3	28	20	13.2	8.4
	22.3	29.1	34.2	38.9	41.4	41.1	40.5	39.1	37.9	35.6	30.3	24.8
Badin	8.8	14.8	21	23.1	25.9	27.6	26.6	25.3	25.5	22.2	15.9	- -
	23.9	30.6	35.4	38.7	38.7	37.7	34.9	39.1	34.9	33.1	31.1	- -
Jacobabad	5.9	12.9	18.2	22.1	26.5	29.2	29.9	27.8	28.4	21.3	14.3	9.94
	21.3	27.5	33.8	39.3	43.5	43.3	42	38.9	38.9	34.2	29.2	22.5
Larkana	5.5	12.1	19	22.6	27.5	28.3	29.3	27.4	28.7	21.5	14.5	9.1
	22.3	29	34	39.6	42.2	42.4	41.1	39.6	38.3	34.5	30.1	33.7

Source: Sindh Statistics 2022

2.4 Flora and Fauna

Flora refers to the plant life found in a particular region. It is the naturally occurring or the indigenous native plant life whereas Fauna is all of the animal life present in a particular region or time.

2.4.1 Flora

Common Flora of Sindh

Babul Tree

Water Lilies

Chiku Tree

Nim Tree

The vegetation is characteristic of edaphic conditions of the region viz. arid climate and sandy and calcareous soil, largely impregnated with salts. A notable feature is the predominance of plants and trees with small leaves and the large proportion of thorny species. The apparent contrast between the verdure of the riverine and irrigated tracts on the one hand, and the hilly and desert tracts on the other; is largely a matter of its intensity and distribution. The dwarf palm, Kher (Acacia ruprstris), and Lohirro (Techoma undulata) are typical of the western hill region as are Khip (Periploca aphylla) and Phog (Calligonum polygonides) of the eastern sandy desert. In the central valley, the Babul (Acacia nilotica) tree is the most dominant and grows in thick forests along the Indus banks. The Nim (Azadirachta inidica), Ber (Ziziphus vulagaris) or Jujuba, Lai (Tamarix orientalis), Kirrir (Capparis aphyla) and Kandi (Prosopis cineraria) are the more common trees. Mango, date palms, ba- nana, guava, orange and chiku are the typical fruit bearing trees. The coastal strips and the creeks abound in

[6] Government of Sindh n.d.

semiaquatic and aquatic plants, and inshore deltaic islands have mangrove forests of Timmar (Avicennia marina) and Chaunir (Ceriops tagal) trees. The Water lilies grow in abundance in the numerous lakes and ponds, particularly in the Lower Sindh[7].

2.4.2 Fauna

Among the wild animals, the Sareh (Sindh ibex), Urial or Gadh (wild sheep), and black bear are found in the western rocky range, where the leopard is now rare (www.sindhforests.gov.pk). The Pirrang (large tiger cat or fishing cat) of the eastern desert plains is also disappearing. Deer live in the lower rocky plains and in the eastern region, as do the Charakh (striped hyena), jackal, fox, porcupine, common gray mongoose, and hedgehog. The Sindhi phekari (red lynx or caracal cat) is encountered in some areas. Pharrho (hog deer) and wild boar occur particularly in the central inundation belt. There is a variety of bats, lizards, and reptiles, including the cobra, Lundi (viper), and the Peean, the mysterious Sindh krait of the Thar region, which is supposed to suck the victim's breath in his sleep. Crocodiles are rare and inhabit only the backwaters of the Indus and its eastern Nara channel. Besides a large variety of marine fish, Dolphin, the beaked dolphin, rorqual or blue whale, and a variety of skates frequent the seas along the Sindh coast. The Pallo (sable fish), though a marine fish, ascends the Indus annually from February to April to spawn and returns to the sea in September. The Bulhan (Indus dolphin) breeds in the Rohri-Sukkur section of the river"[8].

Sindh Ibex

Striped Hynea

Urial

2.5 History

The province of Sindh has its name driven from the Sanskrit word Sindhu which means ocean or a vast collection of water. When the Aryans arrived, they called the Indus River the Sindu and the area comprising of Pakistan, Kashmir, and east Afghanistan called it Sapta Sindhu or the land of seven rivers. The ancient Persians called it the Hindu River, and called the areas of Punjab and Sindh as Hindush. The Greeks changed it to Indos River, from which is derived the modern day name the Indus from which the word India is derived. Furthermore,

Mohenjo-daro

[7] www.sindhforests.gov.pk
[8] Government of Sindh n.d.

the Arabs referred to the river as Mehran and the land as Al-Sind. Over the years, however, the name Sindh was specifically applied to the lower Indus Basini.

2.5.1 Ancient History

The presence of flint tools at Rohri Hills in Sindh shows the presence of hunters and gatherers as early as the Stone Ages. From 100,000 to 10,000 years ago, the sea levels kept changing, causing Sindh to be submerged sporadically. Around 8,000 years ago, all of Sindh was re-exposed.

Around 3500 B.C., the Iranian people began to migrate into Sindh and settled in Amri which was a small town on the Indus near the Kirthar Range. The town of Kot Diji, near the Rohri Hills also flourished between 3200 to 2600 B.C. and was considered one of the most developed urban civilizations of the ancient world. Eventually, both towns were destroyed by fires.

Mohenjo-daro, meaning mound of the dead, known for its advanced drainage system, brick build- ings, public baths and use of standard weights and measures became one of the major cities of the Indus Valley Civilization. This civilization began to decline around 1700 BC.

2.5.2 Early History

Hindush (Sindh and Punjab) were conquered by the Persian Achaemenid Empire in the late 6th century BC. In 325 B.C., Alexander of Macedonia and his army fought the tribes of Sindh. Though the Greek control didn't last for long and Chandragupta Maurya began to conquer the Indian subcontinent. The Mauryans remained in Sindh for over a century. After the death of Ashoka, the third Mauryan king, the Mauryan rule deteriorated and Sindh was subjected to continuous foreign invasions.

The Indo-Greeks, Scythians, Kushans, Parthians, the Persian Sassanids and the Huns invaded and ruled Sindh for more than 600 years. Ashoka is credited for spreading Buddhism throughout his kingdom which also included Sindh. But it was under the Kushans (78-145 A.D.) that Buddhism became dominant in the region. Most of the known Buddhist stupas in Sindh, now in ruins, were constructed between 200 and 500 A.D. In the 13th century, Buddhism completely disappeared from Sindh.

2.5.3 Rai Dynasty and Chach

The Rai Dynasty, from 499 AD to 640 A.D., consisted of a total of four (4) Buddhist kings. In 640 A.D., a Hindu Brahmin by the name of Chach seized the throne and ruled independently of the Persian Sassanids. Chach was extremely unpopular with his people due to his discriminating policies where the tribes of Jats and Meds who resided in Sindh were not allowed to wear silk, satin, shoes or even turbans. They were forced to remain either woodcutters or caravan guides to entire lives. Chach's son Raja Dahir was the last ruler before the Arab invasion of Sindh. (Meyer 1908-1931) (Panhwar 1983).

2.5.4 Muhammad Bin Qasim

Muhammad Bin Qasim of Iraq, at the age of 17, entered the subcontinent via Balochistan in 711 A.D. to retaliate against Raja Dahir's refusal to recover the Arab ship looted by pirates. His army defeated Raja Dahir with the help of local Buddhist rulers, and the Jewish merchants of Debal and conquered all of Sindh and part of southern Punjab up till Multan. After Muhammad Bin Qasim was called back,

Sindh was managed by governors under the authority of the Umayyads and the Abasid Caliphs. (Meyer 1908-1931) (Panhwar 1983).

2.5.5 Al-Mansura

In the 9th century, the local governors rebelled and made up their own kingdoms in Sindh and Punjab. Kingdom of Al-Mansura was on area from the city of Multan to the Arabian Sea and nearly covers the present- day Sindh. In 1010 A.D., Mahmud Ghazni took Sindh under his dominion. (Meyer 1908-1931) (Panhwar 1983).

2.5.6 Local and Foreign Rule

The Sumras, a Rajput tribe, took lower Sindh from the Ghaznavids, while upper Sindh remained in the hands of the Ghaznavids. Over time, Upper Sindh was absorbed into the Delhi Sultanate. The Sumras were overthrown by Alauddin Khilji, the second king of the Khilji Dynasty that had established itself in Delhi. The Sammas, another Rajput tribe, established their rule in Sindh in 1333. The most famous of the Samma rulers was Jam Nizamuddin II who made Thatta his capital. In 1521, Shah Beg Arghun established his dynasty in Sindh after being driven out of Kandahar by Babar. He defeated the Sammas and established his rule. After the death of his son in 1554, the Turkhan Dynasty took control of Sindh. However, in 1592, Akbar seized Sindh and made it part of the Mughal Empire, where it remained for over a century. As Mughal authority began to deteriorate, a local tribe by the name of Daudputras established their rule over upper Sindh and founded the town of Shikarpur. In the late 1600s, another local tribe, the Kalhoras, also began to oppose Mughal authority. Finally in 1701 Aurangzeb gave them the title of 'Khuda Yar Khan' and a tract of land between the Indus and the Nara. In 1719, the Kalhoras took the Shikarpur area from the Daudputras and eventually ruled over the territories from Multan to Thatta. In 1739, Nadir Shah of Iran claimed all the Mughal provinces west of the Indus and upon his death they passed into the hands of the Durranis. The Kalhoras continued to rule in Sindh under the suzerainty of the Durranis. In 1783, the Talpurs established themselves after a long struggle with the Kalhoras.

2.6 Ethnicity and Tribes of Sindh

The Sindhis as a whole are composed of original descendants of an ancient population known as Sammaat, various sub-groups related to the Baloch origin are found in interior Sindh and to a lesser extent Sindhis of Pashtun origins. The various tribes of Sindh are given below:

Abro	Jiskani	Odh
Ahmedani	Junejo	Osmani
Alavi	Kachelo	Palh
Ansari	Kalhora	Palijo
Bachani	Kalmati	Panhwar
Bajaeen	Kalpar	Panjwani
Bayad	Kambarzahi	Paramara

Bhadala	Kamboh	Peechoho
Bhaiband	Kehar	Phulpoto
Bhangar	Ker	Pirzada
Bharwana	Khanzada	Qaimkhani
Bhel	Khaskheli	Qizilbash
Bhojani	Khokhar	Rajper
Bhurgari	Khosa	Rajput
Bhutto	Khudabadi	Ranghar
Bijarani	Khuhro	Raysipotra
Buledi	Kolhi	Rind
Bozdar	Kunbhar	Royma
Bulfati	Kutchi Memon	Sangi
Buriro	Lakhani	Sahito
Chakee	Langah	Samejo
Chandio	Lanjar	Samma
Channa	Larik	Sandhai
Channar	Lashari	Sanghar
Chhachhar	Machiyar	Sangrasi
Chhajra	Magsi	Sayyid
Dafer	Mahar	Shajra
Dano	Mahesar	Shambhani
Daudpota	Majoka	Shar
Deshwali	Malghani	Shoro
Dibla	Mallaah	Sial
Gabol	Manganiar	Siddi
Ghanghro	Mangrio	Sindhi Rajput
Gopang	Manjhi	Sindhi Shaikh
Goraho	Me	Sodha
Hajjam	Meghwal	Sirki
Hakro	Mehar	Solangi
Halaypotra	Meta Qureshi	Soomro
Hesbani	Mir	Sunar
Hingora	Mirali	Suthar
Hingorja	Mirani	Tagar
Indher	Mirbahar	Talpur

Ja'am	Mohana	Thaheem
Jadgal	Momin Ansari	Theba
Jakhrani	Momna	Unar
Jakhro	Mughal	Vagri
Jamra	Mutwa	Valasai
Janwari	Naich	Vazirani
Jatoi	Nizamani	Warya
Jats of Kutch	Node	Wassan
Jats of Sindh	Nohri	Zardari

2.7 Food

The daily food in most Sindhi households consists of wheat-based flat-bread (phulka) and rice accompanied by two dishes, one gravy and one dry.

Sai Bhaji

The Sindhi "Sai bhaji" is a famous curry. Sai bhaji chawal, a popular dish from Sindh consists of white steamed rice served with spinach curry which is given a 'tarka' with tomatoes, on- ions and garlic.

Sindhi Kari

Sindhi Kari is a unique and special dish prepared on festive occasions specially by Sindhis residing in India. It consists of a thick spicy gravy made from chick pea flour unlike buttermilk usually used for kadi preparation along with seasonal veg- etables. It is served hot with rice.

Pallo Machi

Pallo Machi is a popular Sindhi delicacy, is prepared with nu- merous cooking methods. It can be deep fried and garnished with local spices, can be cooked with onions and potatoes into a traditional fish meal or barbequed. The fish often has roe, which is called "aani" in Sindhi and is enjoyed as a deli- cacy. Often fried alongside the palla and served with the fish fillets.

Sindhi Biryani

Certain dishes are served on special occasions such as Diwali a Bahji (vegetable dish) called Chiti-Kuni is made with seven vegetables. Special dishes are also served after the recovery from the serious illness for example when someone makes a full recovery from Chicken Pox, it is common to make an offering and make "mitho lolo", a sweet griddle-roasted flatbread: the dough is wheat flour mixed with oil (or ghee) and sugar syrup flavored with ground cardamom. Koki is another popular Sindhi flat-bread that is prepared with wheat flour and goes well with any dal, sabzi or even curd or chai.

Seviyan (Vermicelli), typically served as a sweetened (sometimes milk-based) dessert, is popular: Muslim Sindhi serve it on Eid-ul Azha and Eid ul-Fitr. On special religious occasions, mitho lolo, a sweet flatbread, accompanied with milk, is given to the poor. mitho lolo is also served with chilled buttermilk called Matho on various occasions.

A special sweet dish called 'Kheer Kharkun' are prepared and served on Eid ul-Fitr. It is prepared by mixing dates and milk. The dish is eaten hot in winters and cold in summers. Taryal Patata, a staple of Sindhi diet, is a form of thinly sliced, pan fried potatoes with local spices. They are consumed in most rural households typically at dinner but can be served even for breakfast and lunch alongside other meals. One popular Sindhi way of having "patatas" is to eat it with plain white rice with daal.

Palli, is a saag or leafy green from the Chickpeas, and is enjoyed either cooked by itself like spinach or with fish cooked in the palli and called "Machi Palli". The saag has a unique flavor and is quite different from spinach or mustard saag and has a slightly sour and salty taste to it. It can take getting used to for the uninitiated.

2.8 Religion

According to Census-2023, the population of Muslims out of the total population in Sindh Province is 90.09%. In rural areas, the proportion of Muslims is 85.45% as compared to urban areas i.e. 94.06%. The largest community amongst the minorities is the Hindu which constitute 6.43% of the total population of Sindh Province

Shah Jahan Mosque in Thatta, Sindh

Sri Varun dev Temple, Manora Cantt, Karachi

Hindu Temple, Umer Kot, Sindh

2.9 Language

The most widely spoken language in Sindh Province is the Sindhi. Sindhi is the predominated language and 60.14% of the total province population reported Sindhi as their mother tongue. The language of the people of Sindh is greatly influenced by presence of Aryan in the region and became Indo-Aryan (Prakrit). Sindhi language is the combination of vocabulary from Sanskrit, Arabic and Persian, therefore, has a solid base. India, with. Initially, Sindhi had close contacts with Arabic- speaking Muslims.

Therefore, the language adopted many of the Arabic words. Sindhi language is an ancient language spoken in Pakistan and many other parts of the world. The other significant languages of Sindh commonly spoken are:

" Larri, in the place of Laru (Lower Sindh)
" Utradi, a kind of Sindhi Language known as dialect of Sindhi; spoken usually in Upper Sindh.
" Lasi, in Lasbelo a component of Kohistan in Balochistan province and the western area of Sindh.
" Vicholi, in Vicholo, situated in Central Sindh. Vicholi is the baseline of central Sindhi.
" Kachhi, in the Kutch area and in the place of Kathiawar located in Gujarat, Southern Sindh.
" Thari, also popular to be known as Dhatki in Tharu, the desert area on the southeast border of Sindh and a basic component of the Jaisalmer district in Rajasthan (Ali 2015).

2.10 Tradition and Custom

The roots of Sindhi culture and civilization go back to the distant past. Archaeological researches during 19th and 20th centuries showed the roots of social life, religion and culture of the people of the Sindh: their agricultural practices, traditional arts and crafts, customs and tradition and other parts of social life, going back to a ripe and mature Indus valley civilization of the third millennium B.C.

Sindhi culture is one of the oldest in the sub-continent. Sindhis celebrate Sindh Culture Day (Ekta Day) worldwide on the first Sunday of December by wearing Ajrak & Sindhi Topi on that day. Sindh has a very rich culture that is significantly known over the world. Hospitality, peace-loving attitude, strong cultural and social values etc, are some of the well-known features of Sindhi culture.

The Sindhi Topi (cap) is worn by people of Sindh and is an essential part of Sindhi culture. It is embrodered by hand in geometrical designs, ofen with small pieces of mirrors sewn into it. The cap is worn during important cultural, religious, and social events, such as festivals and weddings.

Sindh Cap

Ajrak is a unique form of block printed shawls, Sindhi Cap and Ajrak are essen- tial part of Sindhi culture. Ajrak is usually about 2.5 to 3 meters long, and its colours are rich crimson, or a deep indigo. The designs often feature geometric patterns, floral motifs, and symbolic representations of nature.

Ajrak

Sindhi poetry is also prominent in Sindhi culture. Poetry of Shah Abdul Latif Bhittai and Sachal Sarmast is very famous amongst all of Pakistan. Some of the other famous poets of Sindh are Shaikh Ayaz, Ustaad Bhukhari, and Ahmed Khan Madhoosh.

2.11 Dwelling

A large population of the province lives under shelters of brushwood and thatch consisting of mud or wattle walls with a hedge around it. Most buildings are built of burnt bricks. These houses are of medium

height, and have flat roofs which generally possess windscoops (Mangh). Manghu are triangluar structure, almost like chimneys are on top of the homes and are used to funnel cool breezes in. These wind catchers or Manghu, as they are called in the local Sindhi language are fixed on housetops to catch the southwesterly breeze in the hot summer days and evenings. The breeze entering the wind-catchers spreads into the room and keeps it cool (Inside Flows n.d.). Each manghu serves one room, in the case of single story house, but one manghu is also used for two or three rooms in the case of typical multistory house. The houses of Thari people, called Chaunra are built on circular mud platform on which the branches of trees are fixed in a conical shape. The house of the *Zamindar* is built of sun-dried bricks with a flat roof. It consists of a living room with two side rooms. The newer dwellings are generally made of Girder/ T. Iron and of reinforced concrete/ bricks with cement bonding (RCC).

In Karachi, the architecture of houses was traditionally Bombay-styled facades which is red tiled houses with deep wide verandas enclosed by latticed wooden screens. Karachi also has multistory apartments to accommodate the growing population.

2.12 Betrothal and Marriage

In Sindh province, the bethrotal ceremony is known manja or wanwah, where the women from the bridegroom's family go to the house of the bride a few days before marriage and make the bride (wana-wah) to sit in seclusion. The bride is fed churo, an unleavened cake of wheat-flour made into dough with clarified butter and mixed with brown sugar. The bride's hands and feet are decorated with Henna, the lips are dyed with Musag (walnut bark), and the eyes are blackened with Kajal. In the cities, however, the marriage ceremonies are celebrated in marriage halls, whereas in rural areas the ceremony takes place at the bride's house.

In marriage ceremonies of Hindus, particularly Lohanas, the proposal for marriage must come from the young lady, and not from the swain. A lucky day is ascertained, for which the months of Sawan and Bhadu are propitious, while Asu is not.

In the Parsi community, the bridegroom's father put ear-rings on the bride. The bride and bridegroom are then taken on a prepared dias. The marriage ceremony is short and simply performed by two priests (Mobed), one each from bride's and bridegroom's party. They recite the prayers in old Avastic language, and close by blessing the couple. The bride and bridegroom then go to the fire temple where a sacramental fire is kept burning day and night. They say a short prayer and offer sandal wood to the fire.

2.13 Music and Dance

Music from Sindh province is sung in Sindhi, and is generally performed in either the *"Baits"* or *"Waee"* styles. The Baits style is vocal music in *Sanhoon* (low voice) or *Graham* (high voice). *Waee* instrumental music is performed in a variety of ways using a string instrument. Sufi music is performed at shrines, and other conventional music is performed at studios and gatherings. Some of Sindh's indigenous instruments include *Borrindo, Nafeel, Chang, Nadd or Narr, Sharnai, Bansri, Murli, Surando, Dambooro, Yaktaro, Gharro (Dilo), Alghozo, Banjo and Pava or Beenoon* (Soomro 2012).

2.14 Places of Interest

Few of the famous historical places of interest are given below:

Mohenjo-daro, believed to be one of the earliest civilizations of the world, is located west of the Indus River in Larkana District, Sindh. It is known for its advanced drainage system, public baths, and use of standard weights and measures.

Ranikot Fort also known as the "Great Wall of Sindh", is one of the largest forts in the world with a circumference of approximately 32 kilometers.

Shah Abdul Latif Bhittai Shrine: Surrounded by local bazaars, constantly buzzing with sufi kalaam and devotion, Shah Abdul Latif Bhittai's shrine is one of its kind. It remains a major pilgrimage site, attracting thousands of devotees and visitors from all over the world. The serene atmosphere and spiritual energy of the shrine make it a place of deep reflection and connection.

Faiz Mahal: Faiz Mahal built in 1798, this beautiful palace complex was supposed to serve as the primary court of Talpur monarchs of the region. After the unification of West Pakistan into One Unit during 1955, the Talpur state was abolished and the place now serves as the home of the last, "symbolic" Talpur rulers.

Maizar-e-Quaid in Karachi serves as the last resting place of the Founder of Pakistan Mr. Muhammad Ali Jinnah. The mausoleum is an iconic symbol of Pakistan's independence and stands as a tribute to Jinnah's leadership and vision. With its striking white marble architecture, it attracts countless visitors who pay homage to the nation's founding father.

Jain Temples in Nagarparkar, located in the Thar Desert of Sindh, are ancient religious sites showcasing beautiful craftsmanship. These temples, dating back to the 14th century, are renowned for their intricate stone carvings and unique architecture. They stand as a testament to the rich cultural and religious history of the Jain community in the region.

Makli Necropolis in Thatta is one of the largest and most significant burial sites in the world, spanning over 10 kilometers. It is a UNESCO World Heritage site, containing tombs and graves of important historical figures, including Sufi saints, kings, and scholars. The necropolis is famous for its remarkable architectural style, showcasing intricate tile work and designs from the 14th to 18th centuries.

The shrine of Lal Shahbaz Qalandar, located in Sehwan Sharif, is one of the most revered Sufi shrines in Pakistan. Known for its spiritual significance, it attracts thousands of devotees seeking blessings and peace. The shrine is famous for its vibrant atmosphere, where Sufi music, such as the "dhamaal," fills the air during spiritual gatherings. Lal Shahbaz Qalandar's message of love, tolerance, and unity continues to inspire people from all walks of life.

2.15 Administration

Sindh Province is divided into six (6) divisions, each headed by a Commissioner. The division is further divided into 30 districts, headed by Deputy Commissioners. The district is divided into sub-divisions each headed by Assistant Commissioners.

Generally, one sub-division comprises of one Taluka, however, in some cases, one sub-division com- prises two or more Talukas. Taluka is divided into Supervisory Tapedar circle (STC) which is further divided into Tapedar circles (TCs). Tapedar Circles comprises of Dehs (revenue estates). All these tiers are controlled by respective Revenue officials.

The Deputy Commissioners in the district serve as a focal point for administrative purposes who are supposed to coordinate, and regulate the performance of different government departments at district level. The following table 2.2 gives details on the breakdown of Sindh province into various administrative units:

Table 2.2: Administrative Units of Sindh Province

Divisions	District	Tehsil/ Taluka	QH/ STC	PC/ TC/ UC	Mauza / Deh/ Village	Metro Corp.	DM. Corp	Municipal Corp Committee	TC	Cantt	Total Urban Areas
6	30	138	272	1,455	5,690	0	3	737	147	8	202*

Source: Pakistan Bureau of Statistics Census-2023

** Including 31 sub divisions of Karachi Districts & 6 DMCs of Karachi Division constitute Karachi Metropolitan Corporation*

2.16 Executive Branch

2.16.1 Provincial Government

The Government of Sindh is a provincial government in the federal structure of Pakistan. It is based in Karachi, the capital of Sindh Province. The Governor of Sindh is the nominal head of the province. This position is largely ceremonial as all the powers are vested in the Chief Minister.

The Chief Minister (CM) is elected by the Provincial Assembly of the Sindh to serve as head of the Provincial Government. All the Provincial Departments are headed by the Provincial Ministers (elected member of the provincial assembly). All Ministers report to the CM, who is the Chief Executive and all Secretaries report to Chief Secretary Punjab, who is appointed by the Prime Minister of Pakistan.

2.17 Judiciary

After the 18th Constitutional in the Constitution of Pakistan 1973, a Judge of High Court is appointed according to the Article 175(A). According to the Article 175(A), a Judicial Commission, chaired by the Honorable Chief Justice of Pakistan recommends the names of eligible persons to be appointed as Judges of the High Court. The nominations are forwarded to the parliamentary Committee.

The Parliamentary Committee confirms the nominee by majority within fourteen (14) days otherwise the nominees shall be deemed to have been confirmed. The confirmed names are forwarded to the Prime Minister who forwards the same to the President of Pakistan for appointment. No person is appointed as a Judge of the High Court unless he/she is a citizen of Pakistan having age of forty years and has been an advocate of the High Court or has held a judicial office for ten years and has for a period of not less than three years served as or exercised the functions of a District Judge in Pakistan. A Judge of a High Court holds office until he attains the age of sixty-two years, or he/she sooner resigns or is removed from office in accordance with the Constitution.

The Chief Justice of Sindh High Court is the head of all judicial set up in Sindh, with Karachi as its headquarters. Chief Justice is assisted by a panel of Judges of High Court. The District and Session Judges assist the head at district level. The District and Session Judges are assisted by Additional Session Judges, Senior Civil Judges and First and Second-Class Magistrates.

2.18 Police

The Inspector General of Police, is the Incharge of Police Administration. He/She is assisted by Deputy Inspector General (DIG) at the divisional level. At the district level the post is vested upon Senior Superintendent of Police (SSP) or Superintendent of Police (SP) as the case may be, depending upon the size, condition, and posts in the districts. The SP is assisted by DSPs and Inspectors etc. The Police Department is supposed to maintain law and order in the province. The para military forces such as Rangers are also deployed for help wherever required. The total number of Police Stations in Sindh are 5069.

2.19 Administrative Changes

Province is divided into Divisions, Division into Districts, Districts into Talukas, Taluka into Qanungo Halqas to Patwar Circles to Dehs/Villages. There is no change occur in the district boundaries between the two Census 2017-2023, therefore the changes in district boundaries between the two Census 1998 to 2017 are shown in Table 2.3.

[9] Provincial Inspector General police, 2023

Table 2.3: Changes in the Administrative Units of Sindh Province after Census-2017-2023

S.No.	Name Of Area	Localities Added To (+) / Taken Out (-) Description As In 2023 Census Report * Admn. Unit Created Or ** Reconstituted After 2017 Census				2017 Census Figures		2017 Adjusted Figures as in 2023	
						Area	Population	Area	Population
1	2	3				4	5	6	7
1	**Karachi West District**					929	3907065	370	2077228
		**	(-)	(i)	Mauripur sub-division	450	192565	450	192565
		**	(-)	(ii)	Site sub-division	25	403574	25	403574
		**	(-)	(iii)	Baldia sub-division	34	832583	34	832583
		**	(-)	(iv)	# Harbour sub-division	50	401115	50	401115
2	**Keamari District**	*			formed of areas mentioned at sl.no.1(i) to (iv)			559	1829837

#Harbour sub-division re-name as keamari sub-division in census-2023

2.20 Economy

Sindh is the second largest province of Pakistan by population-wise having 23% of Pakistan's population. It has the highest concentration of urban population at 53.97% making it the most urbanized province in the country. It plays a significant role in the economic development of the country. Karachi, the largest port city is the financial hub which generates substantial revenues. Sindh has 22% of country's textile units, 44% of its sugar mills, 19% of pulp & paper mills, and 37% of edible oil processed locally. It accounts for 44% of total industrial capacity in large scale manufacturing and also comprises of a well- developed agricultural base supported by an effective irrigation network on the Indus10.

Around 14% wheat, 27% rice, 18% sugarcane, 32% cotton and 8% vegetable crops grown in Pakistan are from Sindh11. Besides agriculture, Sindh has the seventh largest coal reserves (Thar coalfield) in the world and has the potential to fulfill the power generation demands of the country.

2.21 Agriculture

Agriculture is the basis of the economy of Sindh Province. The agricultural industry is critical to the country's economic growth, food security, job creation and poverty reduction, especially in rural areas. It contributes 19.2 percent to GDP and employs approximately 38.5 percent of the workforce. Agriculture provides a living for more than 65-70 percent of the people. Reduced arable land, climate change, water scarcity, and a large-scale population and labor movement from rural to urban areas have all slowed agricultural growth. Sindh's agricultural productivity increased substantially after 1961 because of advancement in agriculture research and the use of (in organize) fertilizers. There are about six (6) research institutions in Sindh working on Agriculture as under:

[10] **(CMI 2015-16) Pakistan Bureau of Statistics**
[11] (Social Statistics 2022-23).

- Agriculture Research Institute, Tandojam (conducts research on various field crops)
- Sindh Horticulture Research Institute, MirpurKhas (conducts research on fruit and vegetable crops)
- Rice Research Institute, Dokri (conducts research on rice and pulses crops)
- Wheat Research Institute, Sakrand (conducts research on wheat crop)
- Quaid-e-Awam Agriculture Research Institute, Larkana (conducts research on crops grown on residual moisture of rice i.e. dubari crops)
- Foundation Seed Cell (produces BNS, Pre-basic and Basic seed of wheat, rice and cotton crops)

2.21.1 Crop Zone

According to the climatic and soil condition of the Sindh province, different areas are suitable for different crops e.g., lower part of the province is best for sugarcane, coconut, banana and papaya plantation. The plains of middle Sindh are suitable for growing of dry crops. Upper Sindh and right bank areas of the Indus River are suitable for growing crop. In Sindh province, the production of items during the year 2020-21 the Cotton production is 1,861.78 '000' Bales, Rice production was 1,861.78 '000' M.tons, Sugarcane production was 18,335.53 '000' M.tons, Jowar production in 2020-21 was 9.8 '000' M.tons and Dates production is 219,925 M.tons

The cultivated area is 5,040 Hectares and un-cultivated area of land in Sindh is 9,050 Hectares (reported by Provincial Crop Reporting Services (CRS). The Table 2.4 below gives the land utilization statistics of Sindh Province for the year 2022.

Table 2.4: Land Utilization Statistics of Sindh Province: 2022-23

Sr. No.	Sindh Province	(Area in '000' Hectares)
1.	Geographical Area	**14,091**
2.	Total Reported Area	**14,091**
3.	Cultivated Area	**5,040**
	Current Fallows	**2,370**
	Net Area Sown	**2,670**
4.	Cropped Area	**3,660**
	Area Sown More than Once	**990**
	Net Area Sown	**2,670**
5.	Un-Cultivated Area	**9,050**
	Forest Area	**1,040**
	Cultivable Waste	**1,610**
	Not available for Cultivation	**6,400**

Source: Provincial Crop Reporting Services (CRS) – 2022-23

Rabi and Kharif Crops

Pakistan has two cropping seasons. “Rabi”, being the second season, sowing benefits from October to December and is harvested from April to May. It comprises mainly of Wheat, Gram, Lentils(Masoor), Tobacco, Rapeseed, Barley and Mustard.“kharif”, the first sowing season, which starts from April. This season crop cycle mainly consists of Rice, Sugarcane, Cotton, Maize, Moong, Mash, Bajra and Jowar. The following table shows the Kahrif and Rabi crops.

Table 2.5: Production of Rabi and Kharif Crops in Sindh Province: 2022-23

Crops	Production in 00 Tons		
	Total	Irrigated	Un-Irrigated
Rabi Crops			
Wheat	39,402	38,901	501
Barley	32	32	-
R Seed &Mustard	615	615	-
Cumin Seed	-	-	-
Gram	204	204	-
Matter Pulse	96	96	-
Masoor	3	3	-
Vegetables	3,039	3,039	-
Fodder	28,827	28,827	-
Canola	66	66	-
Sunflower	362	362	-
Kharif Crops	**Total**	**Irrigated**	**Un-Irrigated**
Jowar	75	75	-
Bajra	45	45	-
Maize	31	31	-
Sesamum	26	26	-
Casterseed	13	13	-
Mong	54	54	-
Mash	0.12	0.12	-
Moth	121	121	-
Fruits	9,376	9,376	-
Onion	64,684	64,684	-
Potato	33	33	-
Vegetables	485	485	-
Melons	407	407	-
Chillies	818	818	-
Fodder	5,363	5,363	-
Corriander	21	21	-
Garlic	43	43	-
Guarseed	709	709	-
Tobacco	0.07	0.07	-
Sugarcane	161,717	161,717	-
Cotton*	15,863	15,863	-

**Cotton production in "00" bales.*

2.21.2 Major Crop

The area, production and yield of major crops in Sindh are given below in Table 2.6:

Table 2.6: Major Crops of Sindh Province: 2020-21

Sr. No.	Crops	Area (In Hectares)	Production (In Million Tonnes)
1.	Wheat	1,202,475	**4,043,166**
2.	Rice	708,983	**2,416,068**
3.	Maize	4,159	**4,215**
4.	Sugarcane	279,694	**18,335,533**
5.	**Cotton**	**474,818**	**1,861,785**

Source: Sindh Statistics - 2022

2.21.3 Horticulture

The major fruits and vegetables of Sindh are Mango, Banana and Dates (Table 2.7).

Table 2.7: Major Fruits Grown in Sindh Province: 2021-22

Sr. No.	Crops	Area (in '000' Hectares)	Production (in '000' Tonnes)
1.	Mango	59,152	**386,973**
2.	Banana	31,738	**123,263**
3.	**Dates**	**40,313**	**219,925**

2.22 Livestock

Livestock production is an important part of the economy of Pakistan, as it provides high quality food for the human population. Livestock includes Cattle, Buffaloes, Sheep, Goats, Poultry, Camels, Horses, Mules and Asses. Sindh had total 9,655,470 vaccinated, 2,762,251 Treated and 270,339 Castrated livestock in 2019-20 while in 2020-21vaccinated livestock increased by 63.6% i.e 6,141,680 and reported as 15,797,150. Although there is a increasing trend in Treated and Castrated by 9.78% and 0.89% respectively and reported as 3,648,002 Treated and 302,936 Castrated12. The table 2.8 given below total production of livestock in Sindh province'

[12] (Sindh Statistics 2022).

Table 2.8: Total Production of Livestock in Sindh Province: 2022-23

S.No	Items	2022-23
1	**Milk**	**('000' MT)**
	Cow	5893
	buffaloes	10923
	Sheep	6
	Goat	244
	Camel	289
	Total	**17355**
2	**Meat**	**(000 Tons)**
	Beef	638
	Mutton	165
	Poultry Meat	579
	Total	**1382**
3	**Edible Offals**	**(000 Tons)**
	Total	**108**

Source: Ministry of National Food Security and Research, LiveStock Wing Islamabad 2022-23.

2.23 Fisheries

The total fish production of Sindh during the year 2020 was 302,252 M.tons while it is increased in 2021 by 41,567 metric tons and reported as 344,900 metric tons. Marine fish production reported as 208,322 metric tons in 2020 which is increased by 21,992 metric tons in 2021 and reported as 230,314 metric tons. Inland fishing increased less as compare to marine fishing as Inland fishing production reported as 114,586 metric tons in 2021 and showed 20,656 metric tons increase in production in 2021 while it was reported as 93,930 metric tons in 2020. The following table 2.9 shows the variety wise marine fish production in Sindh.

Table 2.9: Total Production of Fisheries in Sindh Province: 2021

S. No.	Local Names	(In Metric Tons) Production 2021
	TOTAL	230,314
1	Aal (Queen Fish)	8,164
2	Asp Mahi (Sail Fish)	1,999
3	Bako (Seads)	2,425
4	Bhambor (Silver Whiting)	484
5	Dhant (King Soldierbream)	85
6	Dother (Grunts)	1,874
7	Gisser (Small Groupers)	6,181
8	Hira (Snappers)	1,356
9	Kakkar/bangra (Trevalles)	2,212
10	Kikat (Lobesters)	523
11	Kund (Barracudes)	2,202
12	Mangra (Sharks)	2,196
13	Mullets Bol (Bol)	6,736
14	Palla (Shads)	1,112
15	Pitton (Rays)	5,202
16	Poplet (Black)	2,123
17	Poplet (White Pomferts)	1,899
18	Rawas (Thread Sin)	1,799
19	Sangro (Cobia)	1,465
20	Singhara/khagga (Cat Fish)	1,345
21	Sole (Flat Fish)	1,896
22	Sua Mushka (Croakers)	8,602
23	Surmai (Large & Small) Surmai	2,175
24	Tarli (Sardinella)	15,402
25	Zahric (Guitar Fishes)	533
26	Others	150,324

Source: Sindh Statistics 2022

2.24 Industry and Trade

2.24.1 Industry

i. Mines and Minerals

Different district in Sindh specialize in the production of specific minerals. Tharparkar, Jamshoro and Thatta are notable for their rich coal reservers. Dadu district is known for producing clay, gravel, lake salt and limestone. In contrast, Hyderabad district has limited mineral production, yielding only small quantities of limestone and fuller's earth. Beside coal, Jamshoro districts primary minerals include limestone, marble and raiti/bajri. Kharipur district is the major producer of limestone and is the largest producer of fuller's earth in Sindh.

In Karachi, various minerals are produced with limestone being the most abundant. Karachi is also the second-largest producer of gravel in Sindh, following Thatta district. Sukkur district has limited minerals reserve, producing gravel, limestone and ordinary sand. Sanghar district producing only lake salt. Tharparkar district is renowned for coal extraction and lake salt, with china clay and granite as additional specialities. Thatta district stands out for having the highest number of minerals productions in Sindh, offering the diverse range of landscapes. It produces clay, coal, gravel, lake salt, laterite, limestone, marble, mouram, ordinary sand and raiti/bajri.

Table 2.10: Minerals Production in Sindh Province: 2022-23

S.No	Minerals	Production in Tons
1	Coal	11,013,904
2	Limestone	6,815,542
3	Marble	1,646
4	Shale Clay	531,717

Source: Directorate of Mine & Minerals, Sindh

2.24.2 Trade

Karachi is the financial and commercial capital of Pakistan, contributing significantly to the country's revenue collection. It hosts the headquarters of major banks, financial institutions, and business houses. The Karachi Stock Exchange is the largest and most liquid exchange in Pakistan.

The city boasts some of the largest and most dynamic industrial complexes in the country, including Sindh Industrial & Trading Estate (SITE), Korangi Industrial & Trading Estate, FB Area, North Karachi Industrial & Trading Estate, Dhabeji, and Port Qasim. SITE Manghopir is the largest industrial park in the country. Key business hubs in Karachi include I.I. Chundrigar road, Sharah-e-Faisal, Clifton and Defense.

Karachi's industries produce a wide variety of goods, from textiles to chemicals, steel and machinery. The city also manufactures cement, ships, refined oil, shoes and food. Major automobile manufacturers such as Toyota, Suzuki, Millat Tractors, Adam Motors and Hino Pak have plants in Karachi. The city is also home of numerous cottage industries and several important television and radio channels.

Karachi is a major sea transport center, housing the country's two main ports: Karachi Port and Port Mohammad Bin Qasim. The city is a crucial hub for the fishery business in Pakistan, with major fish harbors including Karachi Fish Harbor and Korangi Fish Harbor, providing livelihoods to many people involved in the fishery industry.

2.25 Communication

Sindh is linked to the rest of the world and Pakistan through airports, railways, and roads network. Jinnah International Airport is the largest international and domestic airport of Pakistan.

Sindh is known as home to Pakistan's seaports. Karachi Port and Port Qasim are situated in Sindh province. Karachi Port lies on a strategic point along the 966 km long coastline which stretches from the straits of Hormuz to the bor- der with India. It has an ideal location and well-developed connections with Afghanistan, Central Asia and Western China. Karachi port is facilitating around 1600 ships annually while there is enough capacity to handle more cargo as the current occupancy is around 45% only.

The other port of Pakistan, Port Qasim is also located in Karachi. The Port is situated in Indus delta region and south-east of Karachi. The port currently caters for more than 40% of seaborne trade requirements of the country. The Qasim port provid es shore-based facilities and services to international shipping lines and other concerned agencies in the form of adequate water depth in the channel, berths/terminals, cargo handling equip- ment, storage areas and providing facilities for safe day and night transit of vessels. Day and night access to Port is through a 45 km long channel marked by channel buoys up to 11 meter draught vessels13.

Port Qasim, Karachi

Sindh is also linked to the rest of the country through the rail network. The Freight Business Unit of the Pakistan Railways serves the Port of Karachi and Port Qasim as well as in various other stations along the network and generates revenue from the movement of agricultural, industrial and imported products such as wheat, coal, fertilizer, cement and sugar.

2.26 Health

Health makes a vital and foremost contribution to economic growth, as healthy Populations live longer and are more vibrant and productive. Efficient public health systems are crucial for providing care for the sick, and for instituting procedures that endorse wellness, and prevents diseases. Poor health contributes to poverty due to the catastrophic costs of illness, as it diminishes learning capacity during childhood and earning ability during adulthood. Therefore, health holds a key position towards prosperity, through reduction of poverty which ultimately contributes to national economic growth.

2.26.1 Healthcare Delivery System of Sindh

i. Primary Healthcare

This is the first level of health care considered to be essential to maintain adequate health and protection from disease. Typically, each union council as a Basic Health Unit (BHU)

[13] Port Qasim Authority 2009-12

which has 2 beds but in some cases there are 2 facilities per union council and serves a catchment population of about 10,000 to 25,000.

BHUs are almost all over the place in rural areas, they have limited usefulness for patients seeking slightly advanced but not specialized care. To serve such patients, the health system has established a tier of facilities known as RHCs. The RHCs are better equipped than BHUs to manage minor emergencies and surgeries. Typically, the RHC has 15-20 beds inpatient facility and each serve a catchment population of about 100,000. This is envisaged as a health facility that is open 24/7.There are a total of 128 RHCs, 793 BHUs, 1158 Dispensaries, 121 Mother and Child Health Centers (MCHs) in Sindh province (Sindh Statistics 2022).

ii. Secondary Healthcare

This is an intermediate level of healthcare that is concerned with the provision of technical, therapeutic and diagnostic services. It is the first referral level serving at the district and taluka levels. Specialist consultation and hospital admissions fall into this category.

Taluka Head Quarters (THQs) serve a catchment population of about 0.5-1 million, providing a range of preventive, clinical and rehabilitated services. Presently tehsil headquarters have 40-60 beds inpatient facility and arrange of outpatient services.

District Head Quarters (DHQs) cover a catchment population of 1-3 million, having 125-250 beds capacity. The DHQs provides promotive, preventive, curative, advanced diagnostics and inpatient specialized services. There are a total of 91 Specialized and Taluka Hospital 262 T.B clinics in Sindh Province.

iii. Tertiary Healthcare

The Tertiary Healthcare hospitals are more specialized for in-patient care. These hospitals provide specialized healthcare services usually to indoor patients and on referrals from primary or secondary health professionals. There are 8 tertiary healthcare facilities in Sindh Province.

Table 2.11: Government Departmental, Private and Local Bodies Hospitals with Bed Capacity in Sindh Province: 2015 To 2016

Sr. No.	Health Facility	Number
1.	Teaching Hospital	8
2.	Specialize and Taluka Hospital	91
3.	Dispensaries	1158
4.	R.H Centre	128
5.	T.B Clinic	262
6.	B.H.U	793
7.	M.C.H.C	121

Source: Sindh Statistics - 2022

2.27 Education

Education is not only a key driver of economic growth because of its varied linkages with employability, productivity, environment, health, and human resource development. It is also a globally recognized human right. Poverty now a day is measured more comprehensively using the Multidimensional Poverty Index (MPI). Equitable and fast development of education has striking impacts at poverty reduction.

Education lays the foundation of a developed and progressive society. It empowers individuals and societies to improve their skills, capabilities, and has a strong correlation with socio-economic development. In this regard, the development of a widely accessible quality and equitable education system is a critical requirement for human development. Article 25-A of the Constitution clearly reinforces the government's responsibility towards ensuring provision of education as a basic right.

A National Framework has been devised for localization of Sustainable Development Goals (SDGs) at district level to improve public social service delivery for implementation of the global agenda. Goal 4 of SDGs covers the education related framework to improve the education system; Federal Government has decided to enhance working relationship with the provinces by providing all possible support to ensure successful implementation of all SDGs including those related to education. During Financial Years 2022-23, Sindh government has allocated Rs. 296.85 billion as compared to Rs. 234.75 billion last year's 2021-22. Pre-Primary and Primary Education affairs and services accounts for 94,649.832 Million, Secondary education affair and services accounts for 97,208.179 while Tertiary Education affair and services have budget estimates of 58,736.929 [14].

2.27.1 Education Profile of Sindh

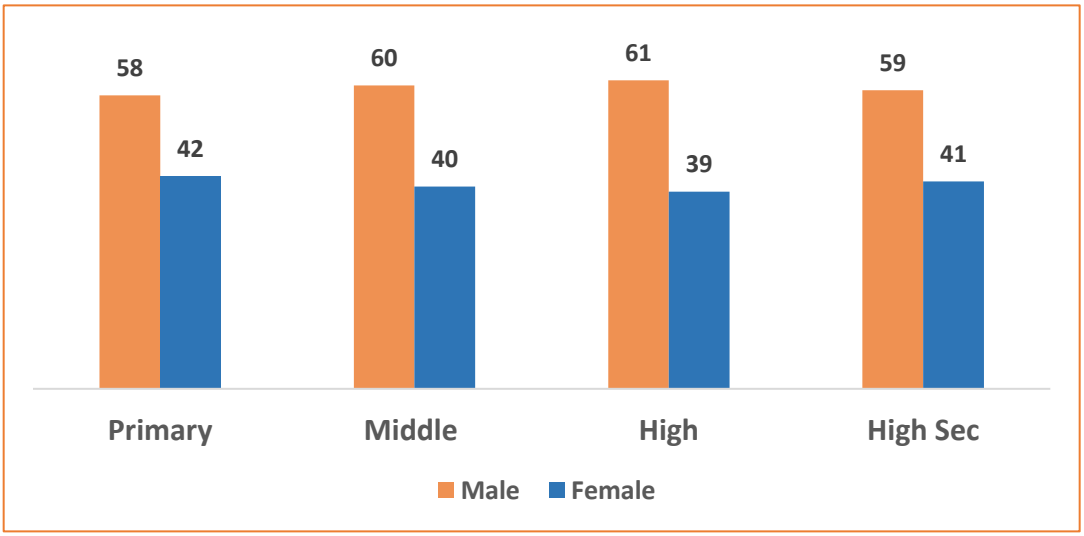
The figures below given the snapshot of the teachers, students and student teacher ratio for Sindh Province in 2022-23[15].

a) Number of Teachers by Gender on Education Levels: 2022-23

Data Source: Pakistan Education Statistics 2022-23 by Pakistan Institute of Education)

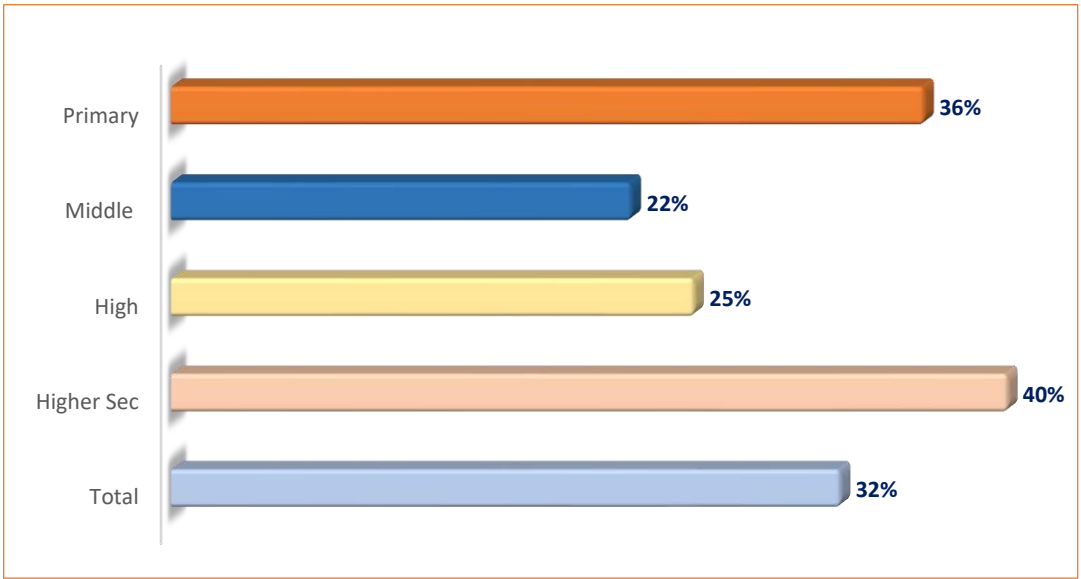
[14] (Finance Department Govt. of Sindh, Budget Estimates 2022-23).
[15] (Pakistan Education Statistics 2022-23 by Pakistan Institute of Education).

b) Enrollment of Students by Gender: 2022-23



Data Source: Pakistan Education Statistics 2022-23 by Pakistan Institute of Education)

c) Student Teacher Ratio



Data Source: Pakistan Education Statistics 2022-23 by Pakistan Institute of Education)

Table 2.12: Level Wise Educational Institutions in Sindh Province 2022

Level of Education	No. of Institutions
Primary	44,569
Middle	2,781
Secondary/ Higher Secondary	2,096

Source: Sindh Statistics 2022

a) College Education Statistics

Table 2.13 below gives the college education statistics of Sindh.

Table 2.13: Non-Professional, Professional and Technical Institutions in Sindh Province

Institutions	2020-21		
	Total	Male	Female
Non-Professional Colleges	317	186	131
Intermediate	18	9	9
Degree	287	169	118
Post Graduate	12	8	4
Professional Colleges/ Institutions	90	79	11
Medical	7	7	-
Homeopathic	14	13	1
Tibbia	4	4	-
Engineering and Technology	2	2	-
Law	14	14	-
Home Economics	2	-	2
Physical Education	2	2	-
Commerce*	2	2	-
Teacher's Training (Below Degree Level)	40	32	8
Teacher's Training (Degree Level)	3	3	-
Technical Institutions (Govt)	247	143	104
Technical Colleges/ Polytechnic/			
Monotechnic Institutions	74	66	8
Commercial Training Institute	40	40	-
Vocational Institutions/ Centres & Schools	133	37	96

** Excluding private sector Source: Sindh Statistics, 2022*

PART - III

DEMOGRAPHIC CHARACTERISTICS

7th Population & Housing Census 2023

"FIRST EVER DIGITAL CENSUS"

SINDH

TOTAL POPULATION

55.69 MILLION

URBAN 53.97%

RURAL 46.03%

MALE 52.09%

FEMALE 47.90%

MARRIED 66.38%

NEVER MARRIED 29.59%

AVERAGE ANNUAL GROWTH RATE (%)

2.57%

AVERAGE HOUSEHOLD SIZE

5.65

MOTHER TONGUE

URDU 22.30%	PUNJABI 4.07%
PUSHTO 5.31%	SINDHI 60.14%
BALOCHI 2.17%	SARAIKI 1.64%

POPULATION WITH AGE GROUPS

UNDER 5 15.69%	05 - 16 30.36%	15 - 29 25.66%
BELOW 18 48.01%	BELOW 40 79.78%	65 & ABOVE 3.06%

LITERACY 58%

64%

50%

OUT OF SCHOOL 5-16 YEAR

7.82 MILLION (46.29%)

42%

51%

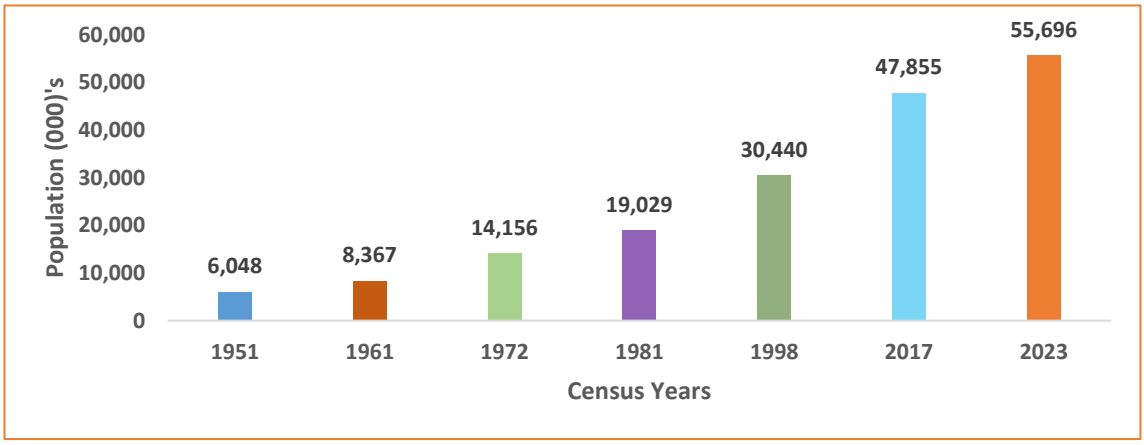
DEMOGRAPHIC CHARACTERISTICS

3.1 Population Size, Growth and its Distribution

3.1.1 Population Size and its Growth

The population of Sindh Province according to the Census-2023 has been recorded as 55.696 million showing an increase of 7.84 million (16.38%) since last Census-2017. Figure 3.1 illustrates that the population of the province has increased from 6.04 million in 1951 to 55.696 million in Census-2023, showing an increase of about 49.6 million in the past six decades. It is evident from Figure 3.1 that Sindh's population shows a steep rise in numbers since the year 1981 due to high growth rates experienced in the past with high population momentum and migration. Sindh, being the second largest province population-wise, greatly affects the size and growth of Pakistan's total population and its projected change in the future.

Figure 3.1: Population Size Since Census-1951



Looking at the trends in population growth since the first census of 1951, Table 3.1 shows that the intercensal increase has been the highest at 69.19% during 1961-72 followed by 59.97% during 1981-1998, and 57.21% during the 1998-2017 period and 16.39% during the 2017-2023 lowest in all years as time period between 2017 and 2023 is only six years. This means that province has been experiencing a rapid increase in population during the last 3-4 decades showing an overall cumulative increase in population of 820.92% since 1951.

Table 3.1: Population and Intercensal Increase Since Census-1951

Description	1951	1961	1972	1981	1998	2017	2023
Population (in 000's)	6,048	8,367	14,156	19,029	30,440	47,855	55,696
Intercensal Increase (%)	--	38.35	69.19	34.42	59.97	57.21	16.39
Cumulative Increase (%) Intercensal Average	--	38.35	134.07	214.64	403.33	691.25	820.92
Annual Growth Rate (%)	--	3.3	4.63	3.56	2.8	2.41	2.57

The average annual growth rate during the intercensal period of 2017 to 2023 has been observed as 2.57% compared to 2.41% during 1998-2017 censuses. The highest intercensal growth rate in Sindh Province is observed during 1961-1972 i.e. 4.63% which has gradually declined since 2017 and slightly increase with 2.57%. Figures 3.2 and 3.3 portray the average annual intercensal growth rates and average per year increase since Census-1951, respectively.

Figure 3.3: Average Annual Growth Rate Since Census-1951

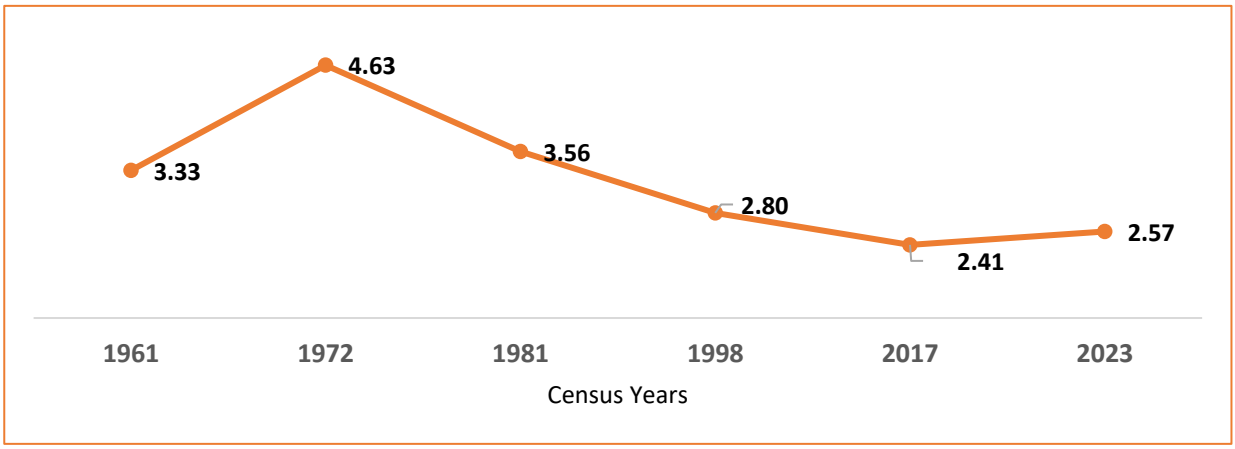
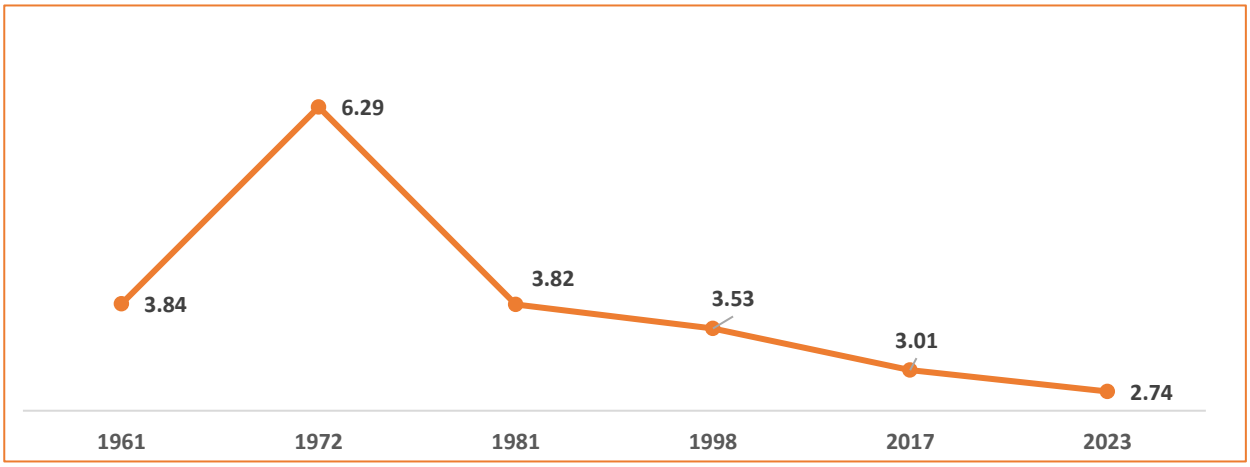


Figure 3.2: Average Per Year Increase



3.1.2 Population Distribution by Administrative Units

Sindh Province is comprised of six (6) Administrative divisions namely Larkana, Karachi, Sukkur, Shaheed Benazirabad, Mirpur Khas and Hyderabad. According to the Census-2023, Karachi Division has the largest share in the province's population constituting at 36.60% as compared to 33.49% in 2017. The percentage share of other Divisions of the Sindh province in descending order are as follows: Hyderabad 20.93%, Larkana 12.74. %, Sukkur 10.79%, Shaheed Benazirabad 10.65%, and Mirpur Khas 8.29% (Table 3.2).

Compared to the Census-2017, Karachi's population share has increased by 3.11% points and decrease in Hyderabad, Larkana, Mirpur Khas, Shaheed Benazirabad and Sukkur's share is observed 1.21%, 0.20%, 0.53%, 0.38% and 0.79% points respectively.

Table 3.2: Area, Population, Density, Urban Proportion, Average Household Size

Administraitive Units	Area (Sq.Km)	Population		Population Density	Urban Proportion (%)	Average Household Size	Avg. Annual Growth Rate (%) 2017-2023
		Number	Percent				
Sindh Province	**140,914**	**55,696,147**	**100**	**395.25**	**53.97**	**5.65**	**2.57**
Hyderabad Division	48,670	11,659,246	20.93	239.56	37.28	5.19	1.61
Karachi Division	3,527	20,382,881	36.60	5779.10	92.57	5.94	4.10
Larkana Division	15,213	7,093,706	12.74	466.29	30.63	5.87	2.30
Mirpur Khas Division	28,170	4,619,624	8.29	163.99	19.38	5.35	1.50
Shaheed Benazirabad Division	18,176	5,930,649	10.65	326.29	29.27	5.59	1.98
Sukkur Division	27,158	6,010,041	10.79	221.30	33.92	5.71	1.36

3.1.3 Average Household Size

According to Census-2023, the average household size is recorded as 5.65 persons indicating a rise from 5.55 persons as recorded in the Census-2017. The average household sizes in rural and urban areas are 5.43 persons and 5.84 persons, respectively. Among the administrative units of the province, the highest household size has been observed in the Karachi division and recorded as 5.94 persons, followed by Larkana division as 5.87 persons. The average household size of other administrative units of the province in descending order are Sukkur division 5.71, Shaheed Benazirabad division 5.59, Mirpur Khas division 5.35 and Hyderabad division 5.19 persons respectively.

3.1.4 Population Density

According to Census-2023, the population density in Sindh province (average number of persons per square kilometer) is 395.25 persons per sq. Km, as against 339.60 persons reported in the Census-2017. Amongst the divisions, Karachi is the most densely populated Division showing a population density of 5779.10 persons per square kilometer, while Mirpur Khas Division is the least densely populated division showing a population density of 163.99 persons per square kilometer. Figure 3.4 graphically illustrates the population densities of all the divisions of Sindh reported in Census-2023 as compared to the Census-2017.

Figure 3.4: Population Density of Province / Divisions, Census-2017 and 2023

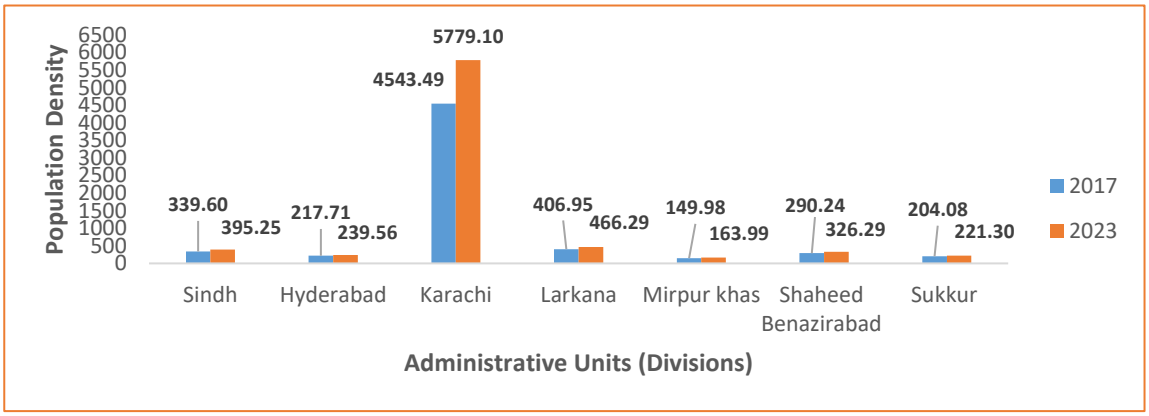
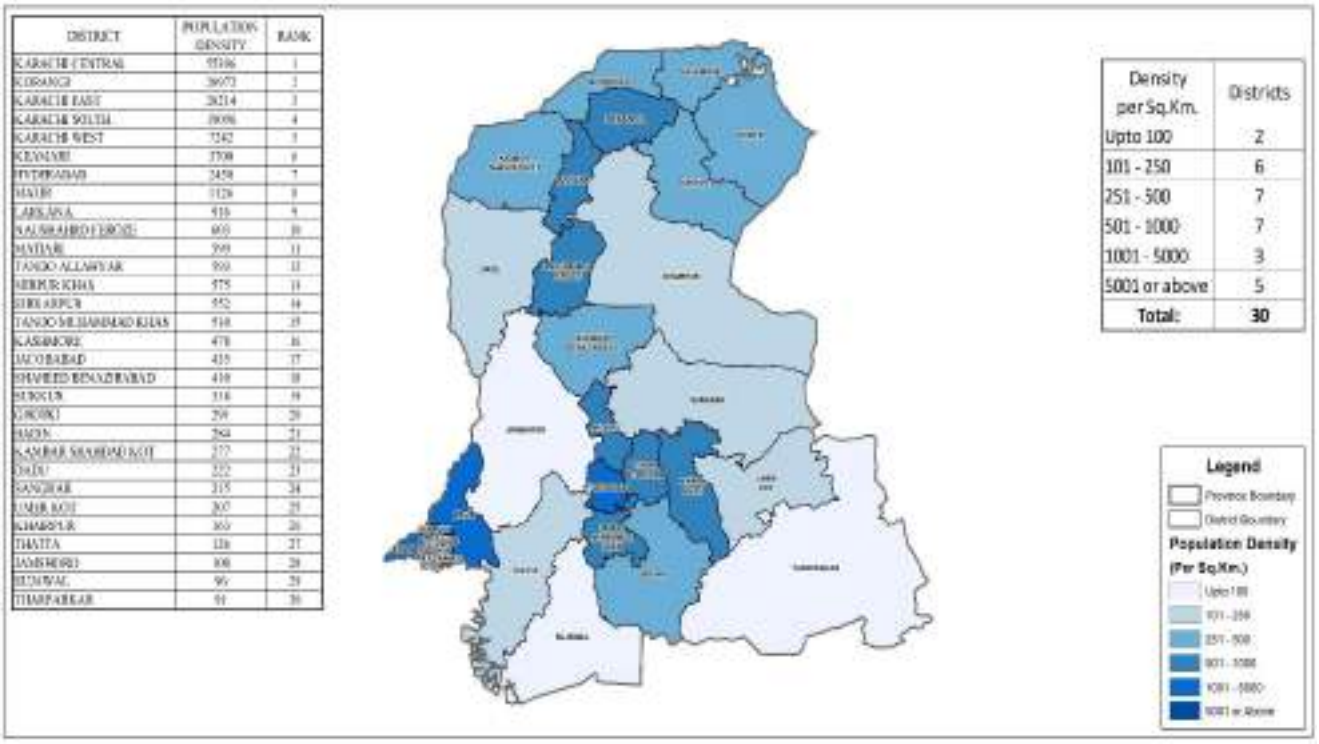


Figure 3.5 unveils the district wise population density distribution in the Sindh province. In Sindh, all districts of Karachi, the economic hub are densely populated. Karachi Central has the highest density with 55,396 persons per sqkm, followed by Korangi, Karachi East, Karachi South, and Karachi West, with population densities of 28,972, 28,214, 19,096, and 7,242 persons per sqkm respectively. However, in contrast some of the districts of interior Sindh like Tharparkar, Sujawal, Jamshoro, Thatta, and Khairpur are sparsely populated with 91, 96, 100, 126, and 163, persons per sqkm respectively, reflecting a more dispersed demographic pattern in these districts.

Figure 3.5: District Wise Population Density Sindh, Census-2023



3.1.5 Rural-Urban Distribution of Population

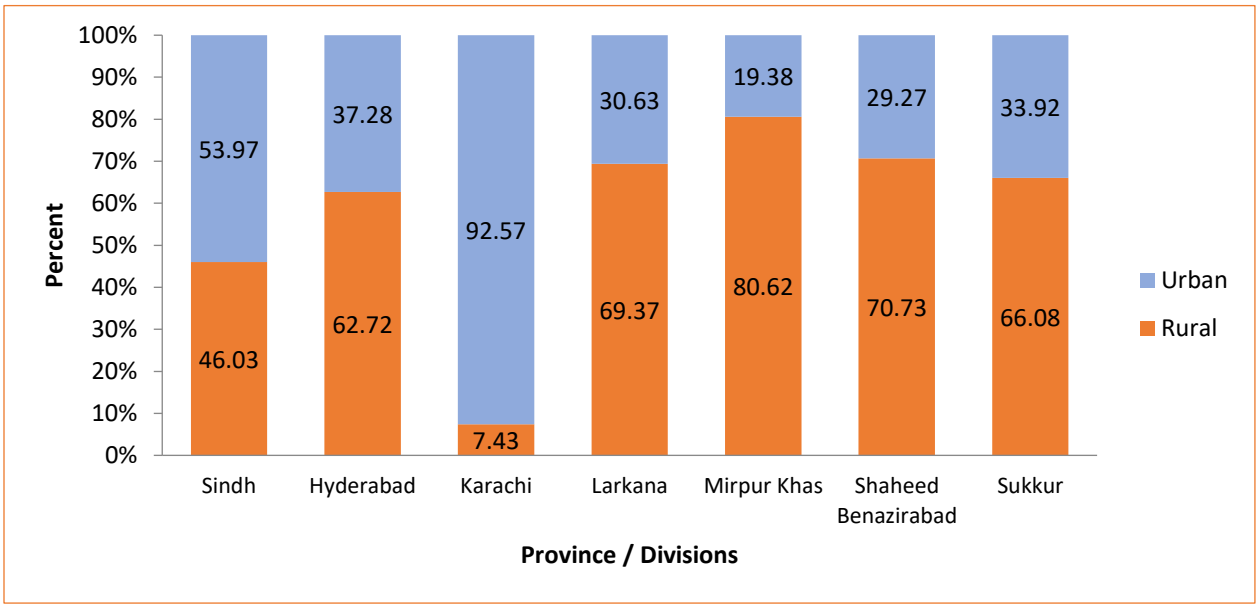
According to the Census-2023, the rural population is recorded as 25,639,408 persons which is 46.03% of the total population. The rural population has decreased as compared to the Census-2017 wherein it was recorded as 48.11% (23,021,876 individuals).

Rural
46.03%

Urban
53.97%

The urban population is recorded as 30,056,739 individuals in Census-2023, with the share of 53.97% of the province's total population, which has increased as compared to the Census-2017 where it was reported as 51.89%. Karachi Division is the most urbanized area among all the Divisions of the province with the share of 92.57% as urban followed by Hyderabad division with 37.28%, Sukkur division with 33.92%, Larkana division with 30.63%, Shaheed Benazirabad division with 29.27% and the lowest urban population is in Mirpur Khas division with 19.38%. This depicts that excluding Karachi, all other divisions are predominately rural.

Figure 3.6: Rural/Urban Percentage Population Distribution of Province / Divisions, Census-2023



The total number of rural localities (Deh / Village) in the province has been recorded as 5,690 in Census-2023 as verified by Revenue Department/ Provincial Local Government. Rural localities having population size ranging between 2000-4999 individuals have the largest share amounting to 2,292 among all rural areas followed by 1,756 rural localities with a population size of 5000 and above. The number of rural localities classified by administrative units and population size are shown in Table 3.3.

Table 3.3: Number of Rural Localities by Population Size of Province / Divisions, Census-2023

Administrative Units	Total Rural Localities	5,000 and Above	2,000 - 4,999	1,000 - 1,999	500 - 999	200 - 499	Less Than 200	Un inhabited
	5,690	1,756	2,292	902	369	175	127	69
Sindh Province	2,038	467	845	353	152	97	60	64
Karachi Division	63	32	11	8	6	3	3	-
Larkana Division	1,041	386	430	146	53	14	12	-
Mirpur Khas Division	800	229	341	170	50	5	4	1
Shaheed Benazirabad Division	859	319	344	117	50	21	7	1
Sukkur Division	889	323	321	108	58	35	41	3

The number of urban localities* (Table 3.4) according to the Census-2023 is 236, increasing from 202 urban localities notified in Census-2017. The highest number of urban localities i.e 91 are concentrated in population size less than 25,000, followed urban localities with a population size 25,000-49,999 with a frequency of 60.

Table 3.4: Number of Urban Localities by Size of Population and Average Annual Growth Rate Since, Census-1961

Year	Total	Number of Urban Localities by Size				Urban Population		Avg. Annual Growth Rate of Urban Population
		Less than 25,000	25,000-49,999	50,000-99,999	100,000 and over	Number	Percent	
1961	68	55	5	4	4	3,167,018	37.85	6.00
1972	121	96	11	8	6	5,725,776	40.45	5.23
1981	124	98	14	5	7	8,243,036	43.32	4.40
1998	163	105	27	13	18	14,839,862	48.75	3.52
2017	202	98	52	23	29	24,832,634	51.89	2.74
2023	236	91	60	31	54	30,056,739	53.97	3.24

**In Census-2023, urban localities have been counted according to the Table -2 (Part-V) in the light of Notification issued by Provincial Local Government.*

3.2 Distribution of Population by Sex, Age and Marital Status

3.2.1 Sex Ratio

The overall sex ratio (number of males per hundred females, all ages) is an important demographic variable to examine the gender balance in a population. It is primarily affected by sex differentials in mortality and migration besides under or over enumeration of population. The sex ratio in turn affects fertility, mortality, migration, labour force composition and other factors.

According to the Census-2023, sex ratio of Sindh Province is 108.76 which has slightly increased from 108.29 as recorded in the Census-2017. The sex ratio is slightly higher in urban areas i.e., 110.40 as compared to rural areas as 106.87. This may be due to the migratory pattern of males to urban centers for work and education (Table 3.5).

The overall sex ratio for individuals below the age of 15 years is recorded as 109.53 in Census-2017 as compared to 107.90 in Census-2023, whereas it is recorded as 109.26 for the working-age population between the ages 15-64 years. The sex ratio has witnessed an increase in 65 years and above population from 100.58 in Census-2017 to 112.22 in Census-2023. The changing sex ratios by age are reflective of the effects of mortality, migration and coverage of population in the census which require further data analysis.

Table 3.5: Sex Ratio by selected Age Groups and Rural/Urban, Census-2017 and 2023

	2017			2023		
Age Groups	All Areas	Rural	Urban	All Areas	Rural	Urban
All ages	108.29	107.54	108.99	108.76	106.87	110.40
At birth	108.21	110.16	106.17	106.49	106.46	106.51
Less than 15 years	109.53	111.3	107.43	107.90	107.44	108.39
15 - 64 years	107.85	104.82	110.24	109.26	106.44	111.37
65 + years	100.58	97.75	103.05	112.22	105.60	117.16

3.2.2 Age Structure

The interaction of births, deaths, and migration has a considerable impact on the demographic behavior and emerging socio-economic characteristics of any society. However, like other developing countries, age reporting is not very accurate in Pakistan. This could be ascribed to illiteracy and ignorance about ages, and age heaping is often reported (tendency or digital preferences to report ages ending in 0 and 5 followed by even numbers).

According to the Census-2023, the population less than 15 years of age is 41.78% of the total population. The below figure shows that the population share below the age of five years is 15.69%, and below one year-old is 2.08% of the total population. Moreover, more than half of Sindh's population i.e., 55.16% lies in the working-age group of 15-64 years. The age group of 65 years and above represents only 3.06% of the total province population.

The age group representing youth (15 to 24 years) constitutes 18.37% of the total population. The adult population above the age of 18 years has a share of the total population as 51.99%.

Less Than 1 Year
Total: 2.08%
Male: 2.06%
Female: 2.11%

Less Than 5 Years
Total: 15.69%
Male: 15.54%
Female: 15.85%

Less Than 10 Years
Total: 29.93%
Male: 29.68%
Female: 30.21%

Less Than 15 Years
Total: 41.78%
Male: 41.62%
Female: 41.96%

15 – 24 Years
Total:18.37%
Male: 18.37%
Female: 18.36%

18 & Above
Total: 51.99%
Male: 51.98%
Female: 52.01%

15 – 64 Years
Total: 55.16%
Male: 55.27%
Female: 55.03%

65 & Above
Total: 3.06%
Male: 3.11%
Female: 3.01%

Table 3.6 presents the distribution of population by 5-year age intervals and sex. The male population comprises 52.10% of the total population, whereas the female population constitutes 47.89% of the total population reported in Census 2023. The age groups with the highest number of people are 00-04 and 05-09 years, with percentage shares of 15.69% and 14.25%, respectively. The percentage shares show a progressively decreasing trend for higher age groups indicating concentration of population in younger age groups.

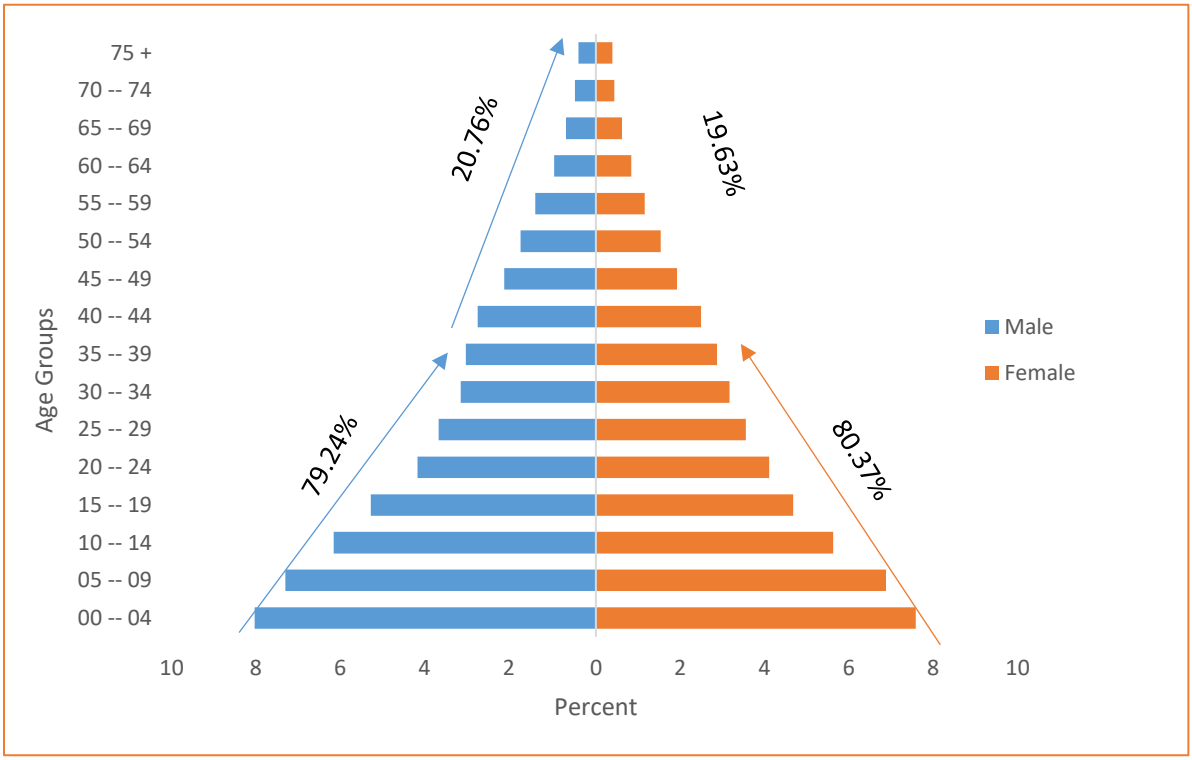
Table 3.6: Population of Province by Sex and Age Groups, Census-2023

Age Groups	Male (%)	Female (%)	Total Population (%)
All Ages	52.1	47.89	100
00 -- 04	8.1	7.59	15.69
05 -- 09	7.37	6.88	14.25
10 -- 14	6.22	5.63	11.85
15 -- 19	5.34	4.68	10.02
20 -- 24	4.23	4.11	8.35
25 -- 29	3.73	3.56	7.3
30 -- 34	3.21	3.17	6.38
35 -- 39	3.09	2.87	5.96
40 -- 44	2.8	2.5	5.3
45 -- 49	2.17	1.93	4.1
50 -- 54	1.79	1.54	3.33
55 -- 59	1.44	1.16	2.59
60 -- 64	0.99	0.84	1.83
65 -- 69	0.71	0.62	1.33
70 -- 74	0.5	0.44	0.93
75 & Above	0.41	0.39	0.8

The transgender population is not included in the total population column.

Figures 3.7 portrays the percentage distribution of population for males and females categories separately for five-year age intervals. This has been done to account for differences in age reporting of males and females. The graphical representation reflects the age and sex structure which can be represented as an expansive population pyramid with a large base, whose shape becomes narrower in the middle age groups until it becomes a thin peak at the top.

Figure 3.7: Population Distribution of Male and Female of the Province, Census-2023



3.2.3 Dependency Ratio

Table 3.7 shows that the overall age dependency ratio for all sexes is 81.31% as compared to 78.35% in Census 2017. The age dependency ratio for male is 80.93%, female is 81.73% and for transgender it is 7.29%. the age dependency ratio is much higher in rural areas i.e. 97.84% compared to urban areas as 69.23%.

Table 3.7: Dependency Ratio of Province by Sex and Rural/Urban, Census-2023

Dependency ratio	2017			2023		
	All Area	Rural	Urban	All Area	Rural	Urban
All Sexes	78.35	97.01	63.91	81.31	97.84	69.23
Male	78.72	99.48	63.08	80.93	98.24	68.56
Female	77.99	94.44	64.96	81.73	97.42	70.00
Transgender	7.63	9.88	6.40	7.29	20.23	5.31

3.2.4 Marital Status

All individuals aged 15 years and above enumerated in the Census-2023 are classified according to their marital status, i.e. married, never married, widowed, divorced and separation as shown in Figure 3.8. The Census-2023 results show that out of the total population above 15 years of age, 29.59% are never married, 66.38% are married, 3.61% are widowed, divorced 0.28% and 0.14% are separated.

Figure 3.8: Percentage Distribution of Population (15 Years and Above) by Marital Status and Age Groups, Census 2023

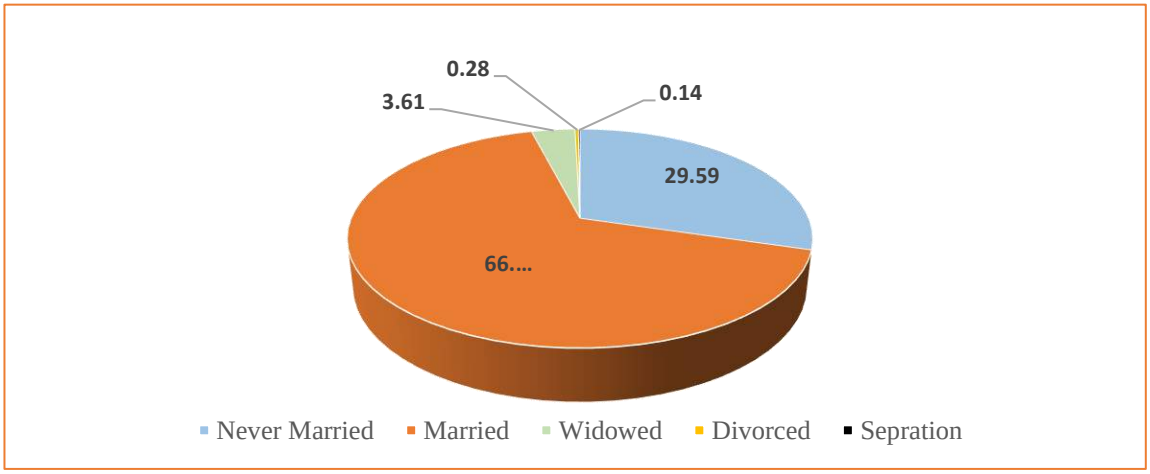
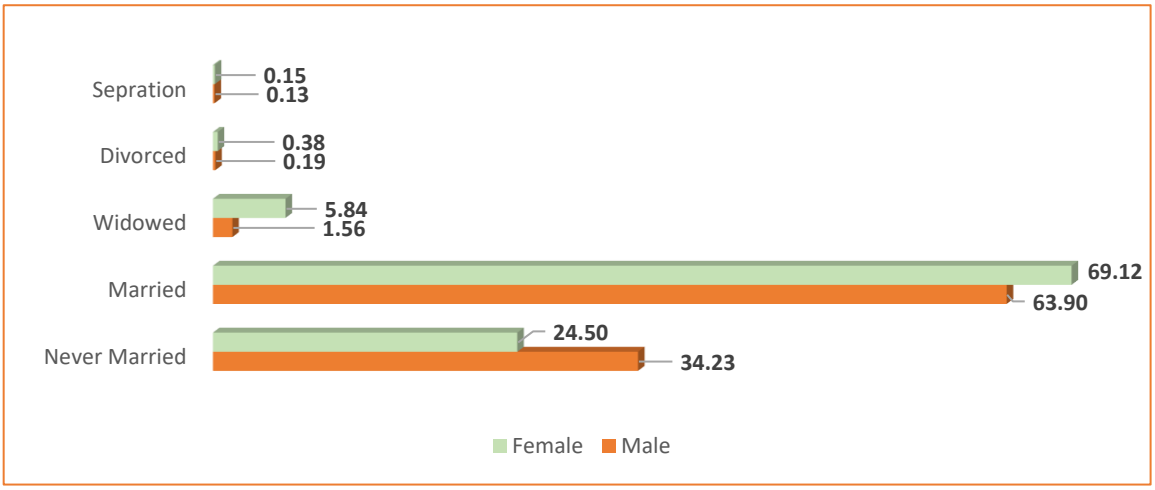


Figure 3.9 provides the percentage distribution of population by marital status. The percentage of never married males i.e. 34.23% is higher than never married females as 24.50%. Similarly, the percentage of married males i.e. 69.12% is higher than never married females as 63.90%.

Figure 3.9: Percentage of Male and Female Marital Status of Population (15 Years and Above), Census 2023

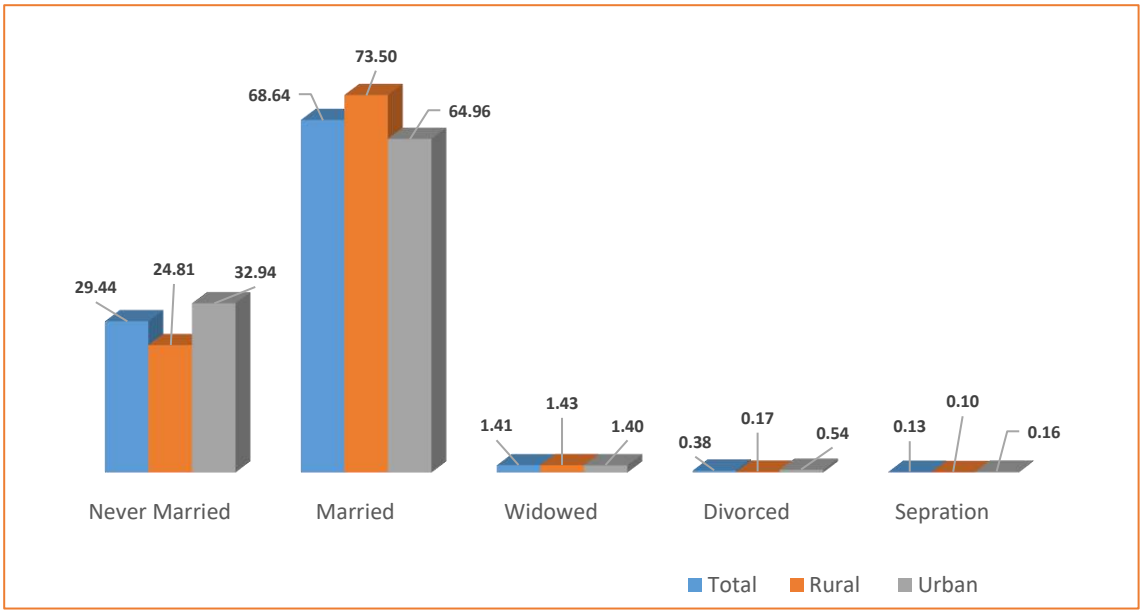


3.2.5 Females of Reproductive Age

Figure 3.10 shows that the total female population in the reproductive age group (15-49 years of age) is 12,694,191 which is 47.64% of the total female population. The percentage of women falling in the reproductive age category is higher in urban areas i.e. 50.63% compared to rural areas as 44.19 %.

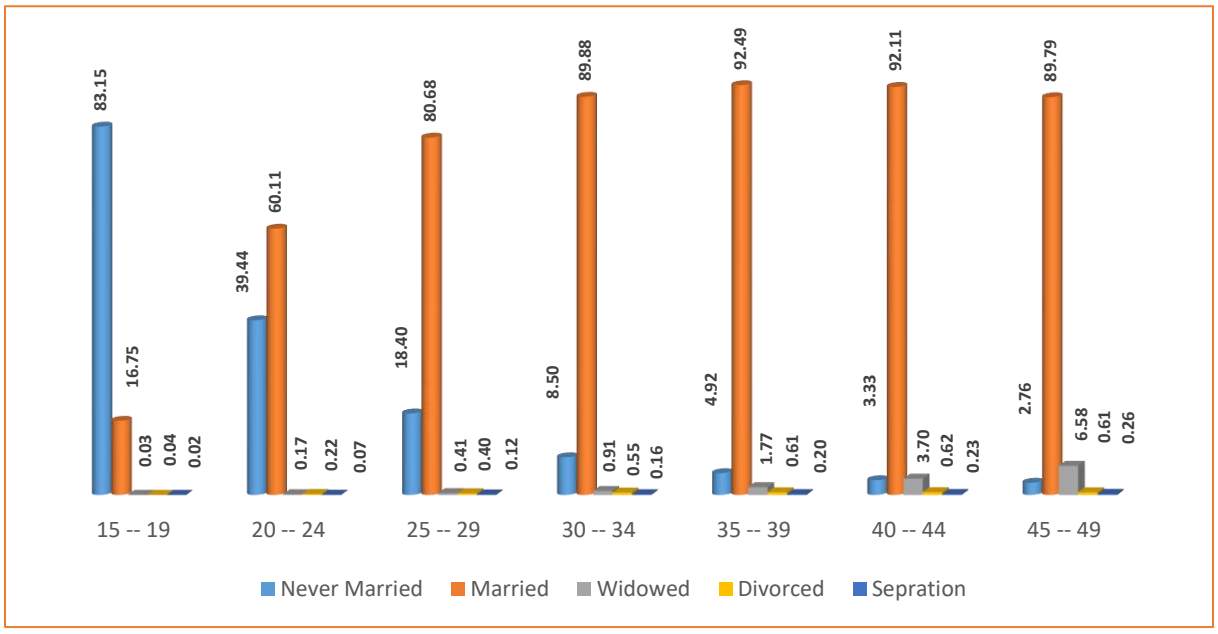
Among the reproductive age groups, 29.44% of women are never married, 68.64% are married, 1.41% are widowed, and 0.38% are divorced, and 0.13% are separated. The married percentage are higher in rural and urban among all categories. The percentage of married women is higher in rural areas with 73.50% as compared to 64.96% in urban area. The percentage of divorced & separated female is higher in urban areas with 0.54 % and 0.16% as compared to rural areas 0.17% and 0.10% respectively.

Figure 3.10: Percentage Distribution of Females of Reproductive Age (15-49 Years) by Marital Status and Rural/ Urban, Census-2023



The Figure 3.11 shows the age wise distribution of females reproductive age from 15 to 49. It shows that the percentage of married female is highest in age bracket 35-39 years with 92.49% while the lowest percentage of married female is in age bracket 15-19 years with 16.75%, i.e. 83.15% are never married. Figure 3.11 also shows the pattern from highest to lowest of never married females from age 15 to 49. The percentage of widowed female is highest in 45-49 age bracket with 6.58%.

Figure 3.11: Percentage Distribution of Females of Reproductive Age (15-49 Years) by Age Group and Marital Status, Census-2023



3.3 Distribution of Population by Religion and Mother Tongue

3.3.1 Population Distribution by Religion

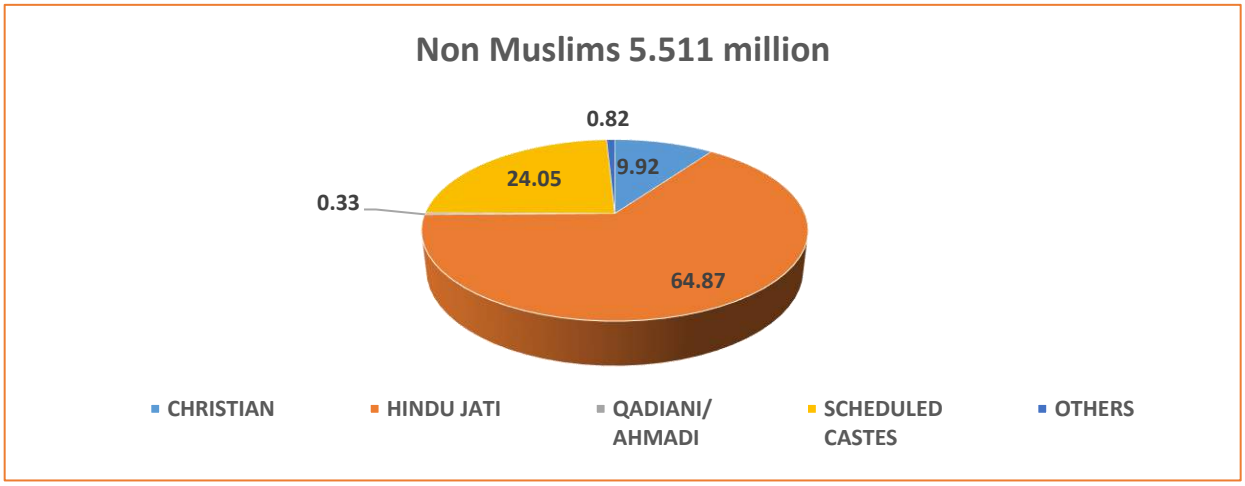
The population of Sindh Province is predominantly Muslim, with the prevalence of 90.09%, out of the total population declaring Islam as their faith. The rural areas have 85.45% of Muslims, whereas in urban areas the concentration of Muslims stands at 94.06%. The percentage of total non-Muslim population recorded in Sindh Province in Census-2023 is 9.91%. The largest community amongst the minorities is Hindu, which constitutes 6.43% of the total population followed by Scheduled Castes having a share of 2.38%. Table 3.8 provides a comparison of population between census years 2017 and 2023 according to religious belief in rural and urban areas.

Table 3.8: Percentage of Population by Religion and Rural/Urban, Census-2017 and 2023

Religion	2017				2023			
	All Areas	Rural	Urban	Total Number	All Areas	Rural	Urban	Total Number
Muslim	90.34	86.46	93.95	43,234,107	90.09	85.45	94.06	50,126,428
Christian	0.85	0.11	1.55	408,301	0.98	0.24	1.62	546,968
Hindu Jati	6.99	10.3	3.92	3,345,424	6.43	9.73	3.61	3,575,848
Ahmadi	0.55	0.03	0.06	21,661	0.03	0.02	0.04	18,266
Scheduled Castes	1.74	3.08	0.49	831,562	2.38	4.48	0.59	1,325,559
Sikh	-	-	-	-	0.01	0.01	0.01	5,182
Parsi	-	-	-	-	0.003	0.001	0.005	1,763
Others	0.03	0.02	0.04	13,455	0.07	0.07	0.07	38,395
Total	100	100	100	47,854,510	100	100	100	55,638,409

Figure 3.12 illustrate the percentage of Non-Muslims out of total Non-Muslims population. The total Non-Muslims population according to Census-2023 is 5.511 Million. Hindu Jati has the highest share among the Non-Muslims population with a percentage of 64.87% while Qadiani/Ahmadi has the lowest share with a percentage of 0.33%. Scheduled castes, Christians and Others contributes 24.05%, 9.92% and 0.82% respectively among the Non-Muslims population.

Figure 3.12: Percentage of Non-Muslims out of total Non-Muslim Population, Census-



3.3.2 Population Distribution by Mother Tongue

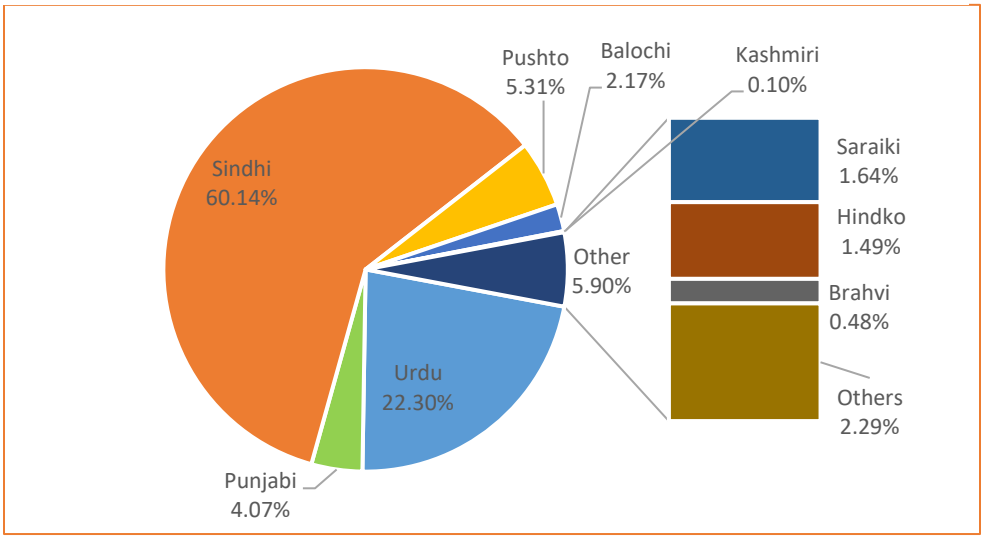
According to the Census-2023, Sindhi is the most widely spoken language in the province identified by 60.14% of the population as their mother tongue which has slightly decreased from Census-2017 with 61.60%. The second most spoken language is Urdu 22.30% which has marginally increased from Census-2017 with 18.20% followed by Pushto 5.31% which has decreased from Census-2017 with 5.46% as shown in (Table 3.9). The share of other languages spoken in Sindh are: Punjabi 4.07%, others 2.07%, Saraiki 1.64%, Balochi 2.17%, Hindko 1.49%, Brahvi 0.48%, Kashmiri 0.10%, Mewati 0.10%, Balti 0.05%, Shina 0.04%, Kohistani 0.03% and Kalasha 0.001%.

Table 3.9: Percentage of Population by Mother Tongue and Rural/Urban, Census-2017 And 2023

Religion	2017				2023			
	All Areas	Rural	Urban	Total Speakers	All Areas	Rural	Urban	Total Speakers
Urdu	18.20	0.99	34.14	8,707,714	22.30	1.12	40.39	12,409,745
Punjabi	5.31	1.82	8.56	2,542,913	4.07	1.29	6.44	2,265,471
Sindhi	61.60	91.82	33.58	29,476,764	60.14	92.12	32.84	33,462,299
Pushto	5.46	0.97	9.63	2,613,790	5.31	1.00	9.00	2,955,893
Balochi	2.00	1.53	2.43	956,516	2.17	1.76	2.53	1,208,147
Kashmiri	0.15	0.02	0.26	69,836	0.10	0.02	0.16	53,249
Saraiki	2.23	0.82	3.54	1,067,751	1.64	0.50	2.62	913,418
Hindko	1.58	0.33	2.73	753,736	1.49	0.65	2.21	830,581
Brahvi	0.73	1.03	0.46	350,014	0.48	0.70	0.28	265,769
Shina*	-	-	-	-	0.04	0.01	0.07	22,273
Balti*	-	-	-	-	0.05	0.003	0.09	27,193
Mewati*	-	-	-	-	0.10	0.06	0.14	57,059
Kalasha*	-	-	-	-	0.001	0.001	0.002	777
Kohistani*	-	-	-	-	0.03	0.004	0.05	14,885
Others	2.75	0.66	4.69	1,315,476	2.07	0.77	3.18	1,151,650
Total	100	100	100	47,854,510	100	100	100	55,638,409

**These languages were included in the Census Form as separate options for the first time in Census-2023*

Figure 3.13: Percentage of Population by Mother Tongue



3.4 Population by Nationality

A person's nationality is where they are a legal citizen, usually in the country where they were born. Nationality in international law can be called and understood as citizenship, or more generally as subject or belonging to a sovereign state, and not as ethnicity. It is worth mentioning that after inclusive consultation, in census 2023 unlike 2017, non-nationals are further disaggregated into four categories, i.e. Afghani, Bengali, Chinese and others and separate numbers are collected for them.

Table 3.10 displays the Nationality of the Population for 2023 and 2017 census. In 2023, the total population of Sindh province is around 55.638 million, with over 55.427 million being Pakistani citizens i.e. 99.62% and about 0.21 million non-national residents i.e. 0.38%.

Table 3.10: Percentage Distribution of Nationality by Region, Census-2017 and 2023

Area	Nationality Census-2017		Nationality Census-2023	
	Pakistani	Non-National	Pakistani	Non-National
All Areas	99.75	0.25	99.62	0.38
Rural	99.93	0.07	99.91	0.09
Urban	99.58	0.42	99.37	0.63
Nationality	**47,734,596**	**119,914**	**55,426,749**	**211,660**

Table 3.11 shows that the majority of non-nationals in Census 2023 are Afghanis i.e. 145,875 while remaining are almost nominal with Bengali (24,137), Chinese (757) and Others (40,891). Majority of Non-Nationals are in urban areas. The Afghani population living in Urban area (138,541) are more than Rural area (7,334). Similarly, Bengali, Chinese and Others non-national's living in urban areas are greater in number than those living in rural areas.

Table 3.11: Percentage Distribution of Nationality by Categories, Census-2017 and 2023

Area		Nationality Census 2023				
		Pakistani	Afghani	Bengali	Chinese	Others
All Areas	Total	55,426,749	145,875	24,137	757	40,891
	Percent	99.62	0.26	0.04	0.001	0.07
Rural	Total	25,599,945	7,334	4,063	181	12,341
	Percent	99.91	0.03	0.02	0.001	0.05
Urban	Total	29,826,804	138,541	20,074	576	28,550
	Percent	99.37	0.46	0.07	0.002	0.10

District Wise Analysis of Non-National

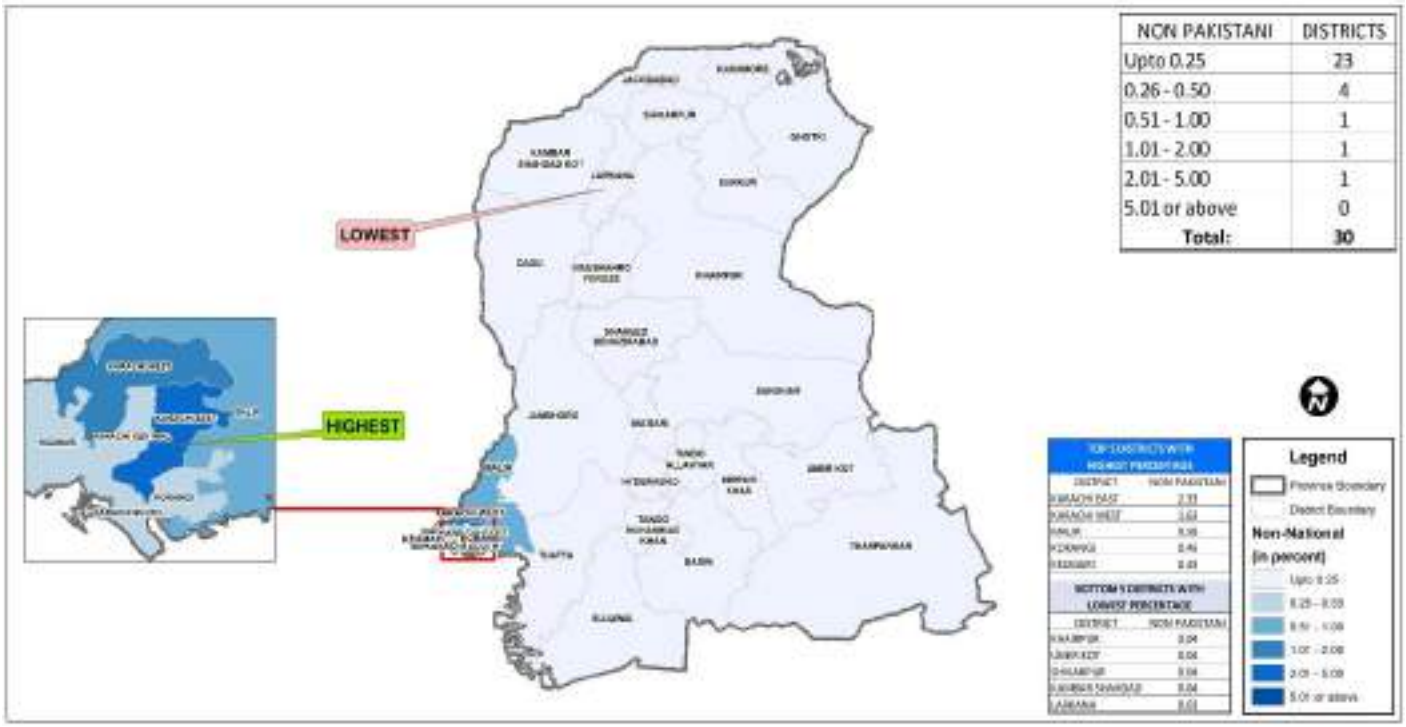
District wise population of Non-National has been depicted in the figure 3.14. The data, categorized into different non-national population brackets ranging from 0.25% to 5.01% and above as shown below.

The data, categorized into different non-Pakistani population brackets, is as follows:

- **Up to 0.25 Non National** 0.25% non-national population reside in 23 districts of Sindh.

- **0.26 – 0.50 Non National**: There are 4 districts fall in this bracket.
- **0.51 – 1.00 Non National:** There is only 1 district in this bracket.
- **1.01 – 2.00 Non National** There is only 1 district in this bracket.
- **2.01 – 5.00 Non National**: There is only 1 district in this bracket.
- **5.01 or above Non National:** There is no district with non-national population residing in this bracket.

Figure 3.14: District wise Non-National Sindh, Census-2023



The population of non-national in Sindh province is highest in Karachi East with 2.33% and lowest in Larkana district with 0.03% population whereas district Khairpur, Umerkot, Shikarpur and Kambar Shahdad Kot with 0.04% population of non-national living in the province.

The top five districts of Karachi Division having higher non-nationals in Census-2023 are Karachi East, Karachi West, Malir, Korangi and Keamari with population i.e. 2.33%, 1.63%, 0.58%, 0.45% and 0.43% respectively.

3.5 Population with Disability

In the previous census i.e. 1981, 1998, the question for gauging the exact nature of disability was asked in the long form which was enumerated on the sample based. However, this information cannot be collected in census 2017 due to dropping of sampled enumeration based on Long form. During preparations of Census 2023, a technical committee was constituted for designing of questionnaire by

Census Advisory committee, comprising of renowned demographers and experts. They had thoughtfully considered about the inclusion of questions regarding disability. After detailed deliberations with all the stakeholders, the including Community Based Inclusive Development Network (CB1DN), the technical committee recommended to include set of questions designed by Washington Group on Disability Statistics (WG).

Disability statistics are measured through proxy as per guidelines provided by Washington Group of Disability Statistics (WG), by combining two options i.e. a lot of difficulty to perform the activity and cannot perform the activity at all. The total number of disabled population in Sindh Province according to the Census-2023 is recorded as 1,297,822 out of which 53.28% are male, 46.72% female.

Table 3.12 shows that disabled persons constitute only 2.33% of the province's population. The disability rate for male (disabled male as a percentage of total male population) is 2.39% and for the female (disabled female as a percentage of total female population) is 2.28%. Out of the total disabled population, 43.49% are recorded in rural areas where as 56.51% are residing in urban areas.

Table 3.12: Disabled Population and Percentage Distribution by Sex and Rural/Urban, Census-2023

Disabled Population by Sex and Rural/Urban			
Description	**Total Disabled Population**	**Male**	**Female**
Total	1,297,882	691,521 (**53.28%**)	606,361 (**46.71%**)
Rural	564,402	299,097 (**52.99%**)	265,305 (**47.01%**)
Urban	733,480	392,424 (**53.50%**)	341,056 (**46.49%**)
Disability Percent out of Total Population			
Total	2.33	2.39	2.28
Rural	2.20	2.26	2.14
Urban	2.44	2.49	2.39

3.5.1 Population with Functional Limitation

These questions are designed to ascertain functional limitations in any of the activities like seeing, hearing, walking/climbing, in communication or remembering/concentration or washing/dressing/holding/writing etc. It is also pertinent to mention that the same set of questions has been used in recent censuses conducted in the majority of countries including UK, Maldives etc. It is pertinent to mention here that these questions only ascertain the severity of the issue to perform the said activity and cannot exactly gauge whether the people are disabled or otherwise.

Functional limitation is a measure of an individual's ability to perform daily activities. It is assessed based on the following criteria:

a) **Less difficulty to perform the activity**: Some individuals may experience minor difficulties in carrying out certain tasks.

b) **A lot of difficulty to perform the activity**: Others may face significant challenges and require assistance or adaptations to complete their daily functions.

c) **Cannot perform the activity at all**: Some individuals may be unable to perform specific activities independently.

It is important to note that an individual may encounter multiple difficulties in performing their daily functions. According to the Census-2023, the total population with functional limitations in Sindh Province is recorded as 5,139,958. Out of this population, 52.97% are male and 47.03% are female.

The population of male with functional limitation (functional limitations in male as a percentage of total male population) is 9.39% and for the female (functional limitations in female as a percentage of total female population) is 9.07% (Table 3.13). Furthermore, out of the total population with functional limitations, 37.77% reside in rural areas, while 62.23% reside in urban areas. This distribution emphasizes the importance of considering both rural and urban contexts when addressing the needs of individuals with functional limitations. It is essential to recognize that functional limitations can vary in severity and impact an individual's ability to perform daily activities. Some individuals may face fewer difficulties in performing activities, while others may encounter significant challenges or be unable to perform certain activities all together.

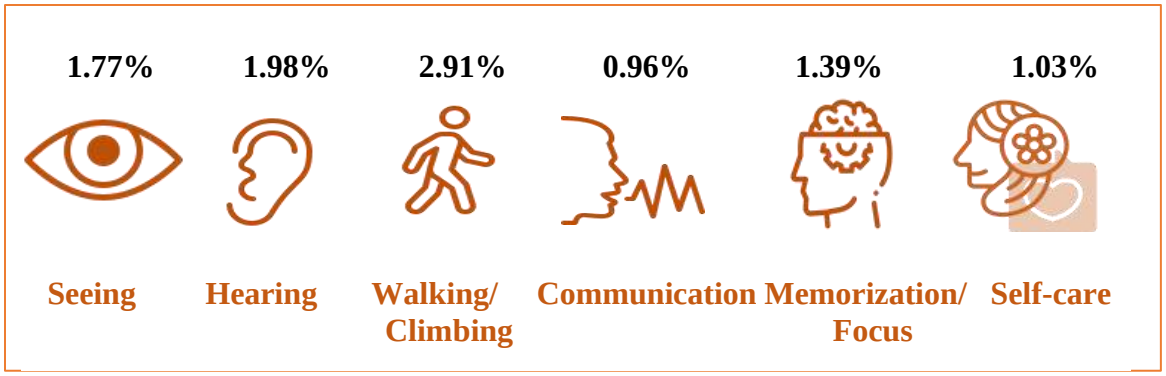


Table 3.13: Population and Percentage Distribution of Functional Limitation by Sex and Rural/Urban, Census-2023

Functional Limitation by Sex and Rural/Urban			
Description	Total *Population by Functional Limitation	Male	Female
Total	5,139,958	2,722,682	2,417,276
Rural	1,941,313	1,016,470	924,843
Urban	3,198,645	1,706,212	1,492,433
Functional Limitation percent			
Total	9.24	9.39	9.07
Rural	7.58	7.68	7.47
Urban	10.66	10.83	10.46

**Note: It is possible that an individual can face more than one difficulty in performing his daily functions.*

3.5.2 Population with Functional Limitation by categories

It is evident in Table 3.14 that in Sindh province, there is a total population of 1,621,277 individuals who face difficulty in walking or climbing with 2.91%. This functional limitation is one of the most commonly reported challenges in performing daily functions. Other notable limitations include hearing impairments affecting 1,103,983 individuals (1.98%), visual impairments affecting 982,093 individuals (1.77%), communication difficulties affecting 534,995 individuals (0.96%) and issues with memorization or focus affecting 774,154 individuals (1.39%). Additionally, self-care limitations affect 572,877 individuals (1.03%).

It is important to note that across all these categories, the male population tends to have a higher number of individuals with limitations compared to the female population. Specifically, in the category of difficulty in walking or climbing, the percentage of males facing this challenge total male population is 2.99%. For females, the percentage of those facing difficulty in walking or climbing in relation to the total female population is 2.84%.

Table 3.14: Population and Percentage Distribution of Functional Limitation with Categories by Sex and Rural/Urban, Census-2023

Functional Limitation by Category*			
Category	**Total Population by Functional Limitation**	**Male**	**Female**
Seeing	982,093	524,478	457,615
Hearing	1,103,983	588,445	515,538
Walking/climbing	1,621,277	865,705	755,572
Communication	534,995	293,948	241,047
Memorization/ focus	774,154	416,987	357,167
Self-care etc.	572,877	298,883	273,994
Functional Limitation Percent			
Seeing	1.77	1.81	1.72
Hearing	1.98	2.03	1.93
Walking/ Climbing	2.91	2.99	2.84
Communication	0.96	1.01	0.90
Memorization/ Focus	1.39	1.44	1.34
Self-care etc.	1.03	1.03	1.03

** Note: Sum of percentage of all categories is not equal to 100% as it is possible that an individual can face more than one difficulty in performing his daily functions.*

3.6 Education

3.6.1 Literacy

Literacy is an important indicator of education and it has significant impact on development and socio-economic growth of the country. It is fundamental to development as it drives economic growth, improves health, enhances educational opportunities, and fosters a more engaged and equitable society.

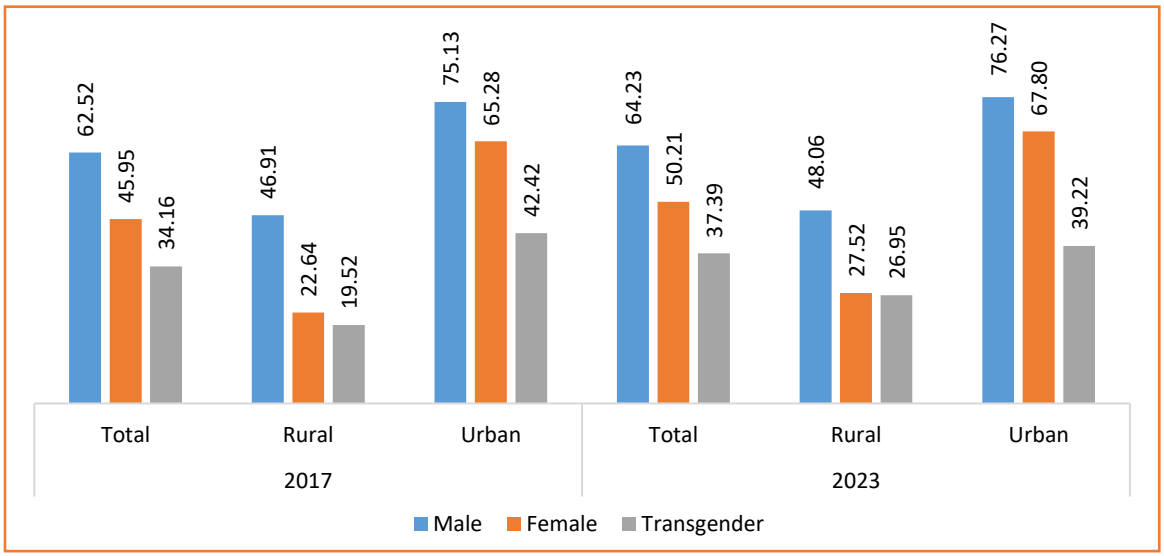
A person who can read and write with understanding in any language and make simple calculation is treated as literate. According to Census-2023, the literacy rate among the population of age 10 years and above is recorded in Sindh province as 57.54% (Table 3.15). The literacy is higher for males 64.23% than for females as 50.21% and for transgender 37.45%. In urban areas literacy as 72.26% is much higher than that of rural areas i.e. 38.14% as reflected in Table 3.15. Moreover, the literacy rate has shown an increase from Census-2017 to Census 2023, wherein it was recorded as 54.57% in Census 2017 and 57.54% in Census 2023.

Table 3.15: Literacy Rate by Sex and Rural/Urban, Census-2017 and 2023

Area	2017				2023			
	All Sexes	Male	Female	Trans-gender	All Sexes	Male	Female	Trans-gender
All Areas	54.57	62.52	45.95	34.16	57.54	64.23	50.21	37.45
Rural	35.19	46.91	22.64	19.52	38.14	48.06	27.52	26.98
Urban	70.43	75.13	65.28	42.42	72.26	76.27	67.80	39.28
Total Literates	18,488,269	11,025,965	7,460,270	2,034	22,431,392	13,092,564	9,337,247	1,581

Figures 3.15 illustrate the comparison between male and female literacy rates with rural and urban according to Census results of census 2017 and 2023. The results reveal that females' literacy rates has increased from 45.95% in Census-2017 to 50.21% in Census-2023, showing a better progress than males whose literacy rates increased from 62.52% in Census-2017 to 64.23% in Census-2023.

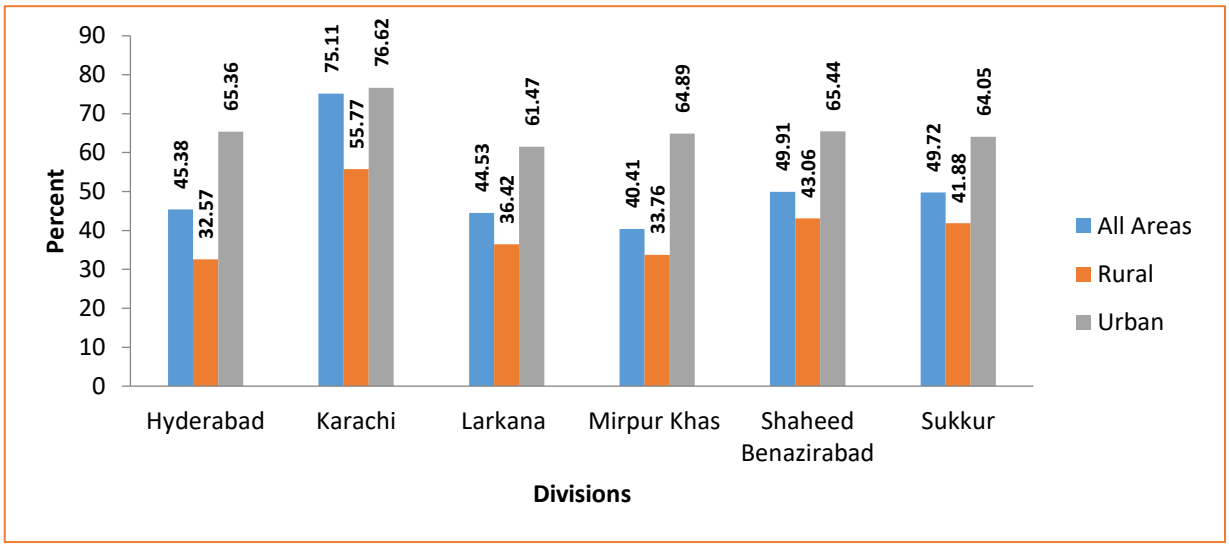
Figure 3.15: Literacy Rate by Sex and Rural/Urban: Census-2017 & 2023



Analyzing by gender and region, it is revealed that there is stark difference in urban rural in terms of male & female literacy. The gender gap in urban areas is around 8 percentage points while the same in rural areas is 20 percentage points. This implies there is strong need to work in rural areas of province for education infrastructure along with emphases in quality for increasing literacy in rural areas.

Furthermore, the literacy rates by administrative divisions in Sindh province are shown in Figure 3.16 indicating that literacy rates in Karachi Division with 75.11% is the highest among all the divisions of the province. Among the rest of the divisions, the highest literacy rates in Shaheed Benazirabad division 49.91% followed by Sukkur division with 49.72%, Hyderabad division with 45.38%, Larkana division with 44.53%, and the lowest in Mirpur Khas division with 40.41%. This figure also shows differences in rural and urban areas in all divisions, the largest gender gap in literacy is in Hyderabad division with 32.79 percentage points followed by Mirpur Khas divisin with 31.1 percentage points and the smallest difference in rural and urban literacy is in Sukkur Division with 21.17% percentage points.

Figure 3.16: Literacy Rates by Administrative Divisions and Rural/Urban Areas, Census-2023



District Wise Analysis of Literacy

A comprehensive analysis of district-level literacy rates in Sindh aim to identify disparities, understand regional educational challenges, and inform policy decisions to improve literacy outcomes across districts. The literacy rates data across the 30 districts shows an average literacy rate of 57.54%. 9 districts have literacy rates higher than the average of 57.54%. Whereas 21 districts fall below the average literacy rates of 57.54%. This average serves as a benchmark to assess the distribution of literacy rates in the districts.

The literacy rates across the districts reveals a diverse distribution. The data, categorized into different literacy rates brackets, is as follows:

- Up to 30.0% Literacy: 2 districts i.e. Sujawal and Thatta fall into this category, indicating that in these areas, the literacy rates is relatively low.

- **30.1% to 40% Literacy**: The group, with 6 districts i.e Tando Muhammad Khan, Kashmore, Tharparkar, Badin, Umer Kot, Tando Allahyar reflecting low level of literacy.

- **40.1% to 50.0% Literacy**: There are 9 districts i.e. Kambar Shahadad Kot, Ghotki, Jacobabad, Sanghar, Shikarpur, Mirpur Khas, Mitiari, Dadu and Jamshoro where literacy rates fall into this bracket, suggesting a better literacy scenario compared to the previous categories.

- **50.1% to 60.0% Literacy**: 5 districts i.e Khairpur, Shaheed Benazir, Larkana, Naushero Feroze and Sukkur are in this range, showing higher literacy levels and suggesting a more educated population in these areas.

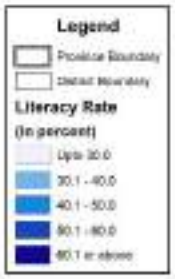
- **60.1% and Above Literacy**: Only 8 district Kemari, Malir, Karachi West, Karachi South, Korangi, Karachi East and Karachi Central prominently Karachi division and Hyderabad, achieves the high literacy level, it represents a small fraction of the total districts have higher literacy rates above than the provincial literacy rates with 57.54%.

Figure 3.17: District Wise Literacy Rate Sindh, Census-2023

DISTRICT	LITERACY RATIO	RANK
KARACHI CENTRAL	83.6	1
KARACHI EAST	80.1	2
KORANGI	79.9	3
KARACHI SOUTH	78.6	4
KARACHI WEST	67.4	5
HYDERABAD	67.2	6
MALIR	63.1	7
KEAMARI	62.1	8
SUKKUR	58.3	9
NAUSHAHRO FEROZE	57.2	10
LARKANA	55.6	11
SHAHEED BENAZIRABAD	50.9	12
KHAIRPUR	50.1	13
JAMSHORO	49.6	14
DADU	47.1	15
MATIARI	45.9	16
MIRPUR KHAS	45.4	17
SHIKARPUR	43.7	18
SANGHAR	43.7	19
JACOBABAD	42.3	20
GHOTKI	41.4	21
KAMBAR SHAHDAD KOT	40.0	22
TANDO ALLAHYAR	39.8	23
UMER KOT	38.7	24
BADIN	36.6	25
THARPARKAR	36.4	26
KASHMORE	35.6	27
TANDO MUHAMMAD KHAN	34.0	28
SUJAWAL	27.0	29
THATTA	26.9	30

Average	57.54
Total Districts	**30**
Above Average	9
Below Average	21

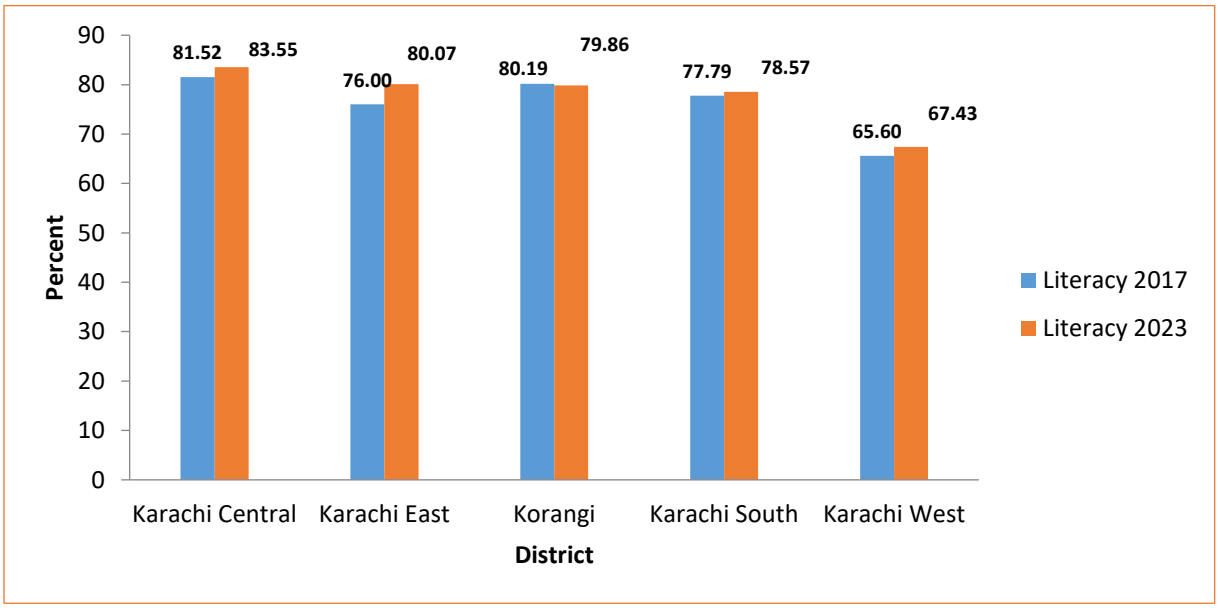
Literacy Rate	Districts
Upto 30.0	2
30.1 - 40.0	6
40.1 - 50.0	9
50.1 - 60.0	5
60.1 or above	8
Total:	**30**



By analyzing the low ranked districts in terms of literacy rates, it is found that Thatta with a literacy rate of 26.88%, ranks as a district with the lowest literacy rates in Sindh. Whereas Sujawal with a literacy rates 27.02% and Tando Muhammad Khan with literacy rates 34.02% also stand in the low ranked districts owing to many factors like remote and rugged terrain, limited resources, infrastructural deficiencies, traditional norms & security concerns etc.

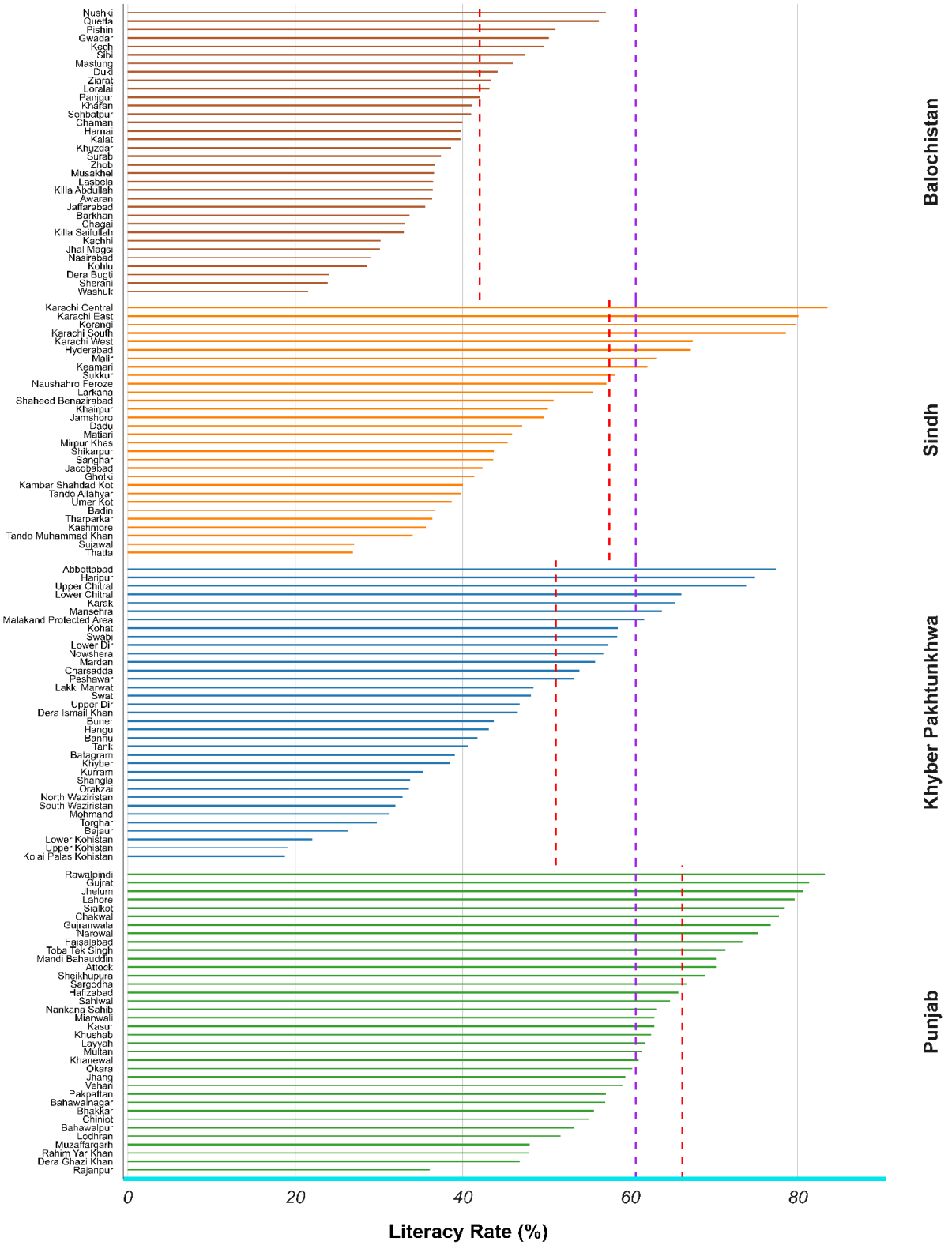
The top five districts of Karachi Divisions having higher literacy rates in Census-2023 are Karachi Central, Karachi East, Korangi, Karachi South and Karachi West with literacy rates i.e. 83.55%, 80.07%, 79.86%, 78.57% and 67.43% higher than literacy rates in Census-2017 i.e. 81.52%, 76.00%, 80.19%, 77.79% and 65.60% respectively depicting that the literacy rate is higher in four districts where Korangi literacy rates is minutely decreased. The Figure below illustrates the comparative analysis of top five ranked districts with the previous Census.

Figure 3.18 : Top Five Districts of Sindh With Higher Literacy Rate, Census-2017



The district wise literacy rate comparison along with provincial and national averages is also illustrated in the Figure 3.19. The Purple and red vertical dashed lines represent national and provincial average literacy rates, respectively. It is revealed that literacy rate of district Hyderabad and Karachi division is even greater than the national average of 61% while remaining are even below then provincial average.

Figure 3.19: District Wise Comparison of Literacy Rate (10 Years and Above)



(The purple and red vertical dashed lines represent national and provincial average literacy rates, respectively.)

3.6.2 Out of School Children (OOSC)

Out of school children (OOSC) 5-16 years are calculated from children who have never been to school and dropped from school. It is an important development indicator reflecting the exclusion of potential future literate work force.

As per Table 3.16 Census-2023 there are 16.89 million children aged 5-16 years in Sindh. Out of which 9.07 million (53.71%) are currently attended school and 7.81 million (46.29%) are currently out of school. Disaggregated out of school children (46.29%) reveals that, there are 39.17% who have never been to school and 7.12% are those who ever attended and then dropped from school.

Table 3.16: Population (5-16 Years) In School, Out Of School, Never To School and Dropout by Sex and Rural/Urban, Census-2023

Region / Sex		Number					Percentage			
		Total Population (5-16)	In-School	Out of School Children	Never to School	Drop Out	In-School	Out of School Children	Never to School	Drop Out
Total	All Sexes	16,891,397	9,073,149	7,818,248	6,616,348	1,201,900	53.71	46.29	39.17	7.12
	Male	8,832,650	5,103,146	3,729,504	3,108,188	621,316	57.78	42.22	35.19	7.03
	Female	8,058,312	3,969,918	4,088,394	3,507,875	580,519	49.26	50.74	43.53	7.20
	Transgender	435	85	350	285	65	19.54	80.46	65.52	14.94
Rural	All Sexes	8,465,497	3,348,333	5,117,164	4,650,069	467,095	39.55	60.45	54.93	5.52
	Male	4,426,480	2,056,200	2,370,280	2,131,651	238,629	46.45	53.55	48.16	5.39
	Female	4,038,839	1,292,108	2,746,731	2,518,286	228,445	31.99	68.01	62.35	5.66
	Transgender	178	25	153	132	21	14.04	85.96	74.16	11.80
Urban	All Sexes	8,425,900	5,724,816	2,701,084	1,966,279	734,805	67.94	32.06	23.34	8.72
	Male	4,406,170	3,046,946	1,359,224	976,537	382,687	69.15	30.85	22.16	8.69
	Female	4,019,473	2,677,810	1,341,663	989,589	352,074	66.62	33.38	24.62	8.76
	Transgender	257	60	197	153	44	23.35	6.65	59.53	17.12

The out of school analysis reveals that the gender disparity is wider for both rural and urban as percentage of out of school females are higher with 68.01% and 33.38% as compared to 53.55% and 30.85% respectively for males. This may be due to social context, less education facilities for females in their areas.

District wise analysis Out of School Children (OOSC) 5-16 years

A comprehensive analysis of District-level Out of School Children (OOSC) in Sindh aims to identify disparities, understand regional educational challenges, and inform policy decisions to improve literacy outcomes across districts. The Out of School Children across the districts reveal a diverse distribution. The OOSC across the 30 districts shows an average OOSC of 46.29%. 17 districts have OOSC higher than the average of 46.29%. Whereas 13 districts fall below the average OOSC of 46.29%. The data, categorized into different out of school brackets, is as follows:

- **Up to 30.0% Out of School**: 3 districts i.e. Karachi Central, Karachi South and Karachi East

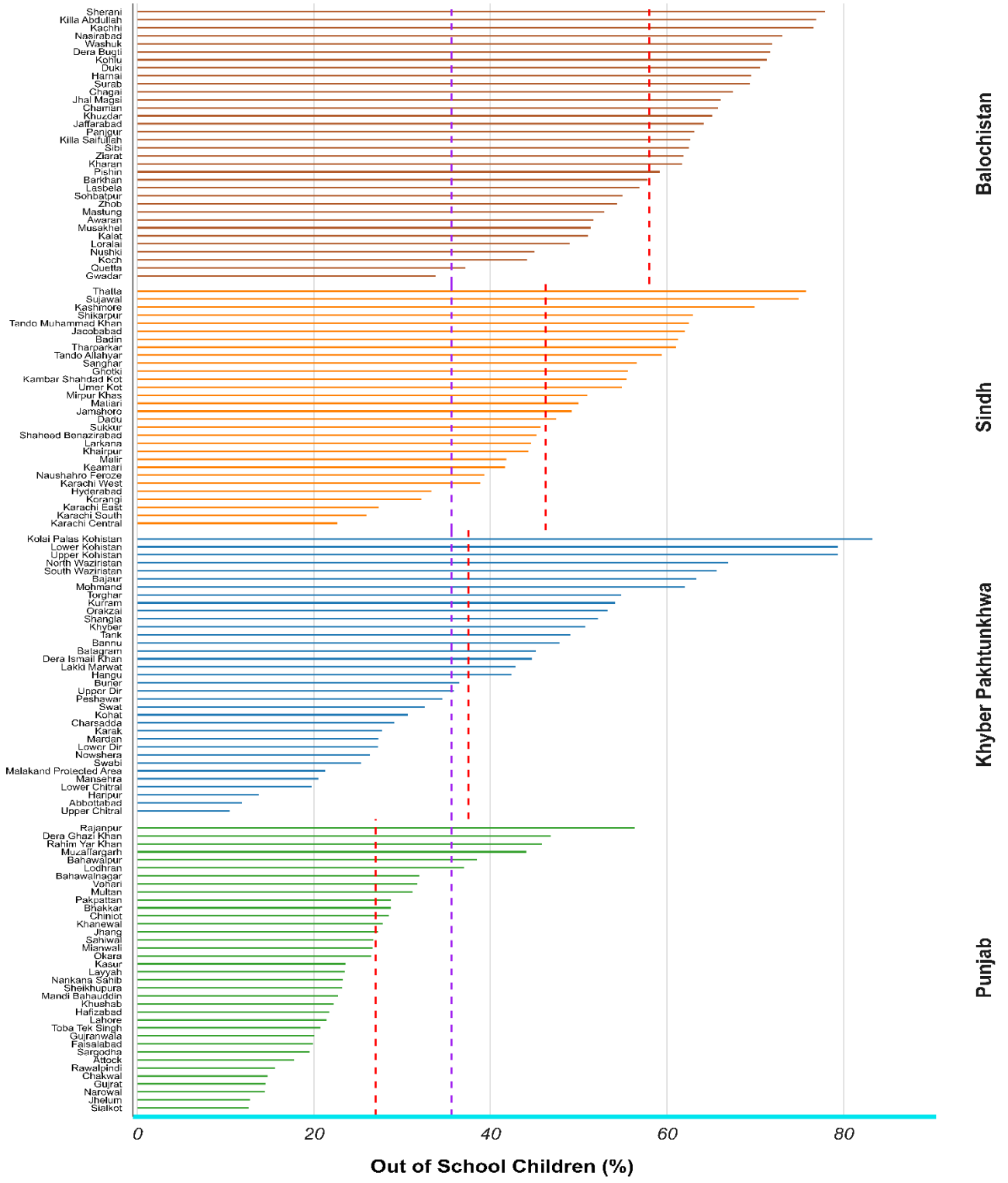
fall into this category, indicating that in these areas, the out of school is relatively low.

- **30.1% to 45.0% Out of school**: This group, with 8 districts i.e. Korangi, Hyderabad, Karachi West, Naushahro Feroze, Keamari, Malir, Khairpur and Larkana shows out of school children within this range, reflecting that one third to half of the population 5-16 years are below the percentage of provincial average 46.29%.
- **45.1% to 60.0% Out of school**: There are 11 districts i.e. Shaheed Benazirabad, Sukkur, Dadu, Jamshoro, Matiari, Mirpur Khas, Umer Kot, Kambar Shahdad Kot, Ghotki, Sanghar and Tando AllahYar where out of school fall into this bracket. They are above the provincial average but have significantly high proportion of children out of school.
- **60.1% and Above Out of school**: 8 districts i.e Tharparkar, Badin, Jacobabad, Tando Muhammad Khan, Shikarpur, Kashmore, Sujawal and Thatta are in this group and need urgent policy initiatives to address this issue.

Figure 3.20: District Wise Out of School (5-16) Sindh, Census-2023

The top five districts of Sindh having higher OOSC in Census-2023 are Thatta, Sujawal, Kashmore, Shikarpur and Tando Muhammad Khan with percentages 75.79%, 74.91%, 69.96%, 62.94% and 62.48% respectively. By analyzing the low ranked districts in terms of out of school which depicts better situation, it is found that Karachi Central with 22.66%, ranks as a district with the lowest OOSC in Sindh, whereas Karachi South with 25.95% and Karachi East with 27.35% also stand in the low ranked districts. The district wise out of school comparison is also illustrated in the Figure 3.21, where Sindh province bars are shows in orange colour. The Purple and red vertical dashed lines represent national and provincial average of out of school children (5-16), respectively. Districts bars shown in descending order with respect to out of school percentages. The situation has more severity when it compared to national average of 35.60% which shows that 25 districts out of 30 districts of Sindh are below national average.

Figure 3.21: District Wise Comparison of Out Of School Children (5-16 Years Of Age)



(The purple and red vertical dashed lines represent national and provincial average out of school rates, respectively.)

3.6.3 Gender Parity Index

Gender parity refers to relative equality between men and women, or girls and boys, in terms of numbers and proportions in a given area. The gender parity index measures the progress towards gender parity in participation and/or educational opportunities for females compared to males. It refers to the rate of any quantifiable indicator for men compared to the same indicator for women. For example, the gender parity index in primary education is the rate of female students to male students. The gender parity index of 1 indicates the parity/equality between females and males. A value of less than 1 generally indicates a disparity in favor of boys/men, while a value greater than 1 indicates disparity in favor of girls/women.

District Wise Analysis of Gender Parity index

Figure 3.22 represents the gender parity in terms of literacy. The gender parity index data across the 30 districts shows an average gender parity index rate of 71.6%. 9 districts have gender parity index higher than the average of 71.6% whereas 21 districts fall below the average gender parity index of 71.6%. The data, categorized into different gender parity index brackets based on literacy, is as follows:

- **Up to 50.0% Gender Parity Index**: 3 districts i.e. Umer Kot, Tharparkar and Ghotki fall into this category, indicating that in these areas, the gender parity index is relatively low.
- **50.1% to 60.0% Gender Parity Index**: The group, with 4 districts i.e. Badin, Sujawal, Tando Muhammad Khan, and Kashmore, shows that a significant portion of districts have gender parity index within this range, reflecting moderate levels of gender parity index.
- **60.1% to 70.0% Gender Parity Index**: The largest group with 13 districts i.e. Thatta, Khair Pur, Kambar Shahdad Kot, Matiari, Jacobabad, Sanghar, Mirpur Khas, Larkana,Tando Allah Yar, Shaheed Benazirabad, Shikarpur, Naushahro Feroze, and Sukkur fall into this bracket.
- **70.1% and Above Gender Parity Index**: 10 districts i.e Dadu, Jamshoro, Keamari, Malir, Hyderabad, Karachi South, Karachi West, Karachi East, Korangi and Karachi Central are in this range.

The top five districts of Sindh having higher gender parity index in Census-2023 are Karachi Central, Karachi East, Korangi and Karachi South with gender parity index i.e. 99.36%, 96.73%, 96.36%, 94.18% and 92.89%.

Figure 3.22: District Wise Gender Parity Index Sindh, Census-2023

By analyzing the low ranked districts in terms of gender parity index, it is found that Ghotki has the lowest gender parity index 47.49%, in Sindh proceeded by Tharparkar with 48.44% and with Umer Kot 49.07%.

3.6.4 Educational Attainment

Education meets the shortage of trained and quali- fied manpower which is an important factor for increasing pro- ductivity, accelerating economic growth, individual develop- ment, individual freedom and emancipation of women. Census data on educational attainment is, therefore, essential for de- velopment plans.

According to Census-2023, out of population above the age of 5 years, 53.34% have attended school while a significant proportion of population 46.66% have never received any formal education.

Figure 3.23: Percentage of Population Who Have Attended School

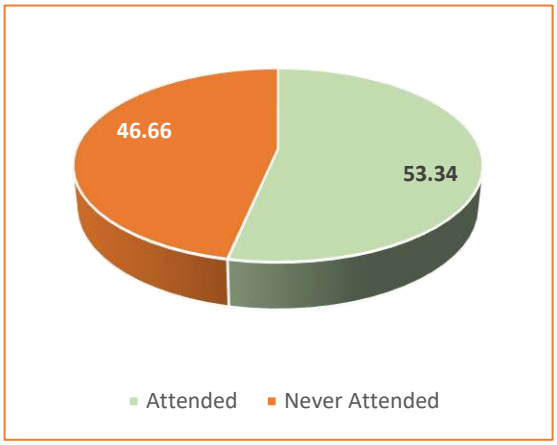


Table 3.17 presents the distribution of persons by sex, educational attainment and rural/urban domains. The results show that total number of educated people in the province, with some kind of educational qualification, are 24,886,980. Out of the total population (literate 5 and abve), 26.45% are below primary, 19.48% have passed primary level, 13.60% have passed only middle and 17.19% have passed matric. However, the percentage falls to 11.56% for intermediate, 5.54% for graduate (2 Years), 2.65 for graduate (4 Years), 2.53% for master's and 0.18% for M. Phil/Ph.D (Figure 3.24). In addition, 0.25% of the educated people hold a diploma or certificate and 1.10% hold other qualifications not covered by the above categories. The educational attainment for women exceeds than that of men till primary level.

but declines beyond that. Moreover, urban areas have a greater percentage of educated people with higher educational attainment as compared to rural areas.

Figure 3.24: Percentage of Population with Educational Attainment

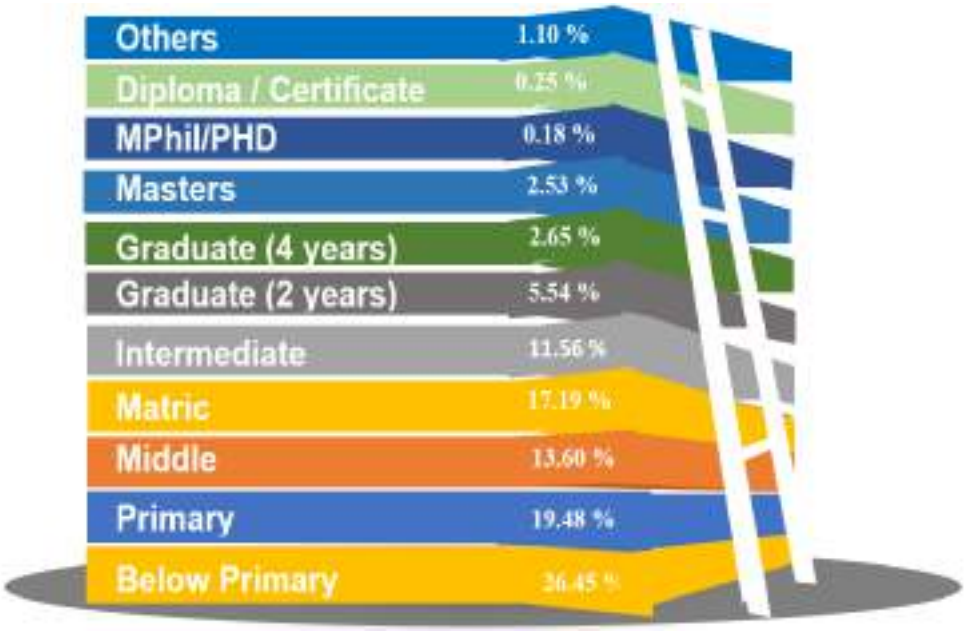


Table 3.17: Percentage of Educational Attainment Levels by Sex and Rural/Urban, Census-2023

Educational Attainment	All Areas				Rural				Urban			
	All Sexes	Males	Females	Trans genders	All Sexes	Males	Females	Trans genders	All Sexes	Males	Females	Trans genders
Below Primary	26.45	25.62	27.60	7.65	36.73	34.22	41.14	11.76	22.09	21.41	22.93	7.16
Primary	19.48	19.33	19.69	21.06	25.54	25.43	25.72	34.71	16.91	16.34	17.61	19.42
Middle	13.60	13.76	13.39	15.56	10.08	10.97	8.53	13.53	15.10	15.12	15.06	15.80
Matri	17.19	17.67	16.52	15.24	11.45	13.63	7.61	12.35	19.63	19.66	19.59	15.59
Intermediate	11.56	12.14	10.77	6.83	8.00	9.89	4.66	4.71	13.07	13.23	12.87	7.09
Graduate (2 Years)	5.54	5.87	5.10	1.71	2.91	3.67	1.58	0.00	6.66	6.94	6.31	1.91
Graduate (4 Years)	2.65	2.93	2.26	0.70	1.13	1.42	0.62	0.59	3.29	3.66	2.83	0.71
Master	2.53	2.77	2.20	0.44	1.00	1.26	0.55	0.00	3.18	3.50	2.77	0.50
M.Phil/Ph.D	0.18	0.20	0.16	0.19	0.06	0.08	0.04	0.00	0.23	0.25	0.20	0.21
Diploma/Certificate	0.25	0.35	0.13	0.19	0.13	0.15	0.09	0.00	0.31	0.44	0.14	0.21
Others	1.10	1.18	1.00	1.01	0.53	0.48	0.61	0.00	1.35	1.52	1.14	1.13
Total Literate (5+)	**24,886,980**	**14,381,195**	**10,504,204**	**1,581**	**7,421,929**	**4,730,131**	**2,691,628**	**170**	**17,465,051**	**9,651,064**	**7,812,576**	**1,411**

3.7 Employment

Employment refers to an activity in which an individual works for pay and profit. Those who are employed by others are known as employees. The person who engages others to work regularly for them is known as an employer. In Census 2023, two questions were asked regarding employment with reference of past

one year of working. The employment statistics captured in Census 2023, cannot be exactly comparable with Labour Force Survey due to its extensive nature and the reference period. The objective of its capturing in Census 2023 is to take snapshot of employment along with other demographic indicators.

Table 3.18: Percentage of Population by Employment, Sex and Rural/Urban, Census-2023

Employment	Total			Rural			Urban		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Employed	40.28	60.87	17.71	43.48	59.98	25.81	37.86	61.54	11.44
	100	100	100	100	100	100	100	100	100
Paid Employee	41.75	45.59	27.27	17.03	21.66	5.50	63.29	62.95	65.36
Self Employed Agri)	16.13	17.12	12.40	30.00	34.96	17.65	4.05	4.19	3.22
Self Employed (Non-A)	15.25	17.84	5.49	9.72	11.61	4.99	20.08	22.36	6.36
Employer	4.87	5.35	3.07	4.38	4.94	2.99	5.29	5.64	3.19
Unpaid F.Helper (agri)	15.43	9.99	35.90	32.06	23.05	54.47	0.93	0.52	3.41
Unpaid F.Helper (Non-A)	6.57	4.10	15.87	6.81	3.77	14.39	6.36	4.34	18.46
Unemployed	11.22	11.88	10.50	15.49	16.03	14.91	7.99	8.80	7.08
Not L.F & Stud (15 to 24)	42.56	25.57	61.05	62.34	44.49	26.72	63.48	65.12	41.00

Overall 66.22 million (38.56%) people are employed in Pakistan during the reference period of past one year. Table 3.18 reveals employment statistics in Sindh, breaking down the data by total employment and different employment categories. In Sindh 40.28%, were employed including 60.87% and 17.71% males and females respectively. Whereas percentage of male employees is lower in rural area i.e. 59.98% as compared to urban areas i.e. 61.54%. However, percentage of females' employees higher in rural with 25.81% as compared to urban areas with 11.44%. The male percentage urban is mainly due to higher number of self employed in non-agriculture activity and employer with 22.36% and 5.64% respectively as compared to rural with 11.61% and 4.64% respectively. This may be due to business and services opportunities. Paid employees are higher than all other categories. Paid employees are 41.75% in the province with greater proportion in urban areas (63.29%) as compared to rural areas (17.03%). The percentage of paid employees are higher in urban due to high percentage of females in urban with 65.36%, working in public and private sector as compared to female working in rural areas with 5.50%.

The population having its own land and own livestock is included in the category Self Employed (agriculture). In Sindh 16.13% employees are Self Employed in agriculture this percentage is is higher in male than female population with 17.12% and 12.40%. respectively.

Regard to the contributing family worker (unpaid family helper) both in agriculture and non-agriculture activity the percentage of female population with 35.90% and 15.87% respectively is higher than the male percentage 9.99% and 4.10% respectively. The percentage is higher in rural areas as females are mostly employed in agriculture sector as contributing family worker.

According to Census 2023 the unemployed population is 11.22% in the province which is higher in rural areas with 15.49% as compared to urban areas with 7.99%. Unemployment is higher in females with 10.50% as compared to males with 11.88%.

As Pakistan population is predominantly young and 18.56% population are of age 15-24. Therefore, an indicator for youth (15-24) "Not in employment and education" has been calculated which shows that in Sindh 42.56% of youth are not in employment and education. The percentage is higher in females with 61.05% than males with 25.57%. This needs immediate policy interventions to bring this potential to efficient utilization for country prosperity.

3.8 Migration

Migration is to move from one place, or locality to another due to any reason. In Census 2023 the migration has been captured as Intra provincial migration and Inter provincial migration.

Intra provincial migration is the movement of people from one geographic area to another within the same province or territory. The district or city of birth within the province is different from her/his district/city of enumeration within the province.

Inter provincial migration is the movement of people from one province or territory to another within a country

The migration in Table 3.19 is calculated for the person whose district of birth is different from current district of residence.

Table 3.19: Percentage of Migration by Gender and Rural / Urban

Indicators	Total				Rural				Urban			
	Total	Male	Female	Trans gender	Total	Male	Female	Trans gender	Total	Male	Female	Trans gender
Migration	5.44	5.60	5.25	14.28	2.19	2.19	2.19	10.16	8.21	8.47	7.91	15.01
Intra Provincial Migration	2.60	2.59	2.60	4.90	1.58	1.55	1.61	5.08	3.47	3.46	3.47	4.87
Inter Provincial Migration	2.66	2.83	2.46	9.14	0.60	0.63	0.57	5.08	4.41	4.68	4.11	9.86
Migration from Abroad	0.18	0.18	0.19	0.24	0.01	0.01	0.01	0.00	0.33	0.32	0.34	0.28
Reasons Migration												
Migration	100	100	100	100	100	100	100	100	100	100	100	100
Job/ Business	23.62	40.95	3.52	36.65	19.29	33.67	3.93	20.31	24.61	42.54	3.42	38.59
Education	2.75	3.91	1.40	0.50	1.07	1.54	0.57	0.00	3.13	4.42	1.61	0.56
Marriage	13.62	0.98	28.29	0.00	11.44	0.98	22.60	0.00	14.12	0.99	29.66	0.00
With family	42.97	35.48	51.68	10.12	43.54	35.59	52.04	7.81	42.84	35.45	51.59	10.39
Back To Home	0.31	0.36	0.26	1.16	0.30	0.38	0.21	0.00	0.32	0.36	0.27	1.30
Others	16.72	18.31	14.85	51.58	24.37	27.84	20.65	71.88	14.97	16.24	13.46	49.17

The above Table revels that total migration in Sindh is 5.44% which is higher in urban areas with 8.21% as compared to rural areas with 2.19%. In Sindh intra migration is high with 3.47% especially in urban areas, this means people from rural areas of Sindh moved to urban area / districts for sake of employment

and education due to non-availability of resources/ amenities in their areas. Inter migration i.e. migration from other province is 2.66%, higher in urban areas with 4.41%, predominately to Karachi and Hyderabad. Karachi being the business hub and metropolitan city attracts high number of migrants from other cities and provinces. District wise comparison reveals that higher migration in Sindh is in Karachi division with 11.21% and lowest in Tharparkar district with 0.29%.

Figure 3.25: Comparison of Intra Provincial Migration and Inter Provincial Migration by Rural/Urban

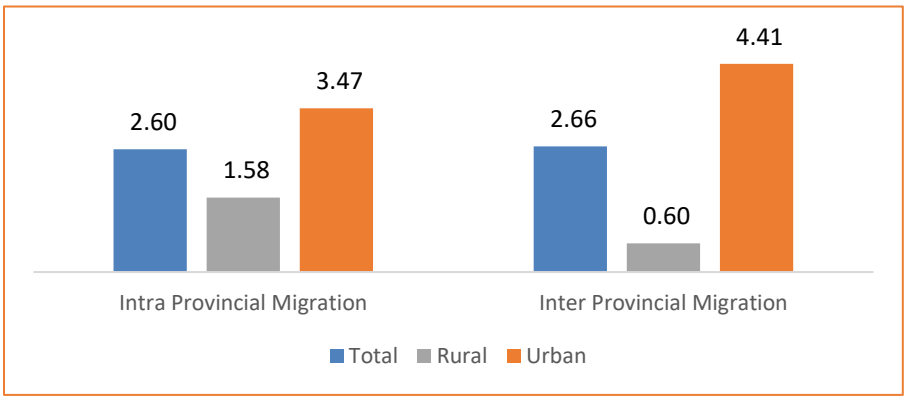


Table 3.20: Migrants Population of Sindh province from other provinces

Inter Provincial Migration	1,478,434
Khyber Pakhtunkhwa	514,660
Punjab	723,635
Balochistan	171,701
Islamabad Capital Territory	7,534
Gilgit-Baltistan	29,147
Azad Jammu & Kashmir	31,757

The figure 3.26 illustrates inter provincial migration, depicting individuals relocating from various provinces to Sindh. The highest percentage of migrants population coming to Sindh province are from Punjab with 48.95% followed by Khyber Pakhtunkhwa 34.81%, Balochistan 11.61%, Azad Jammu & Kashmir 2.15%, Gilgit-Baltsitan 1.97% and Islamabad 0.51%.

Figure 3.26: Percentage of Inter Provincial Migration of Sindh from Other Provinces

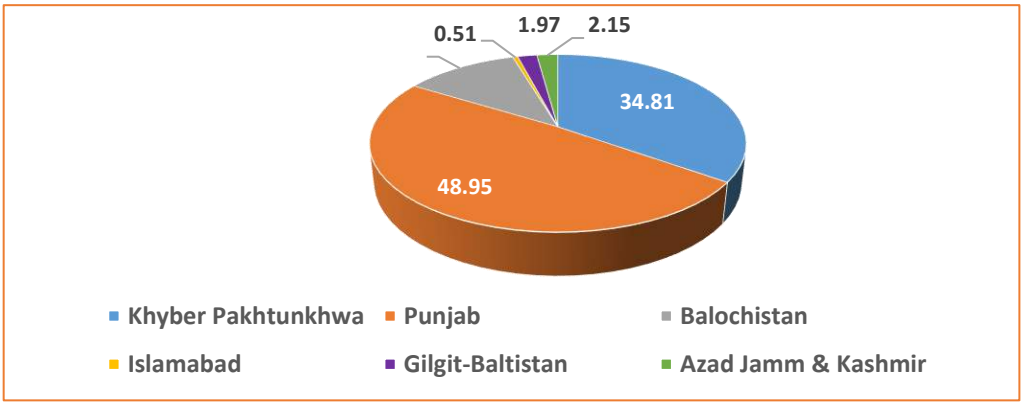
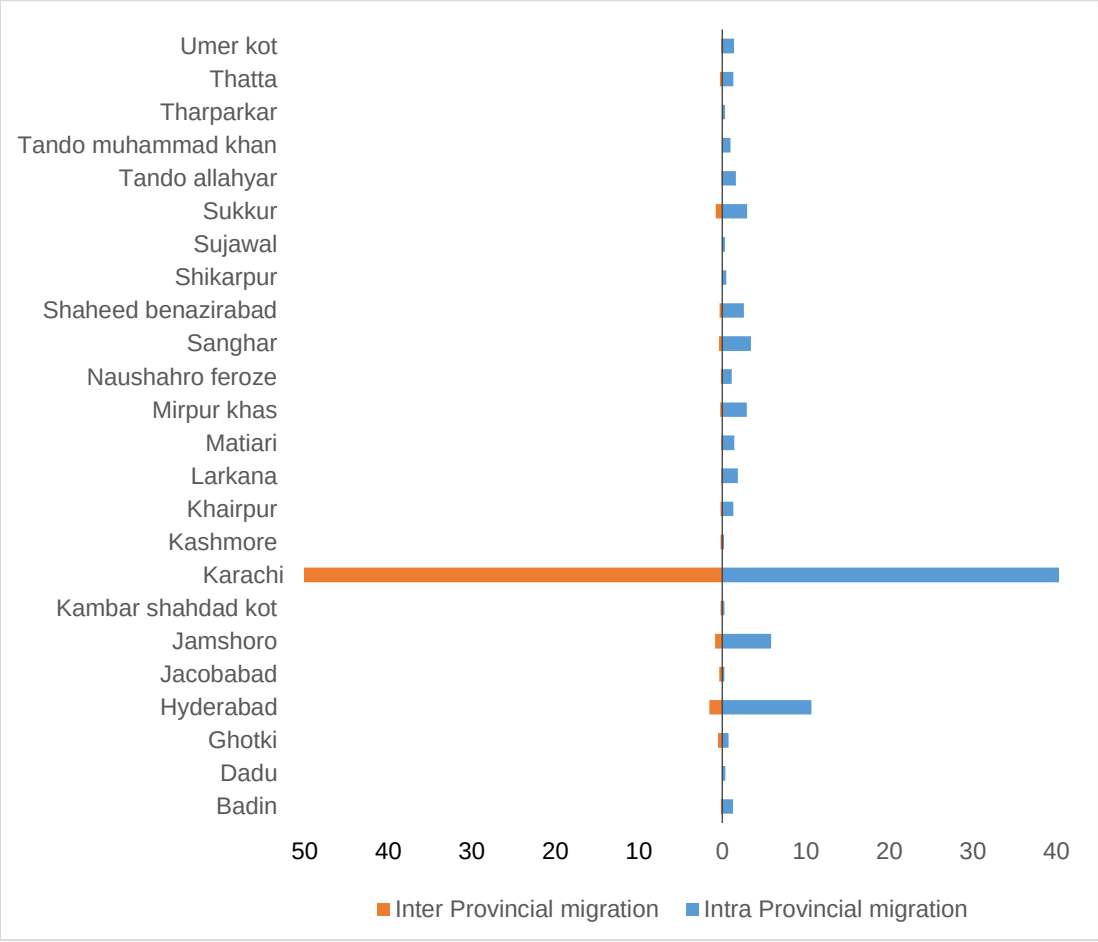


Figure 3.27 illustrate the district wise inter provincial migration as well as intra provincial migration. The percentages of inter and intra provincial migration is calculated from the percentages of Province Sindh inter and intra provincial migration. In inter provincial migration the highest percentage is of Karachi division with 93.11% (seven districts of Karachi consider as a one district). The Karachi is an economic hub and population move from other province towards Karachi as well as move from other districts of Sindh. The second highest inter migration is at district Hyderabad with 1.54% followed by district Jamshoro with 0.84% and district Sukkur with 0.80%. The lowest district in inter migration is Tharparkar with 0.01% followed by district Sujawal with 0.02%.

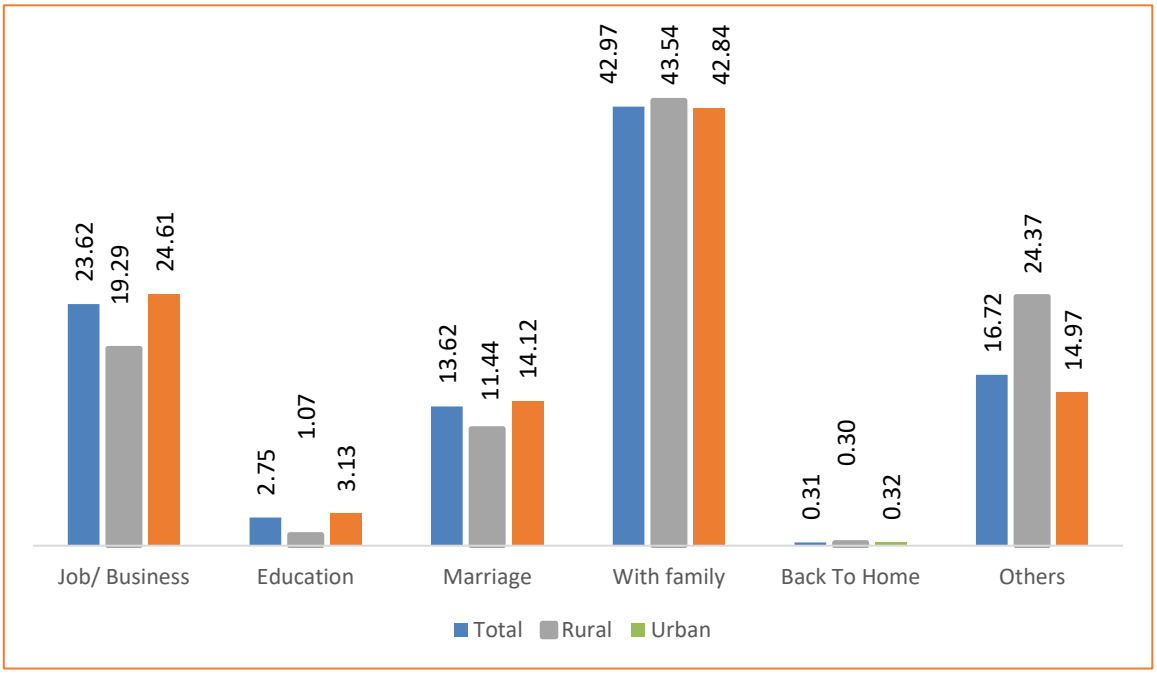
The highest percentage of intra migration is in same districts as in inter migration, district Karachi with 56.07% district Hyderabad with 1.67% and district Jamshoro with 5.84%. the lowest intra migration is in district Kashmore with 0.22% and district Kambar Shahdad Kot with 0.25%

Figure 3.27: District Wise Comparison Intra Provincial Migration and Inter Provincial Migration



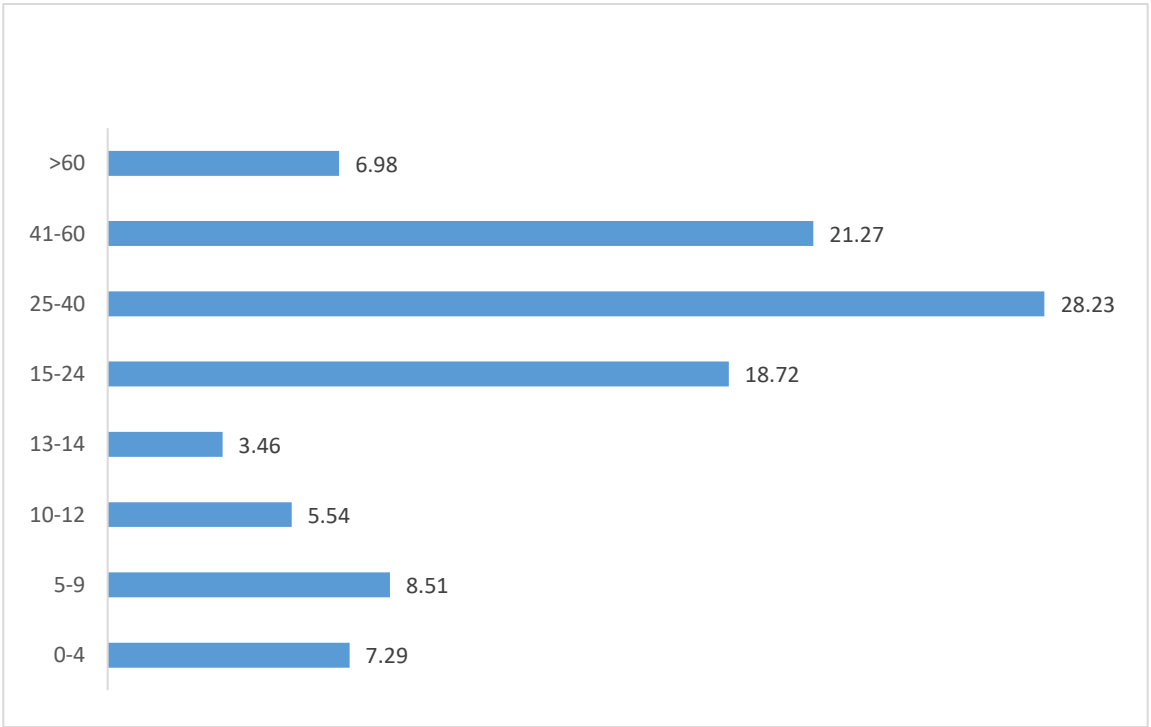
The perception of moving to urban areas is substantiated by the evidence from data for reasons of migration as illustrated in Figure 3.28. It is found highest reason cited for migration is moving with family with 42.97% followed by job/business with 23.62%, others with 16.72%, marriage with 13.62% and education with 2.75%. Here again the percentage is higher in urban areas than rural areas.

Figure 3.28: Reasons of Migration by Rural/Urban



Analyses of migration by age groups shows that the migration in the age group 25-40 is highest with 28.23%, followed by 41-60 age group with 21.27% and 15-24 age group with 18.72%. Remaining groups have less concentration of migrated population Figure 3.29. The age group 25-40 years is the group of young population where the reason for migration of population is due to job/ business and marriage.

Figure 3.29: Migration by Age Groups



PART - IV

HOUSING CHARACTERISTICS

7th Population & Housing Census 2023

"FIRST EVER DIGITAL CENSUS"

SINDH

ELECTRICITY 70%

SOLAR 13%

OTHERS 17%

FUEL USED FOR COOKING

GAS/LPG /LNG 49%

FIRE WOOD 45%

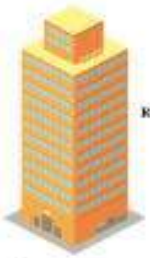
OTHERS 6%

TYPE OF HOUSING UNIT

PAKKA 58%

SEMI PAKKA HH 9%

KACHA HH 33%



HIGH RISE STRUCTURE

(RESIDENTIAL, ECONOMICAL, RESIDENTIAL & ECONOMICAL)

74,893

MAIN SOURCE OF DRINKING WATER

(INSIDE AND OUTSIDE)

TAP WATER 46%

MOTOR PUMP 34%

FILTRATION PLANT 3%

BOTTLE WATER 4%

DUG WELL 4%

OTHER 10%

TOILET FACILITIES

SEPARATE TOILET 59%

FLUSH 71%

NO FLUSH 10%

NO TOILET 19%

HOUSING CHARACTERISTICS

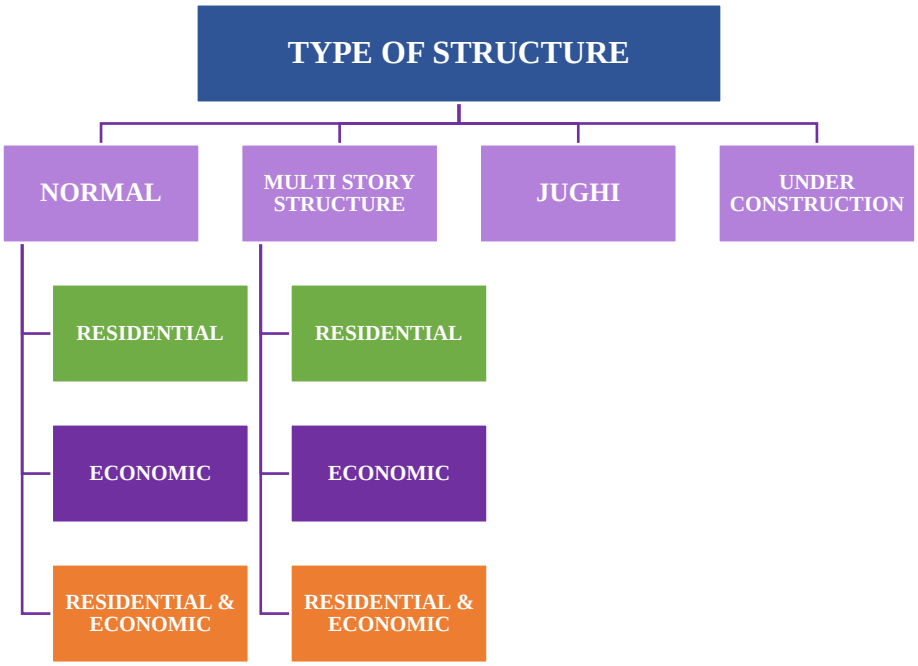
A total of fourteen (14) main questions were asked in the Census-2023 to collect and assess the housing characteristics of the province. The questions ranged from tenure of the housing unit to the number of family members living abroad (who stayed abroad for six months or more). The main focus was on assessing the type of housing units, type of material used in construction and the type of housing facilities available in the housing unit. This part of the Provincial Census Report has been divided into two sections namely: Type of Housing Units which constitutes information such as level of congestion, nature of tenure, period of construction of owned housing units, construction material used for construction of walls & roofs while the second part comprises of Availability of Housing Facilities, including information on sources of drinking water, lighting, fuel used for cooking, availability of kitchen, bathroom, Toilet facility.

4.1 Type of Structures

The sustainable housing and infrastructure development is the concern, before taking a step towards contributing to this sector. It is important for everyone to be aware of different types of buildings, their structure types and geographical location. Every constructor, be it an individual building a new home or a builder developing a vertical city, needs to have the proper information to be able to build in compliance with government regulations.

As Census is a complete count of all structures and population of country, therefore, to capture the different variations in structure as per changing ground realities. PBS with the consultation of all stakeholders and recommendations of technical committees, included the question regarding the type of structure with different variations along with identification of 23 different types of entities i.e houses, hospital, shops. The type of structures has been included first time in Census-2023. Following the categories that were included to determine the structure.

	Normal Residential:	1-3 Story Residential Buildings
	Normal Economic:	1-3 Story Economic Activity Buildings
	Normal Economic + Residential:	1-3 Story Multi-Purpose Buildings
	Multistory Residential:	All structures with 4 and above floors
	Multistory Economic:	All structures with 4 and above floors with Economic Activity Buildings
	Multistory Economic + Residential:	More than 3 Floors Multi-Purpose Buildings



64.62%	2.42%	32.96%	85.54%	11.46%	2.99%	4.06%	1.77%
							
Multi-Story (Residential)	**Multi-Story (Economic)**	**Multi-Story (Residential & Economic)**	**Residential**	**Economic**	**Residential & Economic**	**Jughi/Jhompri/ Tent/ Cave**	**Under Construction**

The distribution of structures across rural and urban areas highlights the prevalence of residential buildings. Among normal structures, residential structures account for 85.54% followed by economic structures with 11.46%, and residential & economic structures constitute 2.99%.

In all high-rise/multi-story structures, the percentage of residential structures remains the highest with 64.62%, economic structures represent 2.42%, and mixed-use residential & economic structures account for 32.96%. Notably, 92% of urban multi-story residential structures are concentrated in Karachi Division.

Overall, residential structures dominate with 81.58% in rural areas and 77.53% in urban areas. Economic structures follow with 9.83% in rural areas and 11.70% in urban areas. In multi-story buildings, residential structures make up 0.63%, followed by mixed-use residential & economic structures at 0.32%

and economic structures at 0.02%. The concentration of multi-story residential buildings in urban areas is higher at 1.33%, mainly due to apartment-style housing.

Table 4.1: Types of Structures by Rural/Urban, Census- 2023

Types of Structures	Total	Rural	Urban
All Structures	7,730,239	4,192,513	3,537,726
High Rise / Multi-Story Structure	**74,882 (0.97%)**	**1,843 (0.04%)**	**73,039 (2.06%)**
Residential	48,389 (64.62%)	1,350 (73.25%)	47,039 (64.40%)
Economic	1,815 (2.42%)	112 (6.08%)	1,703 (2.33%)
Residential & Economic	24,678 (32.96%)	381 (20.67%)	24,297 (33.27%)
Normal Structure	**7,204,699 (93.20%)**	**3,868,616 (92.27%)**	**3,336,083 (94.30%)**
Residential	6,163,126 (85.54%)	3,420,253 (88.41%)	2,742,873 (82.22%)
Economic	825,884 (11.46%)	412,143 (10.65%)	413,741 (12.40%)
Residential & Economic	215,689 (2.99%)	36,220 (0.94%)	179,469 (5.38%)
Others			
Jughi/Jhompri/Tent/Cave	313,738 (4.06%)	268,371 (6.40%)	45,367 (1.28%)
Under Construction	136,920 (1.77%)	53,683 (1.28%)	83,237 (2.35%)

4.2 Type of Housing Units

4.2.1 Level of Congestion - Persons and Rooms

According to the Census-2023, there are 9.86 million households in Sindh as compared to 8.48 million enumerated in Census-2017, which shows an increase of 16.33% during the intercensal period of 2017-2023. The distribution of housing units according to rural and urban domains in the province is 47.84% and 52.16% respectively as shown in Table 4.2.

Level of congestion in terms of persons and rooms per housing unit reflect the living standard of a society. It also helps in determining the overall requirement of housing units and ultimately provides a base for policy formulation and future planning at micro and macro level. The average household size has increased from 5.55 persons reported in Census-2017 to 5.63 persons in Census-2023.

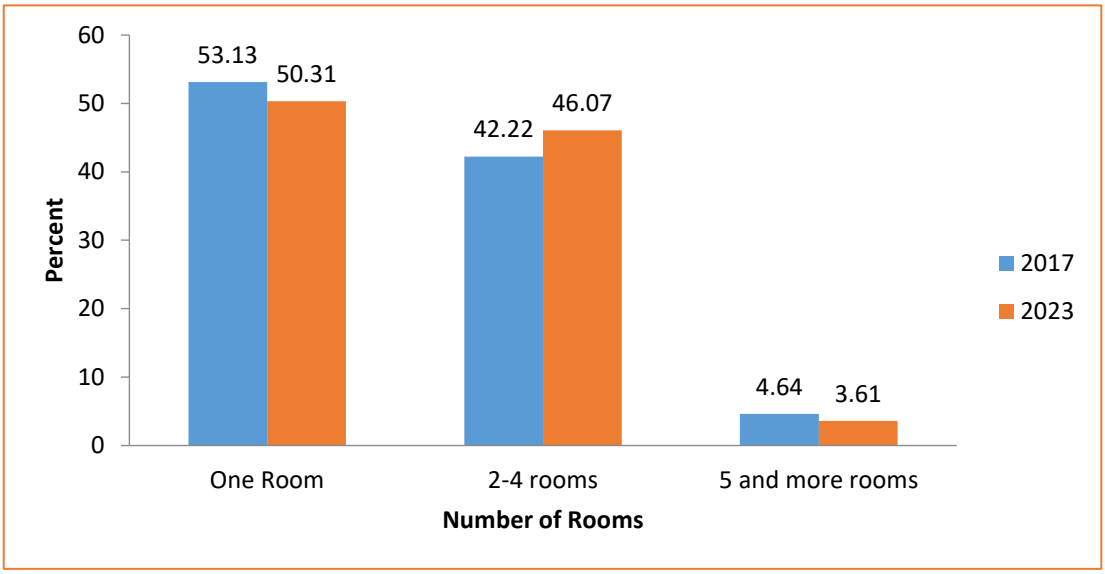
Table 4.2: Indices of Level of Congestion in Housing Units by Rural/Urban, Census-2017 and 2023

Level of Congestion	2017			2023		
	All Areas	Rural	Urban	All Areas	Rural	Urban
Average Household size	5.55	5.47	5.62	5.65	5.43	5.84
Houses with Single Room (%)	53.13	72.12	34.93	50.31	71.36	31.01
Houses with 2-4 Rooms (%)	42.22	26.16	57.61	46.07	27.75	62.88
Houses with 5 and More Rooms (%)	4.64	1.71	7.45	3.61	0.89	6.11
Housing Units Breakdown by Rural/Urban (%)	100	48.93	51.07	100.00	47.84	52.16
Number of Households	**8,478,047**	**4,148,451**	**4,329,596**	**9,862,870**	**4,718,683**	**5,144,187**

The percentage of single room houses has decreased from 53.13% in Census-2017 to 50.31% in Census-2023. This change is particularly notable in urban areas, where overcrowding in one-room units has been a significant issue. The percentage of housing units with two to four rooms has increased from 42.22% in

Census-2017 to 46.07% in Census-2023, whereas housing units with five and more rooms has decreased to 3.61% in 2023 as compared to 4.64% in Census-2017. The increase in 2 to 4 depends on improvement of level of congestion.

Figure 4.1: Housing Units by Number of Rooms, Census-2017 and 2023



4.2.2 Nature of Tenure

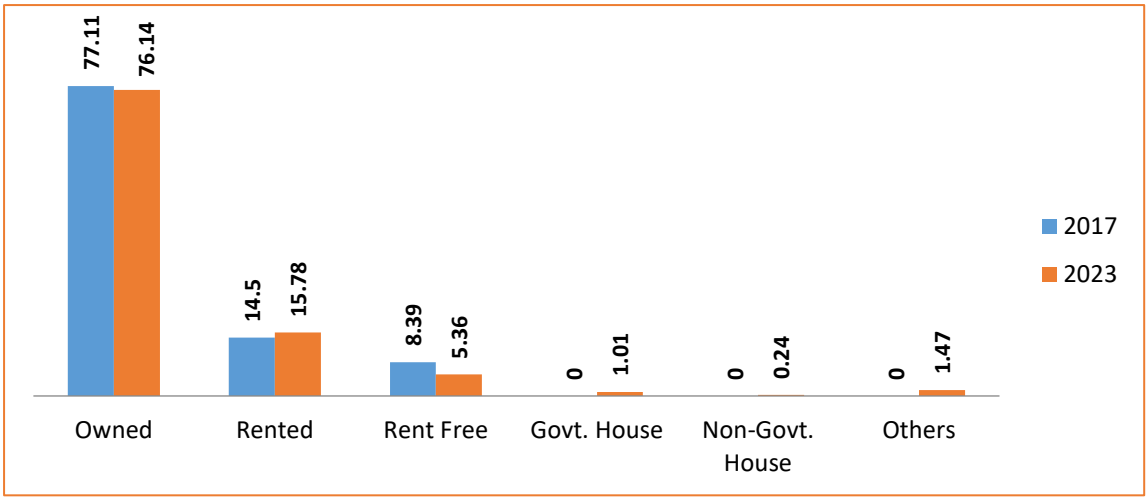
The categories of Government, Non-Government & Others are recently included in Census-2023. The houses allotted by government to government employees are termed as "Govt house" while in private sector they allot houses to their employees are known as "Non-Govt house". The houses other than all categories of housing status is mentioned in "Others".

Of the total housing units enumerated in the Census-2023, there is a marginal decline in the proportion of owned houses i.e.76.14% as compared to 77.11% in the Census-2017 as shown in Table 4.3. Moreover, 15.78% housing units were reported as rented which has increased as compared to 14.50% in Census-2017. The rent-free housing units have shown a decrease with 5.36% in Census-2023 as compared to 8.39% in Census-2017. The percentages for Govt house, Non-Govt house and others are nominal.

Table 4.3: Percentage of Housing Units by Nature of Tenure and Rural/Urban, Census-2017 and2023

Tenure	2017			2023		
	All Areas	Rural	Urban	All Areas	Rural	Urban
Owned	77.11	86.79	67.84	76.14	86.11	67.00
Rented	14.50	2.09	26.39	15.78	2.59	27.87
Rent Free	8.39	11.12	5.77	5.36	8.17	2.78
Govt. House	-	-	-	1.01	0.33	1.64
Non-Govt. House	-	-	-	0.24	0.34	0.15
Others	-	-	-	1.47	2.46	0.56
Number of Households	**8,478,047**	**4,148,451**	**4,329,596**	**9,862,870**	**4,718,683**	**5,144,187**

Figure 4.2 : Housing Units by Nature of Tenure, Census-2017 and 2023



4.2.3 Construction Material of House

The Pacca, Semi Pacca and Kacha House aims to assess the affordability and accessibility of housing, tracking changes in construction costs and property values. It is fundamental to a country's development as it provides a foundation for stability and security, enabling individuals and families to invest in their future. The analysis informs policy decisions, helping governments and stakeholders address housing shortages and promote affordable housing initiatives.

Census-2023 collects information regarding pacca house, semi pacca house and kacha house. Pacca house is defined as a well-constructed, permanent or concrete house made of durable materials such as bricks, cement and steel etc. The roof and walls of a pacca house are made from durable materials like cement concrete, burnt bricks, jack board, timber or stone. Semi pacca house is defined as house made of prefabricated material. It also includes house either roof or wall made of prefabricated material. The house having roof made up of cement and wall made up of plywood are also declared as semi pacca house. Kacha house includes houses where walls are made of bamboo, mud or plywood/ card board and roof is made by cement/ iron sheet or garder / T-iron or pre-fabricated material.

Pacca House			**Semi Pacca House**			**Kacha House**		
								
Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
57.69	27.25	85.62	9.19	11.74	6.86	33.11	61.01	7.52

In rural areas of Sindh province majority of houses have kacha structures with 61.01% and Pacca houses are 57.69%, higher in urban areas with 85.62% as compared to rural areas with 27.25%. Semi pacca houses are higher in rural areas as compared to urban areas with 11.74%.

District Wise Analysis of Pacca Houses

District wise analysis for Pacca has revels that across 30 districts average percentage pacca houses is 57.7%. The districts with pacca houses rates higher than the average 57.7% are 8, whereas 22 districts fall below the average pacca houses in the province 57.7%. This average serves as a benchmark to assess the socioeconomic development, urbanization, and housing quality disparities across districts, enabling targeted interventions and policy decisions to bridge the gaps and promote equitable growth and development.

The pacca houses concentration across the districts reveal a diverse distribution. The data, categorized as follows:

- **Up to 20.0% Pacca houses**: The 02 districts i.e. Tharparkar & Sujawal with up to 20% Pacca House ownership require urgent government attention and targeted interventions.

- **20.1% to 40.0% Pacca houses**: The 14 districts i.e. with Pacca House rates between 20-40% indicate moderate levels of socioeconomic development and urbanization. This range suggests a balance between rural and urban populations, with opportunities for targeted investments to further improve housing quality and infrastructure.

- **40.1% to 60.0% Pacca houses**: The 06 districts i.e. Jamshoro, sukkur, Matiari, Larkana, Ghotki & Shaheed Benazirabad with Pacca houses rates between 40-60% indicate better economic stability and infrastructure development. This range suggests a strong foundation for middle-class growth and moderate urbanization.

- **60.1% to 80.0% Pacca houses**: there is no district in this range, suggesting a well-educated population with improved living standards and economic stability.

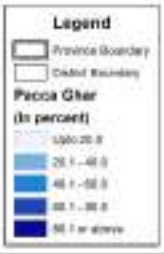
- **80.1% and Above Pacca houses:** 08 districts i.e. Karachi division (seven districts of Karachi) and Hyderabad achieve this high pacca houses level, indicating exceptional educational attainment and socioeconomic prosperity.

Figure 4.3: District Wise Pacca Housing Units Sindh, Census-2023

DISTRICT	PACCA GHAR	RANK
KARACHI SOUTH	97.4	1
KARACHI CENTRAL	96.5	2
KORANGI	96.5	3
KARACHI EAST	93.5	4
KEAMARI	92.5	5
MALIR	91.3	6
KARACHI WEST	90.3	7
HYDERABAD	83.6	8
JAMSHORO	56.0	9
SUKKUR	53.3	10
MATIARI	47.7	11
LARKANA	46.8	12
QHOTKI	43.0	15
SHAHEED BENAZIRABAD	40.1	14
TANDO ALLAHYAR	38.2	15
NAUSHAHRO FEROZE	38.2	16
SANGHAR	36.7	17
KHAIRPUR	36.2	18
THATTA	34.7	19
MIRPUR KHAS	33.4	20
BADU	30.7	21
KAMBAR SHAHDAD KOT	30.2	22
SHIKARPUR	29.4	23
TANDO MUHAMMAD KHAN	28.8	24
JACOBABAD	28.2	25
UMER KOT	26.7	26
KASHMORE	25.1	27
BADIN	21.9	28
THARPARKAR	19.1	29
SUJAWAL	15.8	30

Average	57.69
Total Districts	**30**
Above Average	8
Below Average	22

Pacca Ghar	Districts
Upto 20.0	2
20.1 - 40.0	14
40.1 - 60.0	6
60.1 - 80.0	0
80.1 or above	8
Total:	**30**



By analyzing the low ranked districts in terms of Pacca houses, the Lowest percentage is observed in Districts Sujawal with 15.8%. The other districts with lower percentage of Pacca houses are Tharparkar 19.1% and Badin with 21.9%. The reason for lower percentage of pacca houses is due to many factors like limited resources, lack of infrastructural resources, Rural-urban migration & traditional norms etc.

4.2.4 Period of Construction

As reflected in Table 4.4, 5.28% of the owned houses were found under construction at the time of Census-2023. The recent trend of under construction houses is higher in rural areas as compared to urban areas.

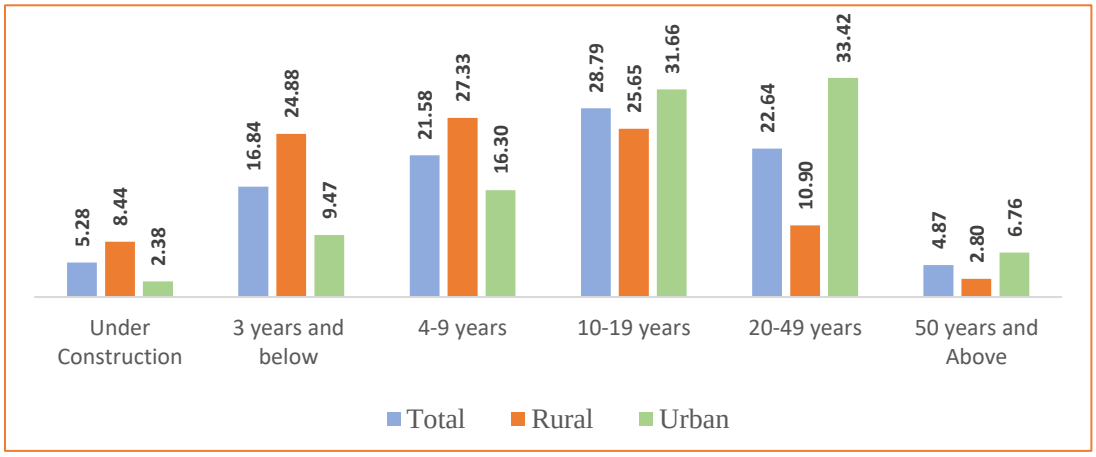
It is found that in rural area vast majority of houses i.e. 27.33% are relatively newly constructed within a period of 4-9 years. However, in urban areas the majority i.e. 33.42% lies within a period of 20-49 years followed by 31.66% within 10-19 years.

Table 4.4: Percentage of Owned Housing Units by Period of Construction and Rural/Urban, Census-2023

Period of Construction	2023		
	All Areas	Rural	Urban
All	100	100	100
Under Construction	5.28	8.44	2.38
3 years and below	16.84	24.88	9.47
4-9 years	21.58	27.33	16.30
10-19 years	28.79	25.65	31.66
20-49 years	22.64	10.90	33.42
50 years and Above	4.87	2.80	6.76
Number of Households	**9,862,870**	**4,718,683**	**5,144,187**

Figure 4.4 portrays the picture of the house by period of construction for the census year 2023. The Figure makes it evident that the proportion of houses built for 10 to 19 years remains the highest with 28.79%, whereas the houses constructed during 50 years and above remains the lowest with 4.87%.

Figure 4.4: Housing Units by Period of Construction, Census-2023



4.2.5 Construction Material Used for Walls

Quality of housing units and living standards can be assessed through the construction material used for the walls and roofs of the housing units. In Census 2023, different categories like Baked Bricks/Blocks/Stones, Unbaked Bricks/ Mud, Wood/Bamboo, Plywood/ Cardboard, Pre-Fabric & others were asked to assess the housing construction material as depicted in following table.

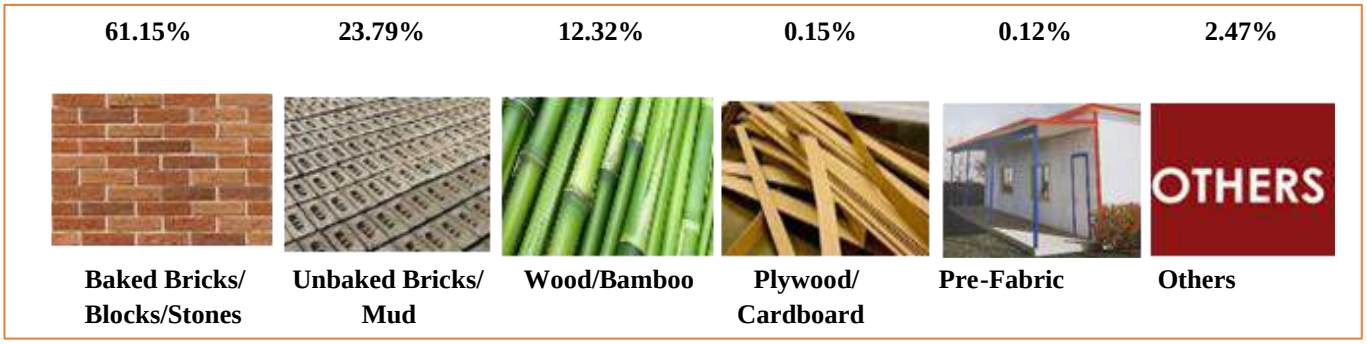


Table 4.5: Number and Percentage of Housing Units by Construction Material Used for Outer Walls, Census- 2017 and 2023

Construction Material		2017			2023		
		All Areas	Rural	Urban	All Areas	Rural	Urban
Baked Bricks / Blocks / Stones	Number	5,239,265	1,393,823	3,845,442	6,030,796	1,511,685	4,519,111
	Percent	**61.80**	**33.60**	**88.82**	**61.15**	**32.04**	**87.85**
Unbaked Bricks / Mud	Number	1,872,548	1,572,100	300,448	2,346,215	1,898,816	447,399
	Percent	**22.09**	**37.90**	**6.94**	**23.79**	**40.24**	**8.70**
Wood / Bamboo	Number	1,171,494	1,042,520	128,974	1,215,436	1,100,669	114,767
	Percent	**13.82**	**25.13**	**2.98**	**12.32**	**23.33**	**2.23**
Plywood/Cardboard*	Number	-	-	-	14,643	11,644	2,999
	Percent				**0.15**	**0.25**	**0.06**
Pre-Fabric*	Number	-	-	-	12,019	6,499	5,520
	Percent				**0.12**	**0.14**	**0.11**
Others	Number	194,740	140,008	54,732	243,761	189,370	54,391
	Percent	**2.30**	**3.37**	**1.26**	**2.47**	**4.01**	**1.06**
Number of Households		**8,478,047**	**4,148,451**	**4,329,596**	**9,862,870**	**4,718,683**	**5,144,187**

**Plywood/Cardboard and Pre-Fabric has been added in Census-2023*

In the Census-2023, majority of houses 61.15% have reported that their walls are made of baked bricks/ blocks/ stones as compared to 61.80% in Census-2017. The percentage is higher in urban areas with 87.85% as compared to 32.04% in rural areas in Census-2023. Moreover, the walls were reported as being made of unbaked bricks with mud bonding is 40.24% in rural areas as compared to 8.70% in urban areas.

The use of wood bamboo for construction of walls has increased slightly from 13.82% in Census-2017 to 12.32% in Census-2023. The concentration is higher in rural areas with 23.33% as compared to 2.33% only in urban areas.

The categories of Plywood/Cardboard and Pre-Fabric have been included in Census-2023. Nominal houses reported these categories with 0.25% and 0.14% is higher in rural areas then urban areas with 0.06% and 0.11% respectively.

4.2.6 Construction Material Used for Roofs

The use of material for construction of roofs is also used to assess the living standards and to collect data for appropriate policy making for disasters. Table 4.6 reveals that in Sindh province the highest percentage of material used for roofs is wood/Bamboo with 33.45%. The rural areas have predominately higher percentage of housing units i.e. 61.35% which have roofs constructed using Wood/Bamboo as compared to only 7.85% in urban areas. The second most prominent method used in Sindh for roof is RCC/RBC with 29.90%. This clearly depicts that in urban areas majority i.e. 63.68% used RCC/RBC while in rural areas the most prevalent is Wood/Bamboo followed by Garder/T.Iron. Almost 1/3 of houses 26.9% in urban areas are also using Garder/T.Iron as material of construction for roofs.

The category of Pre-Fabric has been included in Census-2023 with the share of 0.55%. The

data for this category was not available in Census-2017. The use of unspecified material in construction of roofs has increased from 2.22% in Census-2017 to 2.60% in Census-2023.

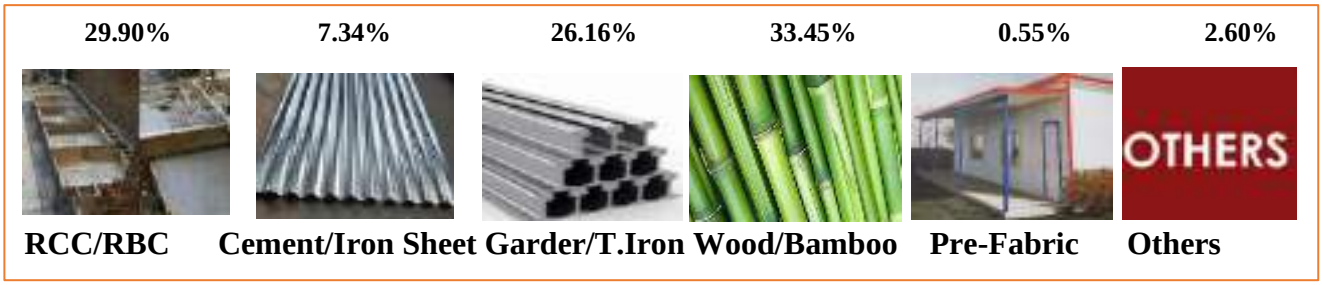


Table 4.6: Number and Percentage of Housing Units by Construction Material Used for Roofs, Census-2017 and 2023

Construction Material		2017			2023		
		All Areas	Rural	Urban	All Areas	Rural	Urban
RCC/RBC	Number	2,339,005	144,878	2,194,127	2,949,226	188,041	2,761,185
	Percent	**27.59**	**3.49**	**50.68**	**29.90**	**3.99**	**53.68**
Cement/Iron Sheet	Number	678,665	175,559	503,106	723,858	188,381	535,477
	Percent	**8.00**	**4.23**	**11.62**	**7.34**	**3.99**	**10.41**
Garder/T. Iron	Number	2,464,087	1,246,212	1,217,875	2,580,464	1,238,144	1,342,320
	Percent	**29.06**	**30.04**	**28.13**	**26.16**	**26.24**	**26.09**
Wood/Bamboo	Number	2,808,059	2,454,140	353,919	3,298,734	2,895,087	403,647
	Percent	**33.12**	**59.16**	**8.17**	**33.45**	**61.35**	**7.85**
Pre-Fabric*	Number	-	-	-	54,474	12,501	41,973
	Percent	-	-	-	**0.55**	**0.26**	**0.82**
Others	Number	188,231	127,662	60,569	256,114	196,529	59,585
	Percent	**2.22**	**3.08**	**1.40**	**2.60**	**4.16**	**1.16**
Number of Households		**8,478,047**	**4,148,451**	**4,329,596**	**9,862,870**	**4,718,683**	**5,144,187**

** Pre-Fabric has been added in Census-2023*

4.3 Availability of Facilities in Housing Units

4.3.1 Source of Drinking Water

Easy access to drinking water serves as an index of quality living. In Census 2023, information has been collected from households about the main source of drinking water inside and outside of the house. The main categories including Tap Water, Motorized Pump, Hand Pump, Dug Well, Spring, Bottle Water, Filtration Plant and Tanker/Truck/Water bearer. The availability of drinking water through all sources in the province reported in the Census-2017 and Census-2023 are shown in Table 4.7.

The table 4.7 revels that 63.63% of households in census 2023 reported that their main source of drinking water is inside of the house as compared to 85.58% in 2017. The detailed analysis of data revels that the percentage of houses with the main source of drinking water outside house in Census 2023 is higher with 36.37 % as compared to 14.42% only in 2017, categories wise analysis revels that this is mainly due to the inclusions of Tankes/Water Bearer 13.47%, Bottled water 10.4% and Filter

plant with 8.21%. The percentages are highest in urban areas 24.27%, 20.84% and 16.24% respectively mainly due to quality of water supply at home, which is not suitable for drinking. This shows the diverse trends in the water access and in quality in Urban/Rural areas. The table also reveals that main source used inside the house for drinking water is Tap water with 58.50% followed by Motor Pump/Hand Pump with 39.02% which has increased trend as compared to Census 2017 with 34.78%.

Table 4.7: Percentage of Housing Units by Source of Drinking Water and Rural/Urban, Census-2017 and 2023

Sources of Drinking Water	2017			2023		
	All Areas	Rural	Urban	All Areas	Rural	Urban
Inside the House	**7,255,903**	**3,227,322**	**4,028,581**	**6,276,126**	**2,837,018**	**3,439,108**
	85.58	**77.80**	**93.05**	**63.63**	**60.12**	**66.85**
Tap Water	52.38	46.93	56.74	58.50	52.91	63.11
Motor Pump/Hand Pump(Bore Hole)	34.78	35.92	33.86	39.02	44.23	34.72
Protected Well	1.44	1.53	1.37	0.53	0.71	0.38
Unprotected Well	1.96	3.80	0.49	0.16	0.27	0.07
Others	9.44	11.81	7.54	1.79	1.87	1.73
Outside the House	**1,222,144**	**921,129**	**301,015**	**3,586,744**	**1,881,665**	**1,705,079**
	14.42	**22.20**	**6.95**	**36.37**	**39.88**	**33.15**
Tap Water	22.96	24.04	19.62	23.95	31.42	15.71
Motor Pump/Hand Pump(Bore Hole)	22.98	24.67	17.83	24.96	32.36	16.80
Protected Well	4.75	5.78	1.60	2.91	5.05	0.55
Unprotected Well	9.10	11.60	1.45	5.65	10.20	0.64
Bottled Water*	-	-	-	10.41	0.96	20.84
Spring	0.62	0.53	0.91	0.38	0.61	0.12
Filtration Plant*	-	-	-	8.21	0.94	16.24
Tanker/Water Bearer*	-	-	-	13.47	3.69	24.27
Canal/River/Pond	16.38	19.88	5.70	6.87	11.71	1.53
Others	23.20	13.50	52.89	3.17	3.05	3.30
Number of Households	**8,478,047**	**4,148,451**	**4,329,596**	**9,862,870**	**4,718,683**	**5,144,187**

**The category "Bottled Water", "Filtration Plant" and "Tanker/Water Bearer" was added in Census-2023.*

Figure 4.5: Housing Units by Drinking Water Inside, Census-2023

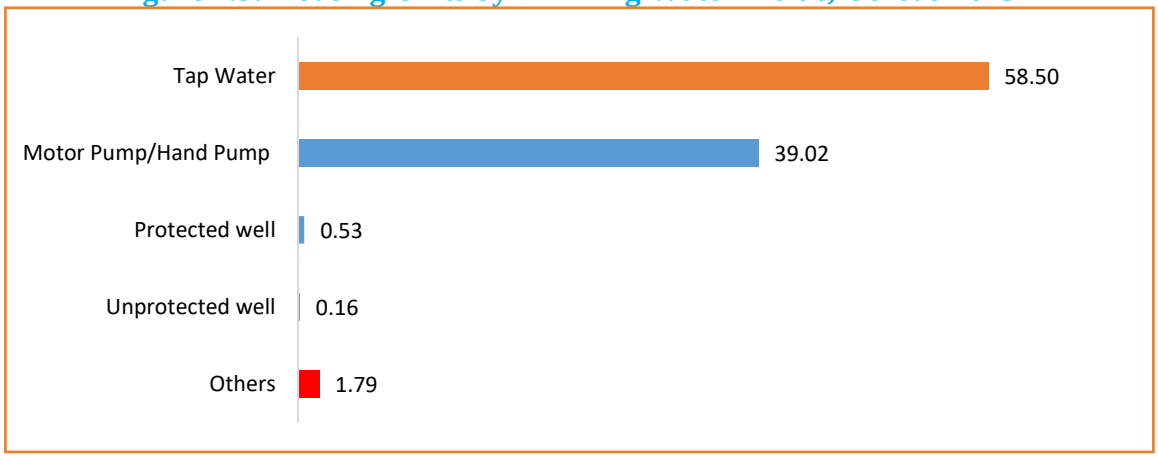
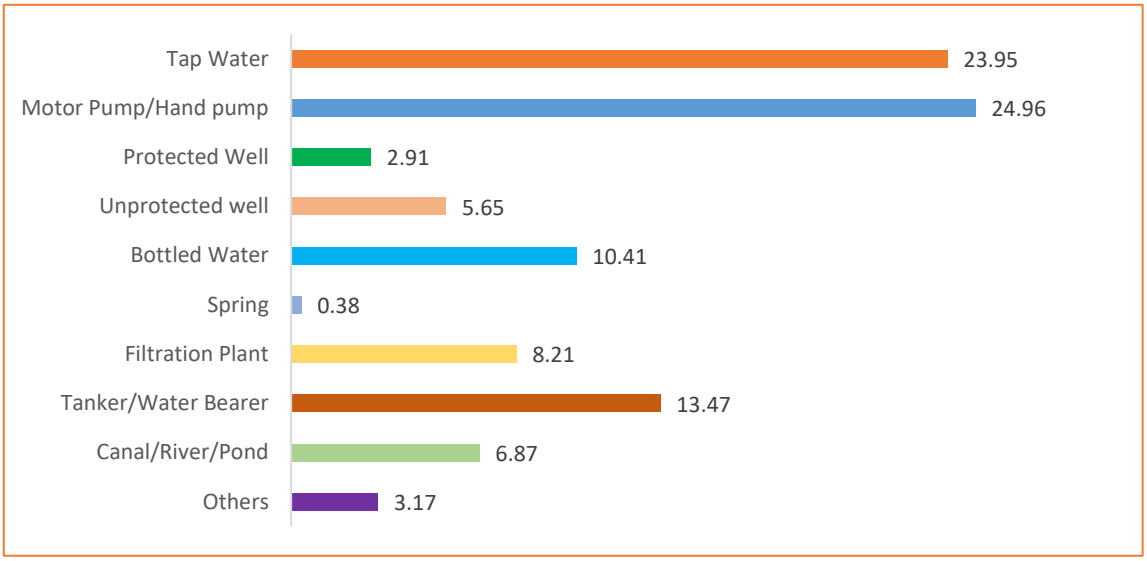


Figure 4.6: Housing Units by Drinking Water Outside, Census-2023



District Wise Analysis of Drinking Water Facility (Inside Home)

The figure 4.7 illustrates the inside drinking water concentration in districts of Sindh. In Sindh only 63.63% households have the facility of drinking water within the premises, the remaining 36% are using drinking water outside source. Across 30 districts the drinking water facility is inside the premises. 15 districts are higher than the average and 15 districts falls below the average.
The drinking water facility inside house rates across the districts reveal a diverse distribution.

- **Up to 20.0% Drinking Water Rate (Inside Home)**: Only one district i.e. Tharparkar lies in this category shows that less than 20% households have drinking water facility inside house. This depicts severe issues of water facility inside home creates several health and other issues.

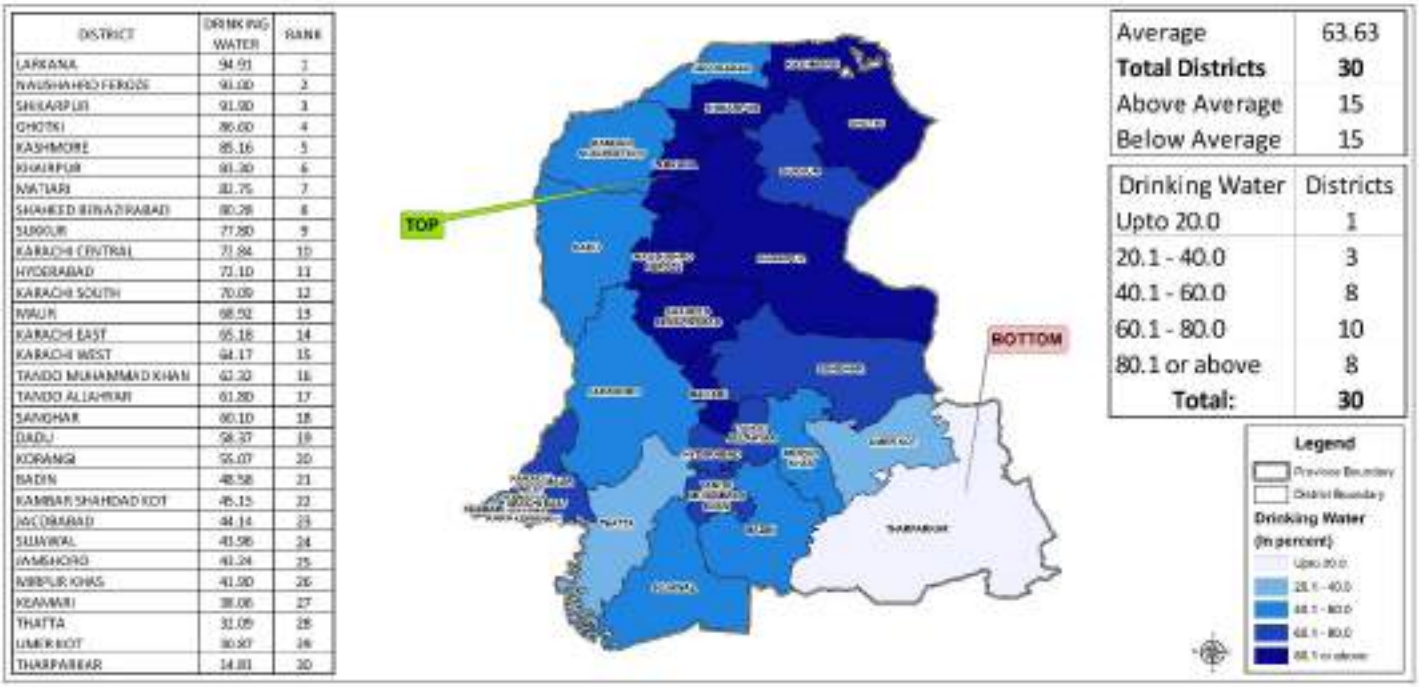
- **20.1% to 40.0% Drinking Water Rate (Inside Home)**: 3 districts i.e. Keamari (38.06%), Thatta (32.09%), Umer Kot (30.87%) showing that a significant percentage of these households do not have drinking water facility inside the house, reflecting moderate levels of water scarcity inside home and underscoring the need for targeted interventions to enhance water infrastructure and accessibility.

- **40.1% to 60.0% Drinking Water Rate (Inside Home):** 08 districts i.e. Dadu, Kaorangi, Badin, Kambar shahdad kot, Jacobabad, Sujawal, Jamshoro and Mirpurkhas with drinking water rates between 40.1% and 60.0%, indicating relatively better access of drinking water inside homes.

- **60.1% to 80.0% Drinking Water Rate (Inside Home):** 10 districts i.e. Sukkur, Karachi Centeral, Hyderabad, Karachi South, Malir, Karachi East, Karachi West, Tando Muhammad Khan, Tando Allahyar and Sanghar in this range, indicating significant advancements in water accessibility, with nearly two-thirds to three-quarters of households enjoying clean drinking water, setting a strong foundation for public health and well-being.

- **80.1% or Above Drinking Water Rate (Inside Home):** There are 08 districts i.e. Larkana, Naushahro Feroze, Shikarpur, Ghotki, Kashmore, Khairpur, Matiari and Shaheed Benazirabad with drinking water rates above 80.1%, achieving this high level of access to drinking water facility inside home, demonstrating exceptional success in water infrastructure development and management.

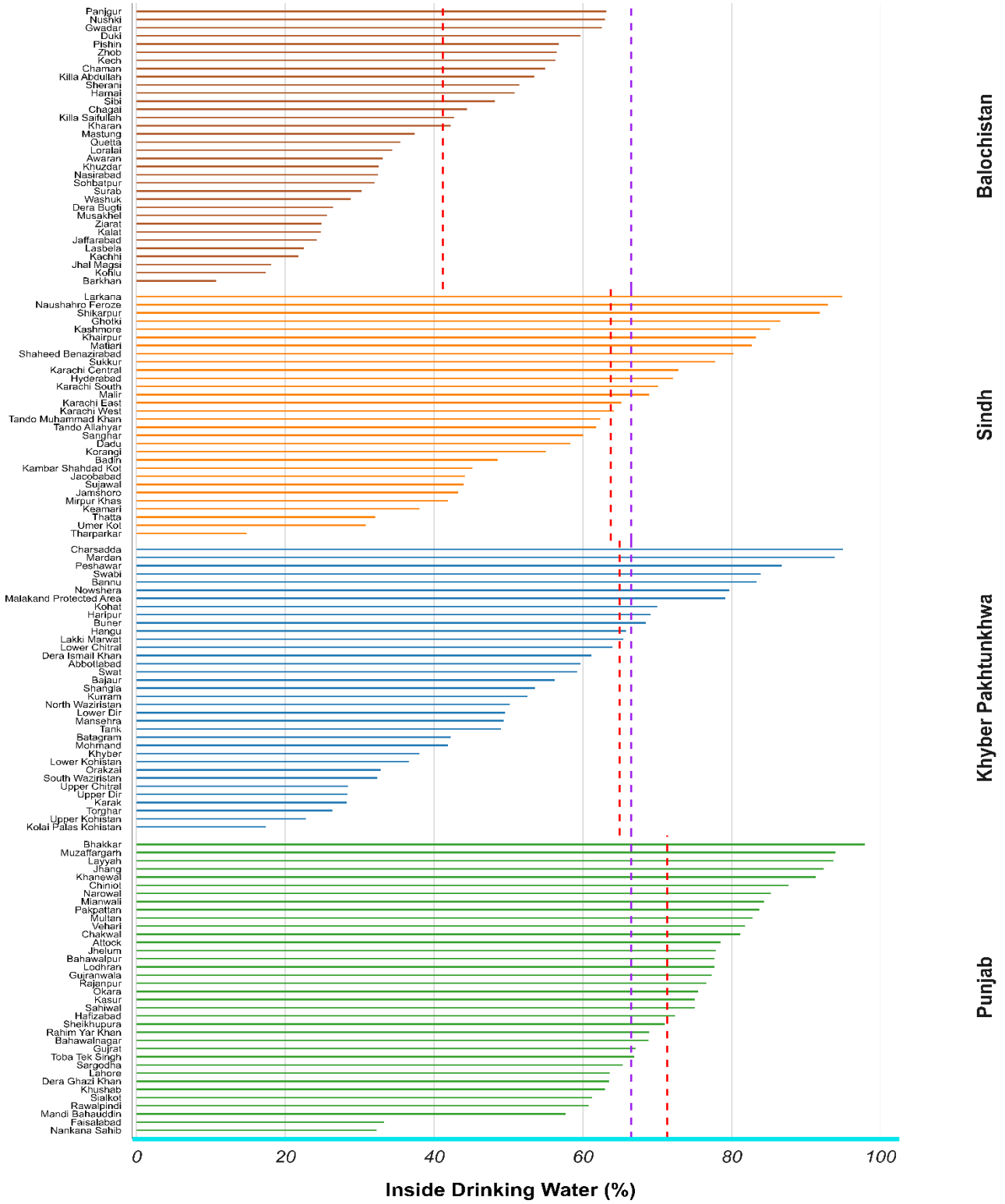
Figure 4.7: District Wise Drinking Water Facility (Inside Home) Sindh, Census-2023



DISTRICT	DRINKING WATER	RANK
LARKANA	94.91	1
NAUSHAHRO FEROZE	91.00	2
SHIKARPUR	91.00	3
GHOTKI	86.00	4
KASHMORE	85.16	5
KHAIRPUR	81.30	6
MATIARI	81.75	7
SHAHEED BENAZIRABAD	80.28	8
SUKKUR	77.80	9
KARACHI CENTRAL	71.84	10
HYDERABAD	71.10	11
KARACHI SOUTH	70.09	12
MALIR	68.52	13
KARACHI EAST	65.18	14
KARACHI WEST	64.17	15
TANDO MUHAMMAD KHAN	62.30	16
TANDO ALLAHYAR	61.80	17
SANGHAR	60.10	18
DADU	58.37	19
KORANGI	55.07	20
BADIN	48.58	21
KAMBAR SHAHDAD KOT	45.15	22
JACOBABAD	44.14	23
SUJAWAL	43.96	24
JAMSHORO	43.24	25
MIRPUR KHAS	41.90	26
KHAIRPUR	38.06	27
THATTA	31.09	28
UMER KOT	30.97	29
THARPARKAR	14.81	30

By analyzing high and low rank districts, the district with highest percentage of drinking water inside premises includes Larkana (94.91%) followed by Naushahro Feroze, Shikarpur and Ghotki. The district wise drinking water inside the premises comparison is also illustrated in the Figure 4.8, where Sindh province bars are shows in orange colour. The Purple and red vertical dashed lines represent national and provincial average of drinking water facility (inside home). Districts bars shown in descending order with respect to percentages of drinking water (inside). This also presents its comparison with national average and other province. 13 districts, have percentage even higher than national average with 66.34% namely Larkana, Naushahro Feroze, Shikarpur, Ghotki and also includes three districts of Karachi and some others.

Figure 4.8: District Wise Comparison of Drinking Water Facility Inside the Premises



(The purple and red vertical dashed lines represent national and provincial average drinking water inside the house rates, respectively.)

4.3.2 Source of Lighting

In Census 2023 along with other sources, solar panels source is also included to assess the main sources of electricity. Solar energy is environmentally friendly technology, a great energy supply and one of the most significant renewable and green energy sources. Solar lighting plays a vital role in nation development by providing energy access to remote communities, powering essential services like healthcare and education, and reducing reliance on fossil fuels as well as boosts economic growth by creating jobs in the solar industry and reducing energy costs for businesses and households. Additionally, solar lighting enhances energy security, mitigates climate change, and supports sustainable development goals. Electricity is the major source of lighting in the province.

It is observed that 70.33% of houses all over the province has reported electricity as main source of lighting in Census-2023 shows decreasing trend as compared to 80.44% in Census 2017. It seems that in Census 2017 due to the non-availability of Solar panel codes the response regarding solar panels was recorded in electricity, as the difference between electricity and solar panel in 2017 and 2023 is now clearly evident in solar panel along with other usage. The availability of electricity in urban areas is higher with 92.45% as compared to 46.22% in rural areas. The solar panel has shown more usage in rural areas then urban areas with 22.11% and 3.9% respectively, may be due to non-availability of electricity in that area.

A significant decline has been observed in the use of Kerosene Oil as a source of lighting which was reported as 5.60% in Census-2017 to 2.07% in Census-2023. This decrease has also been seen in rural and urban areas of the province. Moreover, the percentage of use of other sources of lighting covered under the category of others has increased from 13.71% in Census-2017 to 14.92% in Census-2023.

Table 4.8: Percentage of Housing Units by Sources of Lighting and Rural/Urban, Census-2017 and 2023

Source of Lighting		2017			2023		
		All Areas	Rural	Urban	All Areas	Rural	Urban
Electricity	Number	6,820,056	2,690,260	4,129,796	6,936,738	2,181,061	4,755,677
	Percent	**80.44**	**64.85**	**95.39**	**70.33**	**46.22**	**92.45**
Solar Panel*	Number	-	-	-	1,240,276	1,039,911	200,365
	Percent	-	-	-	**12.58**	**22.04**	**3.89**
Kerosene Oil	Number	474,758	415,339	59,419	203,754	183,351	20,403
	Percent	**5.60**	**10.01**	**1.37**	**2.07**	**3.89**	**0.40**
Gas Lamp	Number	21,182	15,922	5,260	1,413	504	909
	Percent	**0.25**	**0.38**	**0.12**	**0.01**	**0.01**	**0.02**
Generator*	Number	-	-	-	2,726	1,379	1,347
	Percent	-	-	-	**0.03**	**0.03**	**0.03**
Others	Number	1,162,051	1,026,930	135,121	1,477,963	1,312,477	165,486
	Percent	**13.71**	**24.75**	**3.12**	**14.99**	**27.81**	**3.22**
Number of Households		**8,478,047**	**4,148,451**	**4,329,596**	**9,862,870**	**4,718,683**	**5,144,187**

** Solar Panel, Generator and Biogas were not included in Census-2023*

District Wise Analysis of Electricity

District wise use of electricity has been depicted in the figure 4.9. Electricity as source of lightning in Sindh aims to identify disparities, understand technological challenges, and inform policy decisions to improve electric supply across districts. In Sindh, 70.33% of household are using Electricity as source for lightning in 2023. The districts with electricity rates higher than the average, are 9 whereas 21 districts have electricity rates under the average. This average provides a baseline for evaluating the equitable distribution of electricity across Sindh's districts.

District-wise electricity rates show a wide disparity. The data, categorized into different electricity to household rate brackets, is as follows:

- **Up to 20.0% Electricity**: Only one district i.e. District Tharparkar fall into this category, indicating that availability of electricity is very low and need policy intervention.
- **20.1% to 40.0% Electricity**: There are 02 districts i.e. Tando Muhammad Khan and Sujawal, that have electricity rates within this range, reflecting low levels of electricity.
- **40.1% to 60.0% Electricity**: There are 10 districts i.e. Mirpur Khas, Jacobabad, Sanghar, Ghotki, Thatta, Kashmore, Kambar Shahdad Kot, Umer Kot and Badin, where electricity rates fall into this bracket, suggesting efficient energy supply systems.
- **60.1% to 80.0% Electricity**: There are 09 districts i.e. Shikarpur, Matiari, Tando Allahyar, Naushshro Feroz, Larkana, Sukkur, Shaheed Banazirabad, Jamshoro and Dadu, in this range, showing moderate rate of electricity and suggesting a better electricity scenario compared to the previous categories.
- **80.1% or Above Electricity**: There are 08 districts i.e. Karachi Centeral, Korangi, Karachi South, Karachi East, Keamari, Karachi West, Hyderabad and Malir, districts in this category

which shows that significant households in theses districts have electricity as a source of lightening, indicating widespread electrification.

Figure 4.9: District Wise Electricity as a Source of Lighting Sindh, Census-2023

DISTRICT	ELECTRICITY	RANK
KARACHI CENTRAL	99.12	1
KORANGI	98.97	2
KARACHI SOUTH	98.81	3
KARACHI EAST	97.82	4
KEAMARI	97.62	5
KARACHI WEST	96.96	6
HYDERABAD	91.10	7
MALIR	91.07	8
SHIKARPUR	71.50	9
MATIARI	69.48	10
TANDO ALLAHYAR	69.03	11
NAUSHAHRO FEROZE	68.02	12
LARKANA	68.01	13
SUKKUR	68.65	14
SHAHEED BENAZIRABAD	67.60	15
JAMSHORO	64.19	16
DADU	61.91	17
MIRPUR KHAS	57.39	18
KHAIRPUR	52.61	19
JACOBABAD	51.66	20
SANGHAR	51.25	21
GHOTKI	46.66	22
THATTA	44.79	23
KASHMORE	43.95	24
KAMBAR SHAHDAD KOT	43.12	25
UMER KOT	43.01	26
BADIN	40.07	27
TANDO MUHAMMAD KHAN	39.65	28
SUJAWAL	31.13	29
THARPARKAR	19.41	30

Average	70.33
Total Districts	**30**
Above Average	9
Below Average	21

Electricity	Districts
Upto 20.0	1
20.1 - 40.0	2
40.1 - 60.0	10
60.1 - 80.0	9
80.1 or above	8
Total:	**30**

While comparing districts Karachi Central with 99.12% is the top ranked district followed by Korangi, Karachi South and Karachi East. Whereas district like Ghotki, Thatta, Kashmore, Kambar Shahdad Kot, Umer Kot , Badin, Tando Muhammad Khan, Sujawal and Tharparkar are the lowest in ranking with range of 46% to only 20% houses with availability of electricity as main source of light. The districts stand in the low rank owing to many factors like remote and scattered population, scarce resources, inadequate infrastructure, inefficient transmission and distribution of electric supply etc.

4.3.3 Fuel Used for Cooking

In the Census-2023 Gas with 47.37% has been reported as the major source of fuel used for cooking as shown in Table 4.8. The percentage remains almost same during both Census, however, the use of gas is much higher in urban areas with 80.73% as compared to 11.01% in rural areas (Table 4.9). In Sindh the use/availability of Gas is greater than all other provinces. In Pakistan as whole Firewood is used widely, similarly in Sindh. Firewood is being used by 44.80% of housing units in Census-2023 which has showing decline as compared to 49.50% in 2017.Its share is higher with 77.94% in rural areas due to unavailability of environment friendly sources like Gas/ LPG/LNG.

The categories of Dung cake, LPG/LNG (Cylinder), Biogas and Electricity have been included in Census-2023, their respective use is very nominal with 1.94%, 0.19%, and 0.08% respectively. The use of other sources of cooking fuel has also decreased from 2.80% reported in Census 2017 to 1.38% in Census-2023.

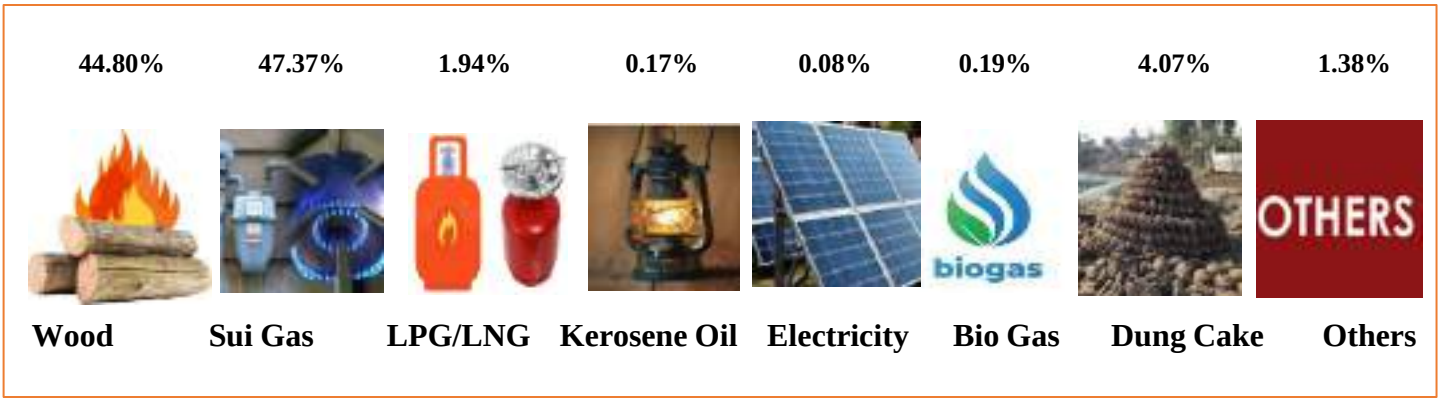


Table 4.9: Percentage of Housing Units by Sources of Cooking Fuel Used and Rural/Urban, Census-2017 and 2023

Source of Lighting		2017			2023		
		All Areas	Rural	Urban	All Areas	Rural	Urban
Wood	Number	4,197,054	3,474,900	722,154	4,418,445	3,677,554	740,891
	Percent	**49.50**	**83.76**	**16.68**	**44.80**	**77.94**	**14.40**
Sui Gas	Number	4,017,385	490,307	3,527,078	4,672,340	519,595	4,152,745
	Percent	**47.39**	**11.82**	**81.46**	**47.37**	**11.01**	**80.73**
LPG/LNG (Cylinder)*	Number	-	-	-	191,641	32,810	158,831
	Percent	-	-	-	**1.94**	**0.70**	**3.09**
Kerosene Oil	Number	26,533	18,937	7,596	16,341	14,021	2,320
	Percent	**0.31**	**0.42**	**0.18**	**0.17**	**0.30**	**0.05**
Electricity*	Number	-	-	-	8,003	3,495	4,508
	Percent	-	-	-	**0.08**	**0.07**	**0.09**
Bio Gas*	Number	-	-	-	18,769	14,006	4,763
	Percent	-	-	-	**0.19**	**0.30**	**0.09**
Dung Cake*	Number	-	-	-	401,627	358,290	43,337
	Percent	-	-	-	**4.07**	**7.59**	**0.84**
Others	Number	237,075	164,307	72,768	135,704	98,912	36,792
	Percent	**2.80**	**3.96**	**1.68**	**1.38**	**2.10**	**0.72**
Number of Households		**8,478,047**	**4,148,451**	**4,329,596**	**9,862,870**	**4,718,683**	**5,144,187**

** LPG/LNG (Cylinder), Electricity, Biogas and Dung Cake were not included in Census-2017*

District Wise Analysis of Gas, LPG/LNG

District wise comparison regarding use of Gas, LPG/LNG as main fuel for cooking purpose depicts in Figure 4.10. Use of Sui Gas, LPG/LNG for cooking purpose provide an environment friendly solution for sustainable growth. The average usage of GAS/LPG/LNG is 49.31%, 08 districts excel above this threshold and 22 districts fall short, underscoring disparities in energy access.

The GAS/LPG/LNG rates across the districts reveal a diverse distribution. The data, categorized into different literacy rate brackets, is as follows:

- **Up to 10.0% GAS/LPG/LNG**: 3 districts i.e. Sujawal, Umer Kot and Tharparkar where GAS/LPG/LNG rates fall into this bracket suggesting a critical need for targeted interventions to improve energy access and infrastructure in these districts.

- **10.1% to 20.0% GAS/LPG/LNG**: 8 districts i.e. Ghotki, Kambar Shahdad Kot, Jacobabad, Mirpur Khas, Tando Muhammad Khan, Thatta, Kashmore and Badin where GAS/LPG/LNG rates fall within this range, indicating incremental progress in energy access, but still requiring focused efforts to bridge the gap and achieve universal coverage**.**

- **20.1% to 30.0% GAS/LPG/LNG**: There are 08 i.e. Naushshro Feroz, Matiari, Tando Allahyar, Shaheed Banazirabad, Shikarpur, Sanghar, Khairpur and Dadu districts where GAS/LPG/LNG rates fall into this bracket, suggesting significant progress in GAS/LPG/LNG adoption.

- **30.1% to 40.0% GAS/LPG/LNG**: - Only 01 district i.e. Jamshoro fall within this bracket

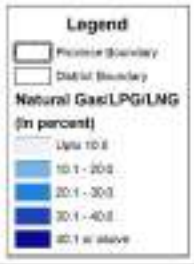
- **40.1% or Above GAS/LPG/LNG**: 10 districts i.e. Karachi Centeral, Korangi, Karachi South, Karachi East, Keamari, Karachi West, Malir, Hyderabad, Larkana and Sukkur, have achieved an impressive GAS/LPG/LNG rate of 40.1% or higher, indicating better access and economic development.

Figure 4.10: District Wise Sui Gas and LPG/LNG Sindh, Census-2023

DISTRICT	SUI GAS/ LPG/LNG	RANK
KARACHI CENTRAL	98.7	1
KORANGI	98.7	2
KARACHI SOUTH	97.2	3
KARACHI EAST	95.2	4
KEAMARI	93.9	5
KARACHI WEST	88.5	6
MALIR	81.8	7
HYDERABAD	77.1	8
LARKANA	46.9	9
SUKKUR	42.2	10
JAMSHORO	36.8	11
NAUSHAHRO FEROZE	28.3	12
MATIARI	27.4	13
TANDO ALLAHYAR	27.3	14
SHAHEED BENAZIRABAD	26.4	15
SHIKARPUR	25.2	16
SANGHAR	23.8	17
KHAIRPUR	22.8	18
DADU	21.7	19
GHOTKI	20.7	20
KAMBAR SHAHDAD KOT	20.2	21
JACOBABAD	18.3	22
MIRPUR KHAS	18.2	23
TANDO MUHAMMAD KHAN	17.6	24
THATTA	14.3	25
KASHMORE	13.2	26
BADIN	12.0	27
SUJAWAL	9.0	28
UMER KOT	1.8	29
THARPARKAR	1.5	30

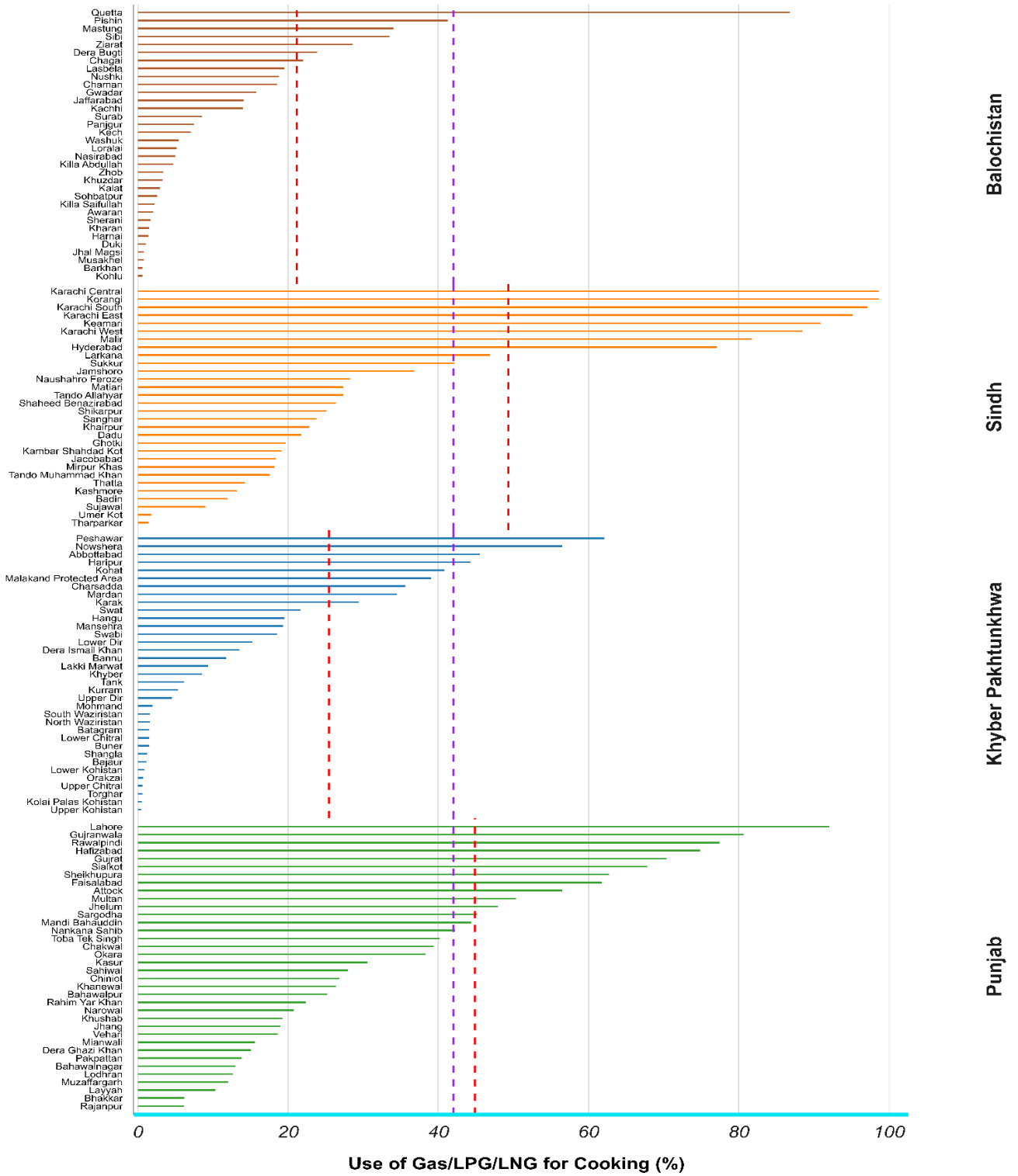
Average	49.31
Total Districts	**30**
Above Average	8
Below Average	22

Sui Gas/LPG/LNG	Districts
Upto 10.0	3
10.1 - 20.0	8
20.1 - 30.0	8
30.1 - 40.0	1
40.1 or above	10
Total:	**30**



By analyzing the low ranked districts in terms of percentage of houses using GAS/LPG/LNG, the Lowest Gas/LPG/LNG percentage has been observed in District Tharparkar with 1.5% while District Umer Kot with 1.8% and District Sujawal with 9.0%, have slight better share than Tharparkar but still lies at lowest ranked districts in terms of availability/usage of GAS/LPG/LNG. Karachi Central with 98.7% and Korangi with 98.7% have the highest percentage of houses with available/ usage of GAS/LPG/LNG. The district wise Sui gas/ LPG/LNG comparison is also illustrated in the Figure 4.11, where Sindh province bars are shows in orange colour. The Purple and red vertical dashed lines represent national and provincial average of GAS/LPG/LNG. Districts bars shown in descending order with respect to out of Sui gas/ LPG/LNG percentages. The graph depicts 9 districts of Sindh have percentage higher than even national average of 42.03%. However, certain districts like Tharparkar, Umer Kot, Sujawal, Badi, Kashmore, and Thatta have very low percentage of houses with GAS/LPG/LNG. These districts are also poor performing districts in all other housing indicators.

Figure 4.11: District Wise Comparison of Main Fuel (Gas/LPG/LNG) Used for Cooking



(The purple and red vertical dashed lines represent, respectively, national and provincial average rates for Gas/LPG/LNG used as main fuel for cooking.)

4.3.4 Availability of Kitchen, Bathroom and Toilet Facilities

The information on the availability of kitchen, bathroom, and toilet facilities within the premises of housing units was also collected in the Census-2017 as shown in Table 4.10.

Kitchen: It was found that 55.33% of the housing units in the province have a separate kitchen as reported in Census-2023. Separate kitchen is more prevalent in the urban areas with proportion of 66.22% as compared to rural areas where it stands at 43.46%. The facility of shared kitchen is available recorded in 23.70% of housing units in Census-2023, a decrease from 24.57% recorded in Census-2017. Moreover, 20.97% of housing units have no kitchen facility in the province with 36.92% in rural areas and 6.34% in urban areas.

Bathroom: The availability of separate bathroom facility in the housing unit has been reported as 56.64% of the total housing units in Census-2023 increasing from 54.27% reported in Census-2017. The incidence of separate bathroom is more common in urban areas i.e. 72.25% as compared to rural areas i.e. 39.63%. The shared bathroom facility has decreased from 23.60% in Census-2017 to 21.44% in Census-2023. Shared bathrooms in housing units of urban area i.e. 22.11% are more than in rural areas where it is found as 20.69% of housing facilities. Moreover, 21.92% of the housing units have no bathroom at the province level, while 39.68% in rural areas, and 5.63% of housing units in urban areas do not have a bathroom.

Toilet: In Census-2017, the availability of toilet facility in housing units was accounted as either the housing unit has separate, shared or no toilet facility and further the options available were that the toilet was either connected with sewerage system, connected with septic tank, connected with open drain, pit with slab, other, or none of these options. However, in Census 2023, the breakdown for flush and non-flush toilet were introduced and separate options for flush and non-flush categories were introduced as in flush toilet the options were same as in Census 2017 but the options for non-flush toilet was either connected with dry raised toilet, dry pit toilet and other. It was found that 54.28% of the total housing units reported the availability of toilet connected with sewerage, from which 77.02% of housing units are in urban areas and 16.16% of housing units are in rural areas. Moreover, 3.98% of housing units have reported toilet connected with septic tanks, with the incidence higher in rural areas as compared to urban areas, and 19.81% of housing units have their toilet connected with open drain. Furthermore, 9.49% housing units reported the toilet facility as pit with slab type with higher incidence in rural areas at 20.38% as compared to urban areas at 3.00%, and 7.77% of housing units reported their toilet facility to fall under the category 'other'. Moreover, 19.34% of housing units have no toilet facility which is higher than 17.99% reported in Census 2017.

The dry raised toilet and dry pit toilet was included in Census 2023 and the values reported are 1.00% and 3.66% respectively.

The reason of no toilet at higher side in Census 2023 is due to flood in 2022 in majority of Sindh. The prevalence of such housing units with no toilet is higher in rural areas i.e. 36.98%, as compared to urban areas where it is 3.15%. In urban areas, the proportion of housing units with no toilet facility has increase from 2.87% in Census-2017 to 3.15% in Census-2023. In rural areas during

the same period this proportion is also increased from 33.77%. to 36.98% (Table 4.10).

The term "sanitation" directly linked with toilet facilities. It encompasses more than just cleanliness; it includes hygiene, the effective collection of liquid and solid waste, and their environmentally responsible disposal. A well-functioning sanitation system acts as a barrier against fecal diseases by ensuring proper collection and disposal of human waste, while also minimizing the risk of groundwater and distribution system contamination that could pose health risks through drinking water. Sanitation is also a key indicator of the Sustainable Development Goals (SDGs), particularly "Goal 6".

It may be noted that of housing units reported having toilet facility is 80.66% in Census-2023 as compared to 82.01% in Census-2017. The reason for decrease in toilet facility in Census 2023 is the flood affected areas in Sindh province.

Table 4.10: Percentage of Housing Units Having Kitchen, Bathroom and Toilet Facilities and Rural/Urban, Census-2017 And 2023

Housing Facilities	2017			2023		
	All Areas	Rural	Urban	All Areas	Rural	Urban
Kitchen						
All	100	100	100	100	100	100
Separate	56.16	45.05	66.81	55.33	43.46	66.22
Shared	24.57	22.1	26.94	23.70	19.62	27.44
None	19.27	32.86	6.24	20.97	36.92	6.34
Bathroom						
All	100	100	100	100	100	100
Separate	54.27	38.62	69.27	56.64	39.63	72.25
Shared	23.60	21.06	26.03	21.44	20.69	22.11
None	22.13	40.32	4.71	21.92	39.68	5.63
Toilet						
Toilet (Flush)						
Connected with Sewerage	43.41	10.76	74.69	54.28	16.16	77.02
Connected with Septic Tank	3.85	4.94	2.79	3.98	6.20	2.66
Connected with Open Drain	14.83	18.1	11.69	19.81	31.38	12.91
Pit with Slab	13.8	21.4	6.53	9.49	20.38	3.00
Toilet (Non-Flush)						
Dry Raised Toilet *	-	-	-	1.00	2.06	0.38
Dry Pit Toilet *	-	-	-	3.66	8.43	0.81
Other*	6.12	11.02	1.42	7.77	15.39	3.23
Toilet Availability (Separate + Shared)	82.01	66.23	97.13	80.66	63.02	96.85
None (No Toilet)	17.99	33.77	2.87	19.34	36.98	3.15
Number of Households	**8,478,047**	**4,148,451**	**4,329,596**	**9,862,870**	**4,718,683**	**5,144,187**

***** *Asked for the first time in Census-2017.*

District Wise Analysis of Toilet Facility (Flush)

The toilet facility varies widely within districts. The district wise analysis has been conducted to identify disparities, understand challenges, and inform policy decisions to improve toilet facilities across districts. For purpose of analysis Toilets are categorized into three main types: Flush, Non-Flush, and No Toilet. Flush Toilets are further divided into categories such as: Flush connected to a sewer, Flush connected to a septic tank, Flush connected to a pit, Flush connected to an open drain.

It may be noted that of houses reported having flush toilet facility is 80.66% in Census-2023 as compared to 82.01% in Census-2017. The plausible reason for decrease in toilet facility in Census 2023 is the flood affected areas in Sindh province, especially the rural areas.

District-wise toilet rates show a wide disparity. The toilet availability for home includes any of the flush and non-flush facility. The average toilet availability across 30 districts stands at 70.62%. The districts with toilet facility rates higher than the average are 12. Whereas 18 districts fall below the average. This average provides a baseline for evaluating the equitable distribution of toilet across Sindh's districts. The data, categorized into different toilet rate brackets, is as follows:

- **Up to 50.0% Flush Toilet**: 08 districts i.e. Sujawal, Tharparkar, Thatta, Badin, Umer Kot, Tando Muhammad Khan, Mirpur Khas and Kashmore fall into this category, indicating that in these areas, the Flush Toilets facilities are comparatively low.

- **50.1% to 65.0% Flush Toilet**: There are 08 districts i.e. Sanghar, Jacobabad, Ghotki, Tando Allahyar, Kambar Shahdad Kot, Khairpur, Shaheed Banazirabad and Mitiari that have toilet rates within this range, reflecting low levels of toilet facility at home.

- **65.1% to 80.0% Flush Toilet**: There are 04 districts i.e. Shikarpur, Jamshoro, Naushahro Feroze and Sukkur where toilet rates fall into this bracket, suggesting better sanitation facility.

- **80.1% and Above Flush Toilet**: There are 10 districts i.e. in this category showing that significant portion of districts with availability of toilet.

Figure 4.12: District Wise Toilet Facility (Flush) Sindh, Census-2023

Average	70.62
Total Districts	**30**
Above Average	12
Below Average	18

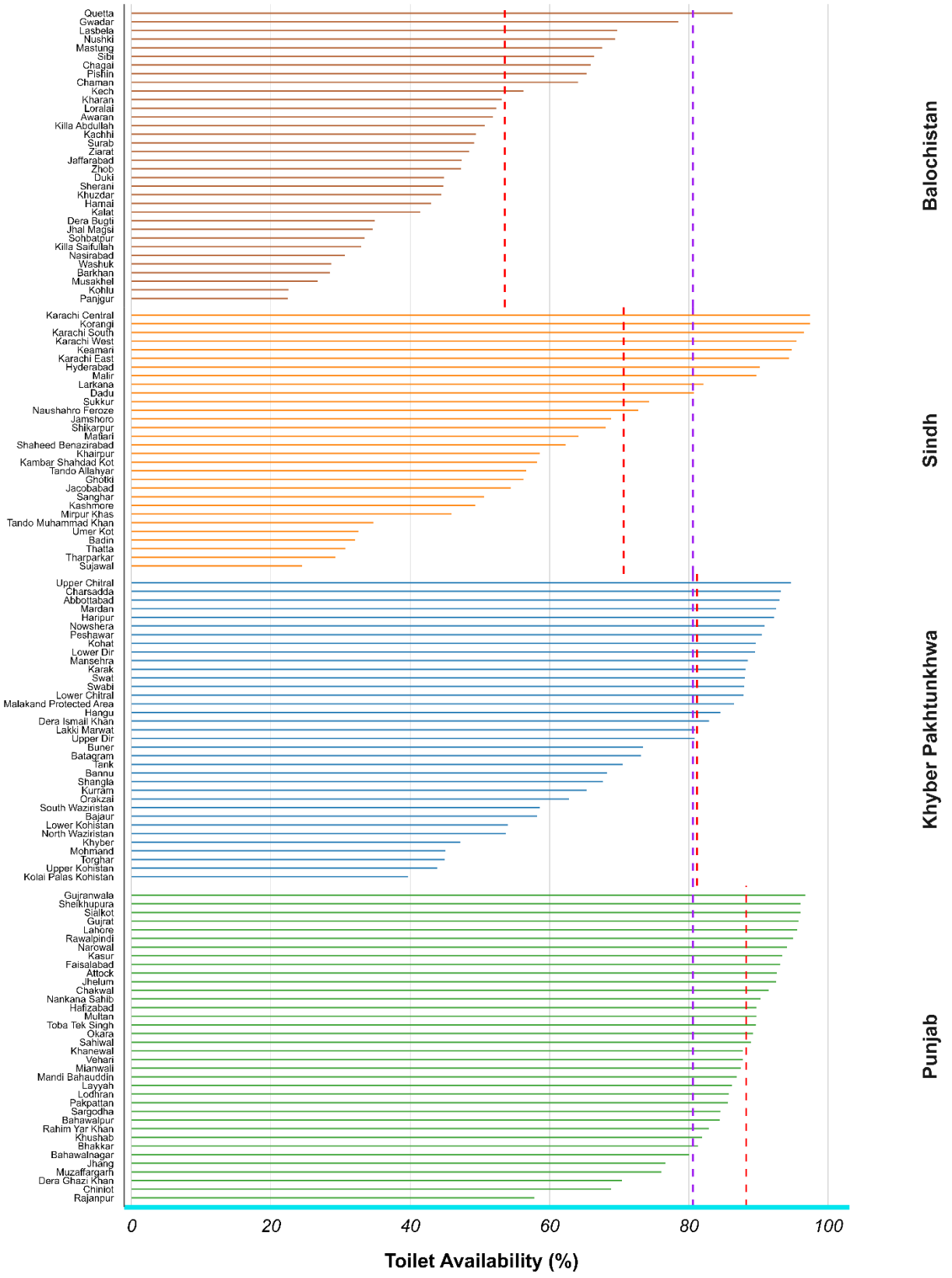
Toilet Facility	Districts
Upto 50.0	8
50.1 - 65.0	8
65.1 - 80.0	4
80.1 or above	10
Total:	**30**

DISTRICT	TOILET FACILITY	RANK
KARACHI CENTRAL	97.4	1
KORANGI	97.4	2
KARACHI SOUTH	96.8	3
KARACHI WEST	95.5	4
KAMBAR	94.8	5
KARACHI EAST	94.4	6
HYDERABAD	90.3	7
MIRPUR	89.7	8
LARKANA	82.1	9
DADU	80.7	10
SUKKUR	74.4	11
NAUSHAHRO FEROZE	73.7	12
JAMSHORO	68.8	13
SHIKARPUR	68.1	14
MATARI	64.3	15
SHAHEED BENAZIRABAD	62.4	16
KHAIRPUR	58.6	17
KAMBAR SHAHDAD KOT	58.2	18
TANDO ALLAHYAR	56.7	19
GHOTKI	56.3	20
JACOBABAD	54.5	21
SANGHAR	50.6	22
KASHMORE	49.3	23
MIRPUR KHAS	45.9	24
TANDO MUHAMMAD KHAN	34.7	25
UMER KOT	32.6	26
BADIN	32.1	27
THATTA	30.7	28
THARPARKAR	29.3	29
SUJAWAL	24.5	30

By analyzing the low ranked districts in terms of toilet rates, the Lowest toilet rate has been observed in District Sujawal (24.50), Tharparker (29.30%) have slight better rates than Sujawal but still lies at lowest ranked districts in terms of availability of Flush Toilet. The district with highest toilet rate are Karachi Central (97.41%) and Korangi with 97.39%.

The district wise toilet availability (flush toilet) comparison is also illustrated in the Figure 4.13, where Sindh province bars are shows in orange colour. The Purple and red vertical dashed lines represent national and provincial average of toilet facility (flush), respectively. Districts bars shown in descending order with respect to percentages of toilet availability.

In Sindh, 10 districts are above the national average 80.61% and 12 districts are exceeding the provincial average of 70.62%. However, districts such as Sujawal, Tharparkar, Thatta, Badin, Umerkot and Tando Muhammad Khan reflect lower-than-average access, pointing to critical gaps in the availability of flush toilet facilities.



(The purple and red vertical dashed lines represent national and provincial average inside toilet availability rates, respectively.)

Figure 4.13 : District Wise Comparison of Toilet Availability (Flush Toilet)

PART - VI

ANNEXURES

بصیغہ راز

ساتویں خانہ و مردم شماری

فہرست خانہ جات (فارم-1)

موضع / دیہہ / شہری علاقے کا نام ..... محلہ / گاؤں / گلی / علاقے کا نام ..... بلاک کوڈ:

۱۔ خانہ کی تواریخ	۲۔ خانہ کا سلسلہ وار نمبر	۳۔ خانہ کے رہنے والوں کی تواریخ	۴۔ گھر کا سلسلہ نمبر	۵۔ سالانہ وصولی کا سلسلہ وار نمبر	۶۔ گھرانہ کا سلسلہ نمبر	۷۔ گھرانے کا سربراہ گھرانہ اساسی ہے	۸۔ گھرانہ اساسی نمبر	۹۔ سالانہ مرکزی	۱۰۔ سالانہ مرکزی کا PSIC
۱۔ دن ۲۔ مہینہ (۱ تا ۱۲) ۳۔ سال (۲۰۲۳) ۴۔ کیلنڈر (۱ تا ۳۶۵ / ۳۶۶) ۵۔ ہفتہ ۶۔ کیلنڈر (۱ تا ۵۲ ہفتے) ۷۔ دن نمبر	خانہ کا سلسلہ وار نمبر جس سے شروع کریں اگر کوئی گلی، محلہ، بلاک، علاقہ وغیرہ کی تبدیلی نمبر دوبارہ شروع ہو تو اسے بھی واضح کریں۔	خانہ کے رہنے والوں کی تواریخ (دن/مہینہ/سال) کے لیے استعمال ہونے والے خانہ / خانے درج کریں۔ (اعداد کے لیے خانہ نمبر ۱۱ دیکھیں)	پلاٹ پر بنے گھر کا سلسلہ وار نمبر جس سے گھر کا سلسلہ وار نمبر شروع ہوتا ہے۔	کام نمبر ۱ میں کوڈ ۱ یا ۲ کی صورت میں گھر کا سلسلہ وار نمبر جس سے سالانہ وصولی کا سلسلہ وار نمبر شروع ہوتا ہے۔	کام نمبر ۲ میں کوڈ ۱ یا ۲ کی صورت میں سالانہ وصولی کا سلسلہ وار نمبر جس سے گھرانہ کا سلسلہ وار نمبر شروع ہوتا ہے۔	گھرانے کا سربراہ گھرانہ اساسی ہے کی صورت میں اسے گھرانہ اساسی نمبر دیں۔ ورنہ گھرانہ اساسی نمبر سالانہ وصولی کے سلسلہ وار نمبر سے حاصل کریں۔ اس کے علاوہ [redacted] کوڈ دیں۔	کام نمبر ۲ میں درج شدہ گھرانے کے سربراہ کا نام، سالانہ وصولی کا کوڈ یا گھرانہ اساسی نمبر درج کریں۔ اس کے علاوہ [redacted]	گھرانہ اساسی مرکزی کی تفصیل درج کریں۔ مثلاً سالانہ وصولی، پیشہ، پلاٹ، مرغبانی، سبزی وغیرہ کی پیداوار، دکان، ہوٹل وغیرہ (اعداد کے لیے خانہ نمبر ۱۱ دیکھیں) صرف وہ گھرانہ جس کے پاس کوئی بھی آمدنی نہ ہو وہی گھرانہ نمبر دیا جائے۔	وقت کی صورت میں ٹائم فریم درج کریں۔	سالانہ مرکزی کا PSIC کا درج کریں۔

نوٹ: فہرست خانہ جات کی چھان بین کے دوران نظر ثانی شدہ گھر / گھرانوں کے دوران ایسا ہو سکتا ہے کہ نیا گھر / گھرانہ سامنے آئے۔ اس کا نمبر درج کریں۔ اس کا کام نمبر ۲ میں نئے سرے سے گھرانہ کا نام لکھیں۔

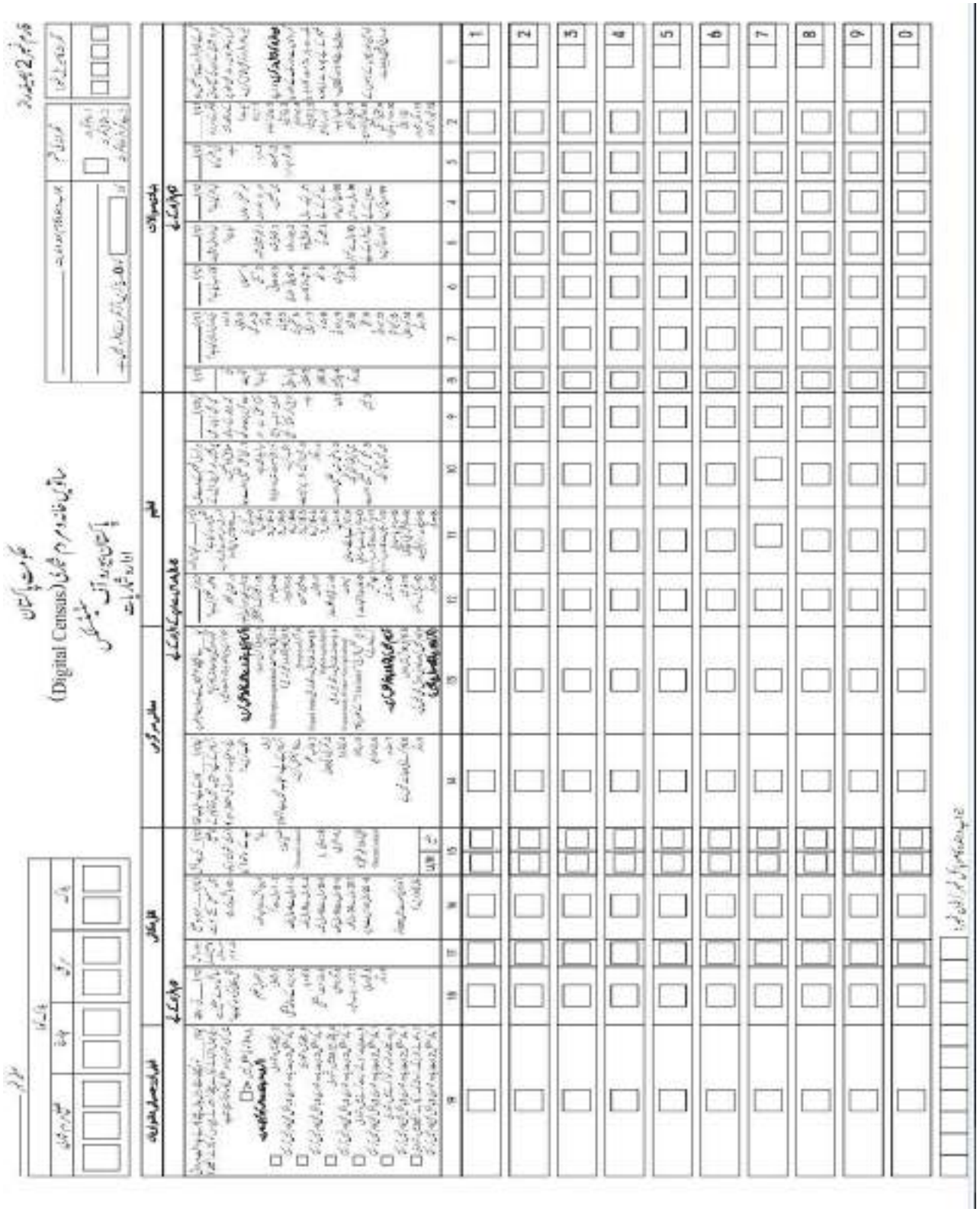
فہرست خانہ جات کی چھان بین کے بعد اگر کوئی گھر خالی ہو گیا ہو تو کام نمبر ۲ میں ۳ درج کریں۔

کام نمبر ۱ میں کوڈ (۲) درج ہو تو کام نمبر ۱ میں خانہ کے رہنے والوں سے متعلق کام نمبر ۳ (۱ سے ۱۱) میں درج کریں۔

کوڈ سال نمبر (۱) ۱۔ گھر ۲۔ خیمہ ۳۔ جھونپڑی ۴۔ بیل گاڑی ۵۔ کشتی ۶۔ ہوٹل ۷۔ ہسپتال ۸۔ ہوائی جہاز ۹۔ ریل ۱۰۔ بس ۱۱۔ کچھ اور جو شامل نہیں ۱۲۔ خالی ۱۳۔ کالج ۱۴۔ کالج سال ۱۵۔ کالج نہیں ۱۶۔ کالج ہوسٹل ۱۷۔ کالج نہیں ۱۸۔ غیر ملکی شہری ۱۹۔ ملکی شہری ۲۰۔ ۱۹ سے کم ۲۱۔ ۲۰ سے ۲۲۔ ۲۱ سے ۲۳۔ ۲۲ سے ۲۴۔ ۲۳ سے زائد ۲۵۔ مرد ۲۶۔ عورت

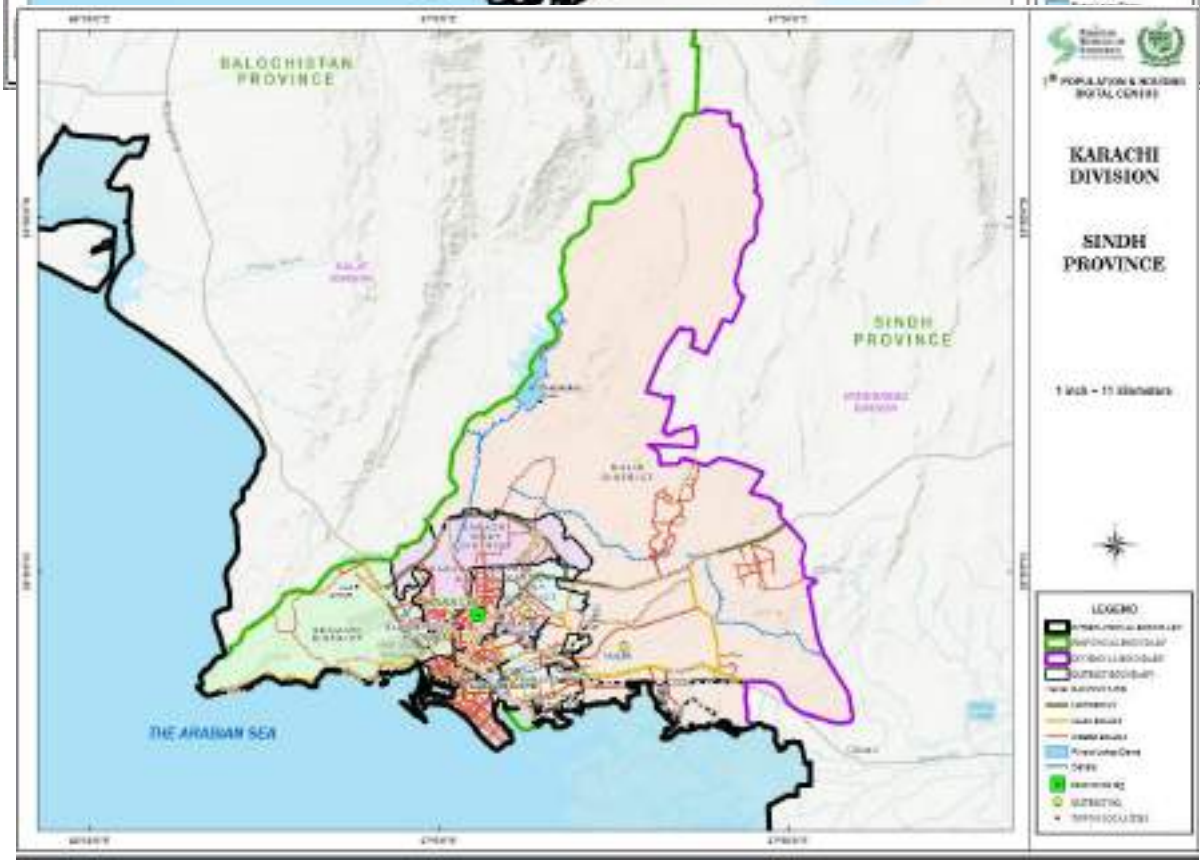
کوڈ سال نمبر (۲) ۱۔ سرکاری ۲۔ نجی ۳۔ نیم سرکاری ۴۔ کوئی نہیں ۵۔ کوئی اور ۶۔ کوئی نہیں ۷۔ کوئی اور ۸۔ کوئی نہیں ۹۔ کوئی اور ۱۰۔ کوئی نہیں ۱۱۔ کوئی اور ۱۲۔ کوئی نہیں ۱۳۔ کوئی اور ۱۴۔ کوئی نہیں ۱۵۔ کوئی اور ۱۶۔ کوئی نہیں ۱۷۔ کوئی اور ۱۸۔ کوئی نہیں ۱۹۔ کوئی اور ۲۰۔ کوئی نہیں ۲۱۔ کوئی اور ۲۲۔ کوئی نہیں ۲۳۔ کوئی اور ۲۴۔ کوئی نہیں ۲۵۔ کوئی اور ۲۶۔ کوئی نہیں ۲۷۔ کوئی اور ۲۸۔ کوئی نہیں ۲۹۔ کوئی اور ۳۰۔ کوئی نہیں ۳۱۔ کوئی اور ۳۲۔ کوئی نہیں ۳۳۔ کوئی اور ۳۴۔ کوئی نہیں ۳۵۔ کوئی اور ۳۶۔ کوئی نہیں ۳۷۔ کوئی اور ۳۸۔ کوئی نہیں ۳۹۔ کوئی اور ۴۰۔ کوئی نہیں ۴۱۔ کوئی اور ۴۲۔ کوئی نہیں ۴۳۔ کوئی اور ۴۴۔ کوئی نہیں ۴۵۔ کوئی اور ۴۶۔ کوئی نہیں ۴۷۔ کوئی اور ۴۸۔ کوئی نہیں ۴۹۔ کوئی اور ۵۰۔ کوئی نہیں ۵۱۔ کوئی اور ۵۲۔ کوئی نہیں ۵۳۔ کوئی اور ۵۴۔ کوئی نہیں ۵۵۔ کوئی اور ۵۶۔ کوئی نہیں ۵۷۔ کوئی اور ۵۸۔ کوئی نہیں ۵۹۔ کوئی اور ۶۰۔ کوئی نہیں ۶۱۔ کوئی اور ۶۲۔ کوئی نہیں ۶۳۔ کوئی اور ۶۴۔ کوئی نہیں ۶۵۔ کوئی اور ۶۶۔ کوئی نہیں ۶۷۔ کوئی اور ۶۸۔ کوئی نہیں ۶۹۔ کوئی اور ۷۰۔ کوئی نہیں ۷۱۔ کوئی اور ۷۲۔ کوئی نہیں ۷۳۔ کوئی اور ۷۴۔ کوئی نہیں ۷۵۔ کوئی اور ۷۶۔ کوئی نہیں ۷۷۔ کوئی اور ۷۸۔ کوئی نہیں ۷۹۔ کوئی اور ۸۰۔ کوئی نہیں ۸۱۔ کوئی اور ۸۲۔ کوئی نہیں ۸۳۔ کوئی اور ۸۴۔ کوئی نہیں ۸۵۔ کوئی اور ۸۶۔ کوئی نہیں ۸۷۔ کوئی اور ۸۸۔ کوئی نہیں ۸۹۔ کوئی اور ۹۰۔ کوئی نہیں ۹۱۔ کوئی اور ۹۲۔ کوئی نہیں ۹۳۔ کوئی اور ۹۴۔ کوئی نہیں ۹۵۔ کوئی اور ۹۶۔ کوئی نہیں ۹۷۔ کوئی اور ۹۸۔ کوئی نہیں ۹۹۔ کوئی اور ۱۰۰۔ کوئی نہیں

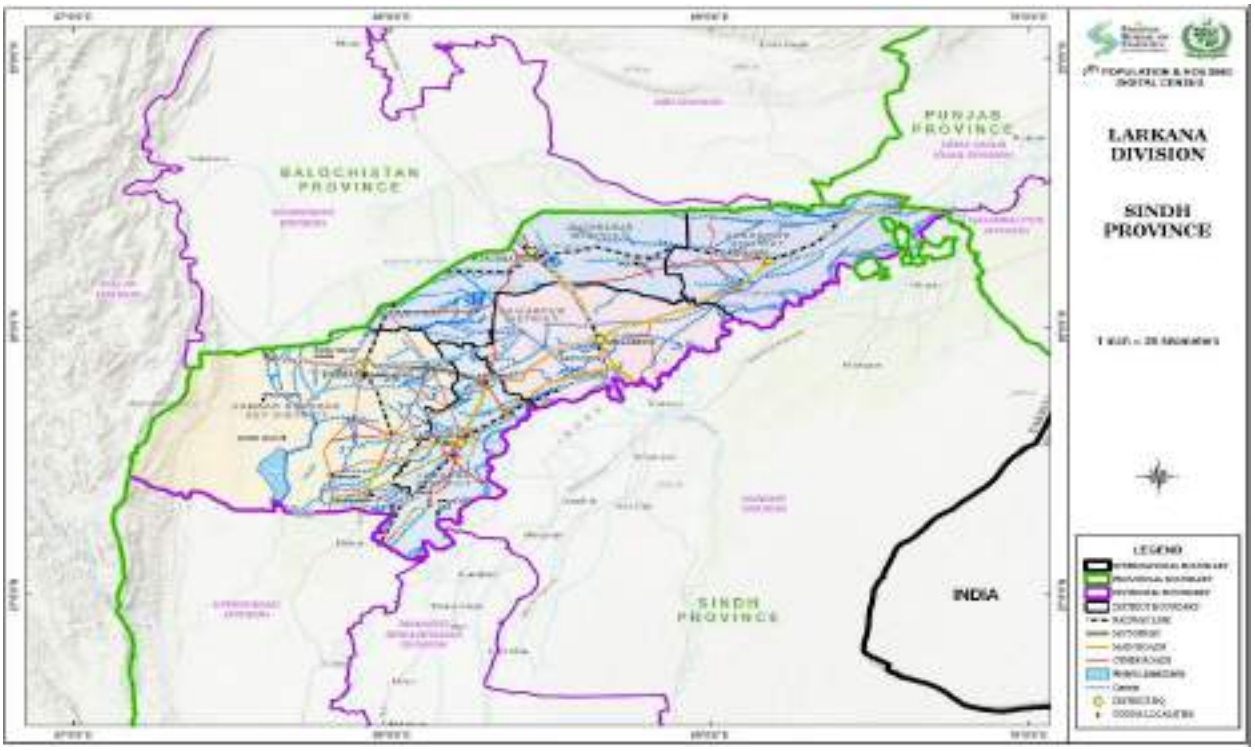
Annexure-B Census Form (Population)



Annexure-C Census Form (Housing)

Annexure-D District and Sub-Division Maps

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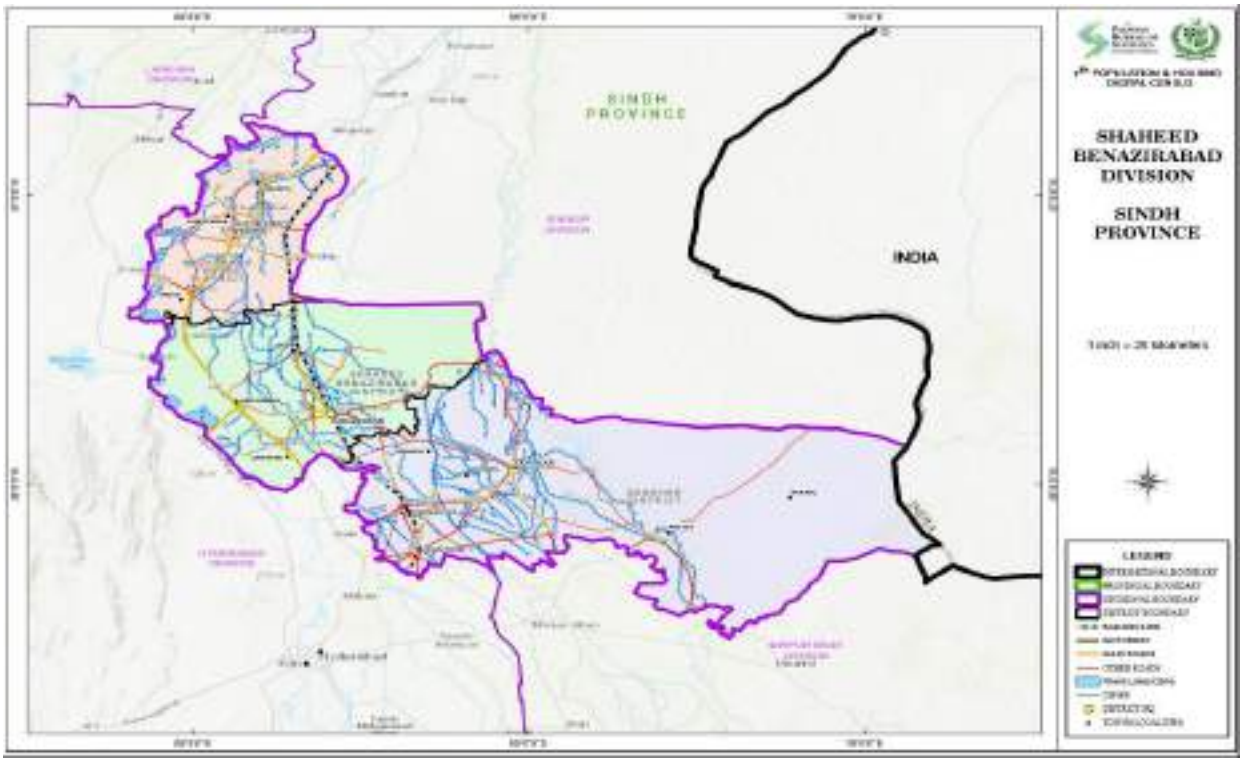
PUNJAB PROVINCE
SINDH PROVINCE
INDIA
LARKANA DIVISION
SINDH PROVINCE
LEGEND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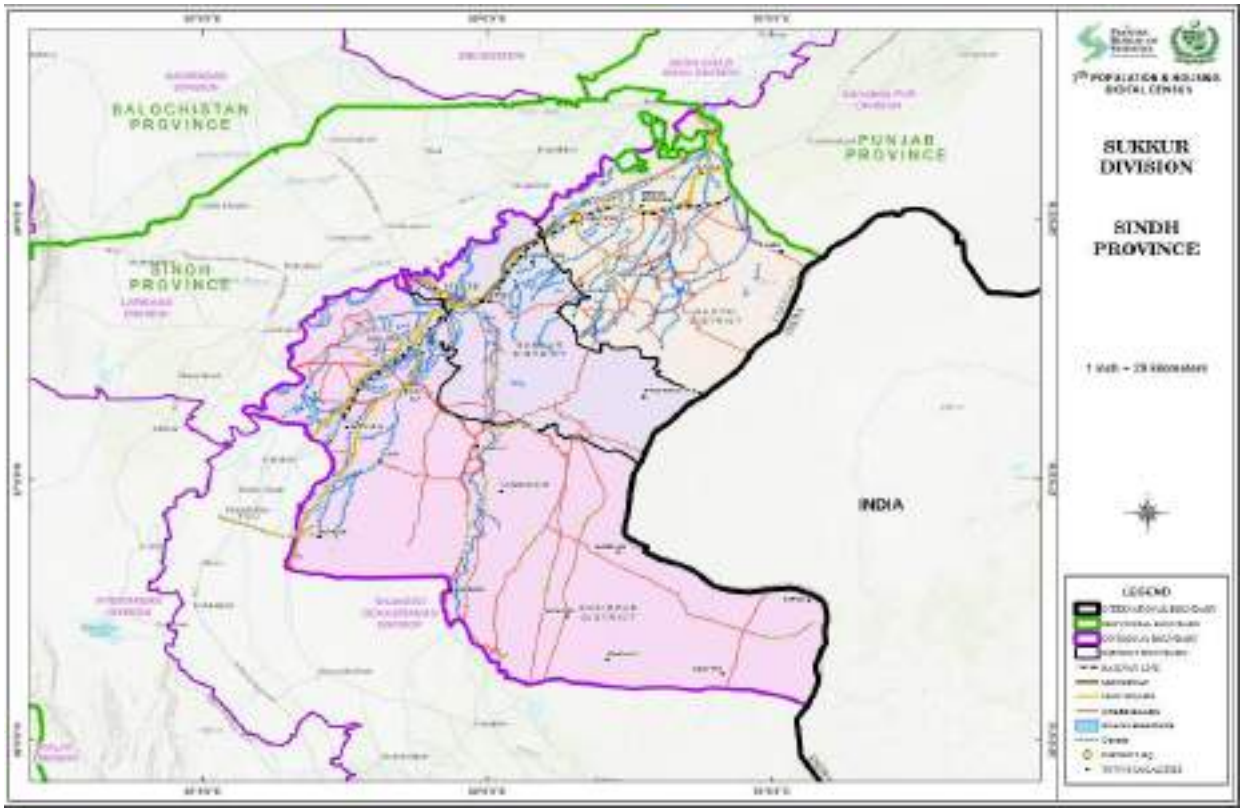
INDIA
SHAHEED BENAZIRABAD DIVISION
SINDH PROVINCE
LEGEND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PUNJAB PROVINCE
SINDH PROVINCE
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SINDH PROVINCE
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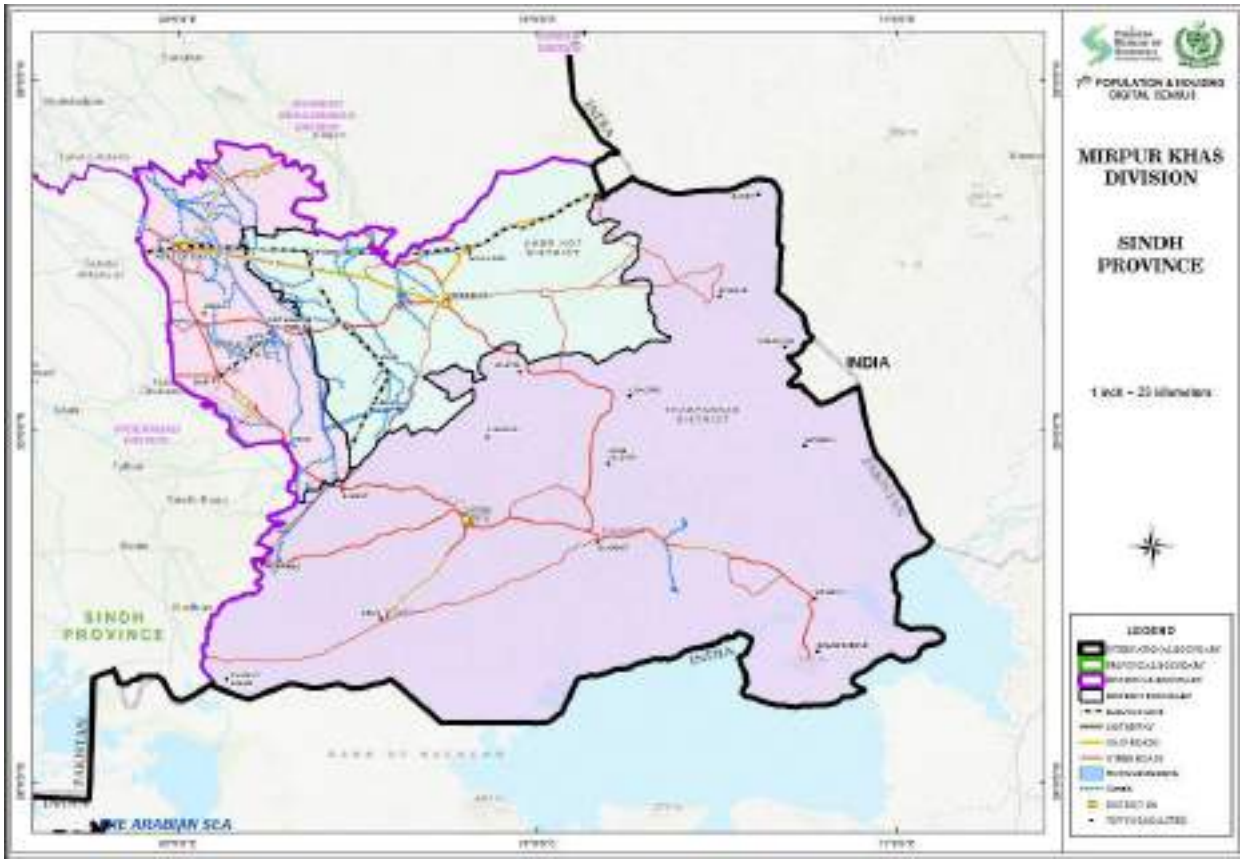
INDIA
SINDH PROVINCE
THE ARABIAN SEA
MIRPUR KHAS DIVISION
SINDH PROVINCE
LEGEND

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