

Geospatial Analysis of Population Distribution and Density in Pakistan 1998-2017

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Abstract—This research is an attempt to represent the temporal population growth and change in Pakistan according to latest census of 2017. It also depicts Pakistan's population distribution patterns and density in 2017. The current census results did not include the Gilgit Baltistan and Azad Jammu and Kashmir, it is expected that they will be included in final report of 2018. Population growth rate from 1998-2017 is different in every province, while overall there is a declining population growth rate in Pakistan since 1998-2017. Anyhow population is growing at an accelerating rate while cities are expanding and engulfing rural land into urban land.

Keywords—Temporal, Population Growth, Change, Distribution Patterns.

I. POPULATION GROWTH AND CHANGE IN PAKISTAN

Finally Population census of 2017 in Pakistan is a great achievement. As census are necessary for the future planning and resource management. After a long time around 19 years delay the census were carried out by the Pakistan Bureau of Statistics (PBS). Current population results divulge an increase in the population growth rate of Khyber Pakhtunkhwa and Balochistan. While Federal Administered Tribal Areas (Fata), Punjab and Sindh has shown a decline as compare to past population growth rate.

Current heave in Pakistan's population displays a 57 per cent growth since the census of 1998. Pakistan is the sixth populated country in the world. 2017 census is the only census in last nineteen years. It will help to understand the current population distribution & density in Pakistan. It will also help to plan for further development and decision [1]

According to the 2017 census results, the total number of population has ballooned up to 207,774,520, expressing an increase of 57% since 1998 to 2017. Current provisional results are without population figures of Gilgit-Baltistan and Azad Jammu & Kashmir.

First time ever in Pakistan's history the population of transgender was calculated in census of 2017. Which was 10,418 (0.005%) of the population.

A. Pakistan Population History

The historical population figures from 1951 to 2017 shows the fluctuation in population growth rate during different time

periods. In 1951 census the total number of population was 33, 700, 000. While in next ten years in census 1961 it increased to 42, 800, 000. In the third census which was held in 1972 the population figure heaved to 65, 309, 000.

Censu of 1981 recorded the total of 83, 783, 000. The fifth census was carried out in 1998 after 17 years. The population jumped to 130, 857,717with 3.6 growth rate. Current census of 2017 the total number of population has risen to 207,774,520.

Year	Population	Growth rate
1951	33, 700, 000	1.9
1961	42, 800, 000	1.8
1972	65,309,000	2.4
1981	83, 783, 000	3.6
1998	132,352,000	3.0
2017	207,774,520	2.4

Source: [2]<https://tns.world/pakistans-population-sees-57-per-cent-increase-2/>

Table 1: Historcal Population Growth of Pakistan

Although the current populaion growth rate shows a decline but still our population has increased a lot and there is a huge gap between population needs and facillites.

II. POPULATION OF PAKISTAN IN 1998 CENSUS

The census of 1981 depicts a total number of 84 million population, which raised to 132 million total of population in census of 1998. Pakistan's fertility drop is a result of the increasing age at marriage. Late marriage and not to marriage are also the major reasons of declining growth rate.

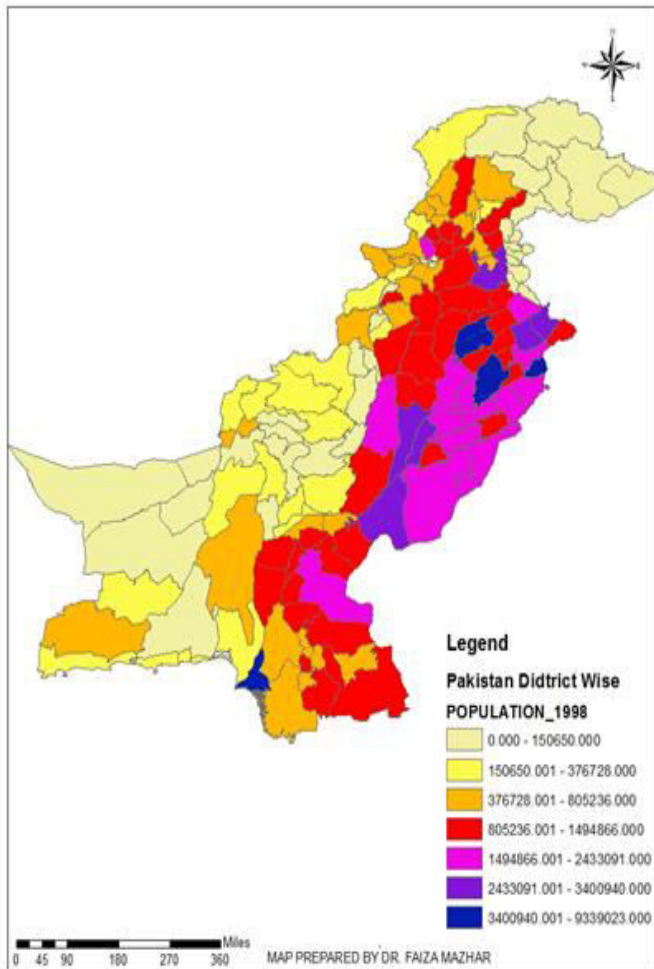


Figure 1: Pakistan’s Population Distribution Pattern According to the Census 1998

III. POPULATION DENSITY IN PAKISTAN ACCORDING TO CENSUS OF 2017

Pakistan's population has raised to a total of 207.774 million. As the provisional results of the sixthth Population Census shows the average annual growth rate of population during last nineteen years was 2.4 percent.

A. Rural urban Share of Population

There is a change in rural urban proportions of the total population of Pakistan. The current census depicts an increase in share of urban population of Pakistan. It is 75,580,000 or 36.4% share of the total population. The increase in proportion of urban population has been detected in all provinces but not in Islamabad. That is why it is not the second most urbanized unit of the country.

The proportion of urban population has increased from 28.30 percent of 1981 census to 36.38 percent of 2017 census. Provisional results point out that urban population shows an increasing trend of the population with 36.6 % of population is residing in urban areas. The table no. 2 shows the province wise share of urban population in 1998 and 2017.

According to the current census of 2017, Sindh is on top position with 52.02% share of urban population. Punjab is on

second position with 36.71% share of urban population. While FATA and KPK shows least share in urban population as compare to other provinces.

Administrative Unit	Population In Million		Percentage Of Urban Share	
	1998	2017	1998	2017
PAKISTAN	132.35	207.77	32.52	36.38
KPK	17.74	30.52	16.87	18.77
FATA	3.18	5.00	2.69	2.84
PUNJAB	73.62	110.01	31.27	36.71
SINDH	30.44	47.01	48.75	52.02
BALUCHUISTAN	6.57	12.34	23.89	27.55
ISLAMABAD	0.81	2.00	65.72	50.58

Source :<https://tns.world/pakistans-population-sees-57-per-cent-increase-2/>

Table 2: Percentage of Urban Areas of Pakistan in 2017 Census

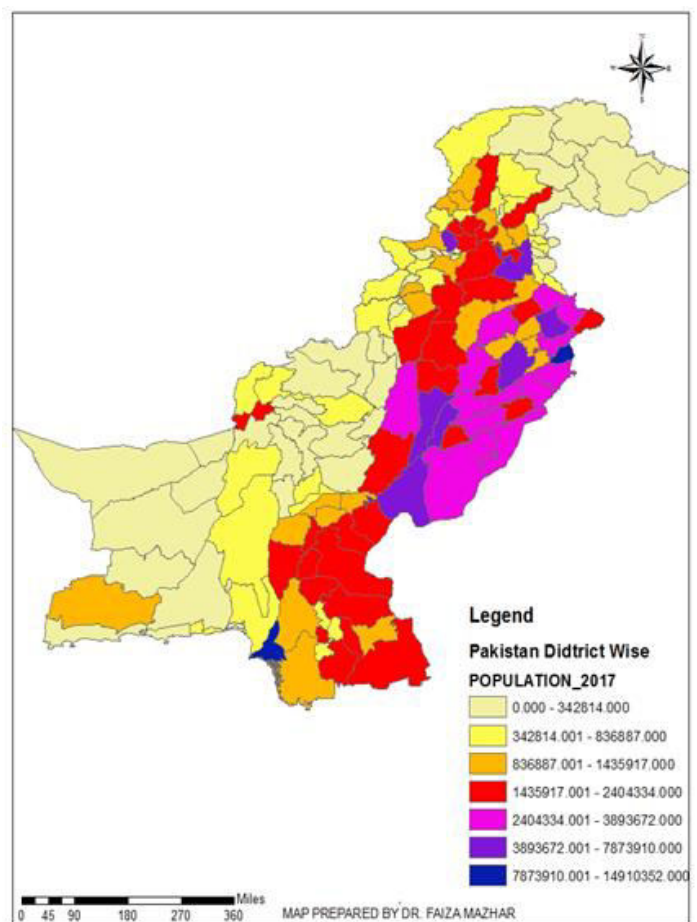


Figure 2: Population Distribution Pattern According to the Census 2017 in Pakistan

B. Provincial Share

Punjab still remains the most populous province with a total population of 110.1 million or 52.94% population of Pakistan. The province’s population has increased by 36.4 million in past 19 years which is 49.4% greater than the 1998 figures.

Punjab’s population has increased at the rate of 2.13 percent, that is the bottom pace of progression amongst all the provinces and also lesser than the national average.

Sindh with a total number of 47.886 million people remained second most populated province which is 23% of the total population. Population of the Sindh increased by 57.3% in the last 19 years.

Khyber-Pakhtunkhwa stands on the third position in terms of total population which is 30.523 million according to 2017 census. It is 14.69% share of the total population

Balochistan’s population hit the number of 12.344 million that is 5.94% of the total population. During last 19 years, there is an 88% increase in total number of Balochistan’s population. It is the maximum recorded increase in the population out of all federating units in terms of calculation.

Islamabad Capital Territory was on a total number of 2 million population. In 1981 it was 1.2 million. In terms of calculation, it raised by 149%.

Federally Administrated Tribal Areas FATA raised its population up to 5.1 million. It shows a 1.8 million growth in the population of the autonomous region.

Name of Administrative Unit	Population 1998	Population 2017	Annual Growth Rate
Khyber Pakhtunkhwa	17,743,645	30,523,371	2.89%
Tribal Areas	3,176,331	5,001,676	2.41%
Sindh	30,439,893	47,886,051	2.41%
Punjab	73,621,290	110,012,442	2.13%
Baluchistan	6,565,885	12,344,408	3.37%
Islamabad Capital Territory	805,236	2,006,572	4.91%
PAKISTAN	132,352,279	207,774,520	2.40%

Source [3]www.pbscensus.gov.pk/content/punjab-

Table 3: Provincial Population Growth From 1998 – 2017 In Pakistan

C. Top Ten Populous Cities of Pakistan According to Census of 2017

The ten most populated cities of Pakistan have grown by 74.4 per cent since 1998. According to the Census 2017 the total population of the 10 largest cities of Pakistan has grown to 40,956,232 persons from 23,475,067 recorded during the last 1998 census, the data revealed.

Up-to-date figures, of 2017 Census show that the population of Karachi has risen from 9.339 million in 1998 to 14.91 million in the current Census.

The second largest city in terms of population is Lahore. Its population has surged from 5.143 million in 1998 to 11.126 million during last 19 years.

Faisalabad is the third largest city of the country with a total of 3.203 million population in 2017. It was 2.008 million in census of 1998.

Rawalpindi City displays a 2.098 million population with an increase in from 1.409 million in 1998 Census.

According to the 2017 population figures, the population of Gujranwala is 2.027 million, Peshawar’s population is 1.97 million. Multan with a total of 1.871 million population while Hyderabad’s population is 1.732 million. Population of Islamabad Metropolitan Corporation is 1.014 million and population of Quetta is 1.001 million.

Rank Of city	Name of City	Population In 1998 census	Population in 2017 census	Name of Province
1	Karachi	9,339,023	14910352	Sindh
2	Lahore	5,143,495	11126285	Punjab
3	Faisalabad	2,008,861	3203846	Punjab
4	Rawalpindi	1,409,768	2,098,231	Punjab
5	Gujranwala	1,132,509	2027001	Punjab
6	Peshawar	982,816	1970042	KPK
7	Multan	1,197,384	1871843	Punjab
8	Hyderabad	1,166,894	1732693	Sindh
9	Islamabad	529,180	1014825	ICT
10	Quetta	565137	1001205	Baluchistan

Source [3]www.pbscensus.gov.pk/content/punjab-

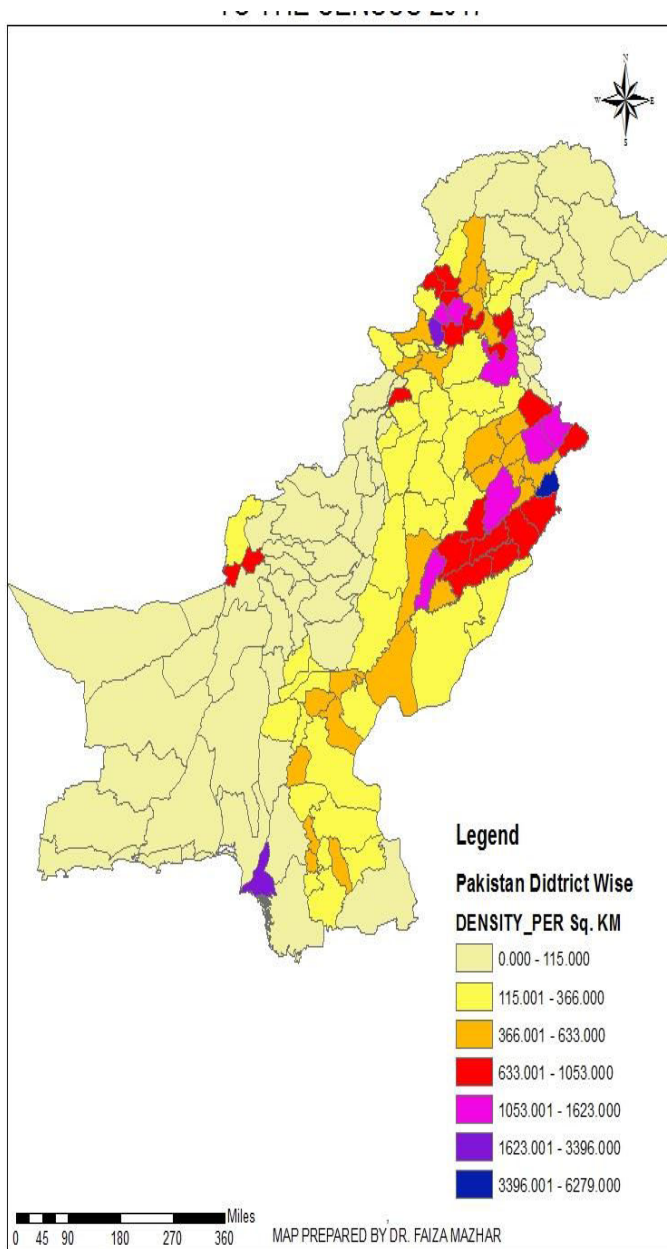
Table 4: Top Ten Populous Cities of Pakistan in Census 2017

D. Population Density in Pakistan 2017

In 1998 population density of Pakistan was 166 persons per square kilometers. Now it is 262 persons per square kilometer according to census of 2017. Density patterns vary from province to province and district to district. now punjab’s population density is 536 persons per square kilometer. In Sindh population Density is 340 persons per square kilometer.

population density of Balochistan is 36 persons per square kilometer. In Khyber Pakhtunkhwa the average population density is 410 persons per square kilometer.

According to 2017 census population density in FATA is 180 persons per square kilometer.



AREA / PROVINCE	SEAT SHARE AT 779896 PER SEAT	ROUNDED OFF NUMBER OF SEATS	NUMBER OF SEATS AT PRESENT	CHANGE
KPK	39.14	39	35	+4
Punjab	141.06	141	148	-7
Sindh	61.40	61	61	0
Balochistan	15.83	16	14	+2
Islamabad	2.57	3	2	+1
Fata		12	12	0

Source [4]<https://pakobserver.net/census-2017-in-pakista>

Table 5: Provincial Share of National Assembly Seats Expected to Be Revised

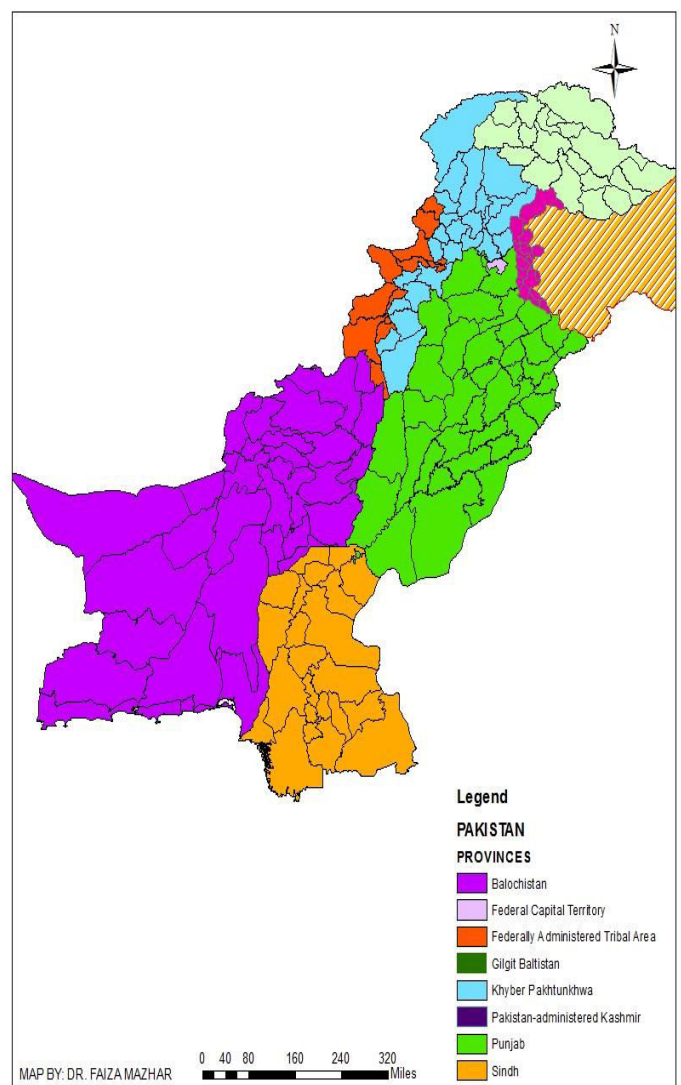


Figure 3: Population Density Per Square Kilometer According To 2017 Census

IV. NATIONAL ASSEMBLY SEAT SHARE

The census are very significant for the upcoming general elections of Pakistan, it is expected that there is a change in constituencies.

It is a constructive pace by the government before the national election which are going to be held in 2018. The latest population count will be helpful in revising voter’s lists and also in revising political boundaries according to provincial share.

There is a chance of revision in National Assembly seat allocations as well as inter-provincial resource allocation. It will also help to revise job quotas and sharing of funds by National Finance Commission (NFC).

Figure 4: Provinces of Pakistan

V. CONCLUSION

Census is the only tool which can help us plan effectively and accurately for our collective future.

The results were to be released by August 2017 but there appear to be unexpected delays in releasing the same — this can only be due to mounting political pressure to protect their electoral representation.

We need to take a stand as citizens of this country — the census procedure were paid by our money and we deserve to see the results.

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