

# 🏠 Real Estate Market Analysis Report – Pakistan

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## Purpose of Analysis

This analysis aims to explore real estate listings data from Zameen.com across various cities in Pakistan. The goal is to uncover **actionable insights** related to property pricing, rental yield (ROI), area trends, property types, and investment potential for both buyers and investors.

## Dataset Summary

- **Total records:** 18,255
- **Columns:** 59
- **Data source:** Zameen.com (scraped residential property listings)

## Data Preparation Steps

### Standardization of Area and Price

- All area values were standardized into **square feet** for consistency.
- Prices were used as-is (in PKR), categorized separately for **Rent** and **Sale** listings.

### Missing Value Analysis

The following columns had significant missing data:

Column	Missing %
Floors	54.17% ✖
Parking Spaces	47.10% ✔
Servant Quarters	47.10% ✔
Store Rooms	46.76% ✔
Built in year	34.59% ✔
Kitchens	27.38% ✔
Description	18.42% ✔
Bathrooms	6.32% ✔

Column	Missing %
Bedrooms	5.23% ✓
Area	0.12% ✓
Location	0.09% ✓
Title	0.09% ✓
Purpose	0.09% ✓
Price	0.09% ✓
Type	0.09% ✓

- Columns with **>50% missing values** (e.g., Floors) were **dropped**.
- For the rest:
  - **Numerical columns** with normal distribution: imputed with **mean**.
  - **Skewed numerical columns**: imputed with **median**.
  - **Categorical columns**: imputed with **mode**.

## Outlier Handling

- Applied **capping** on outliers using IQR-based thresholds to reduce the effect of extreme values in columns like Price, Area, Bedrooms, and Bathrooms.

## Data Cleaning & Inconsistency Fix

- Found inconsistent labels in Purpose (e.g., entries with “**for**” instead of “**Rent**”).
- After investigating listings with label “for” and low prices, it was evident these were **rental listings** misclassified.
- Corrected: replaced “for” with “**Rent**” in the Purpose column

## 1. Feature Engineering

To enrich the analysis, several new features were created, including Size\_Marla, Price\_per\_sqft, and Total\_Rooms. Price-based bins were added separately for sale and rent listings to categorize properties by affordability. ROI (%) was calculated using average rent and sale prices per square foot for each city, helping assess investment potential. These engineered features enabled better comparison, trend analysis, and decision-making.

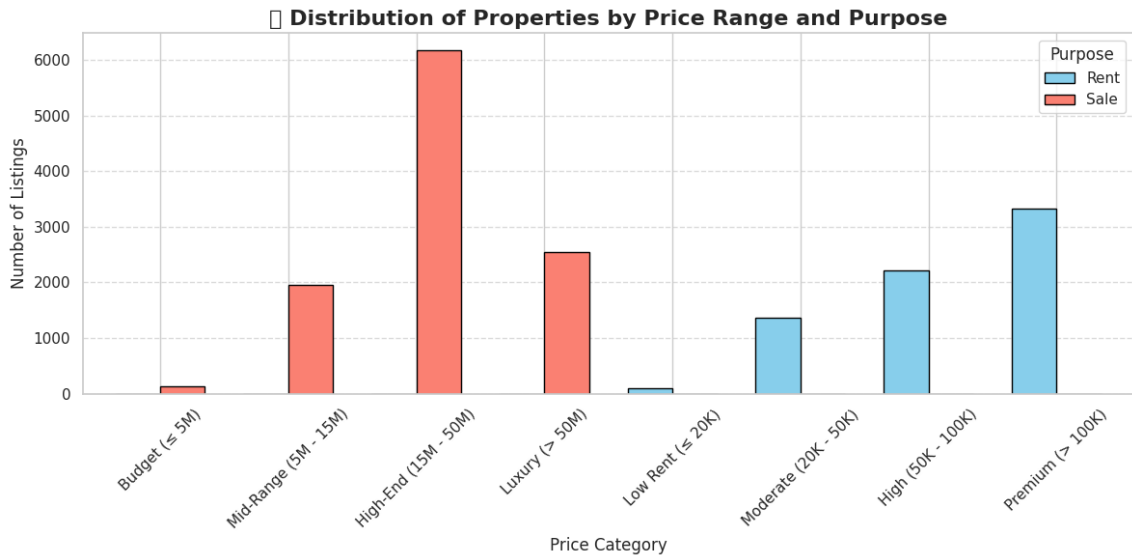
## 2. Price Binning

To classify listings into meaningful price categories, price binning was applied separately for sale and rent properties. Sale prices were grouped into: **Budget ( $\leq 5M$ )**, **Mid-Range ( $5M-15M$ )**, **High-End ( $15M-50M$ )**, and **Luxury ( $50M+$ )** based on the full range from 160,000 to 1.8 billion PKR. Rent prices were categorized as **Low Rent ( $\leq 20K$ )**, **Moderate**

(20K–50K), **High (50K–100K)**, and **Premium Rent (100K+)**, covering a range from 6,000 to 8.1 million PKR. This helped analyze property affordability and market segments.

### 3. Key Analyses & Insights

- **Distribution of Property Listings by Price Range and Purpose**



Purpose	Price Bin Label	Listings Count
Rent	Low Rent ( $\leq 20K$ )	99
Rent	Moderate (20K - 50K)	1,359
Rent	High (50K - 100K)	2,211
Rent	Premium ( $> 100K$ )	3,321
Sale	Budget ( $\leq 5M$ )	143
Sale	Mid-Range (5M - 15M)	1,948
Sale	High-End (15M - 50M)	6,170
Sale	Luxury ( $> 50M$ )	2,547

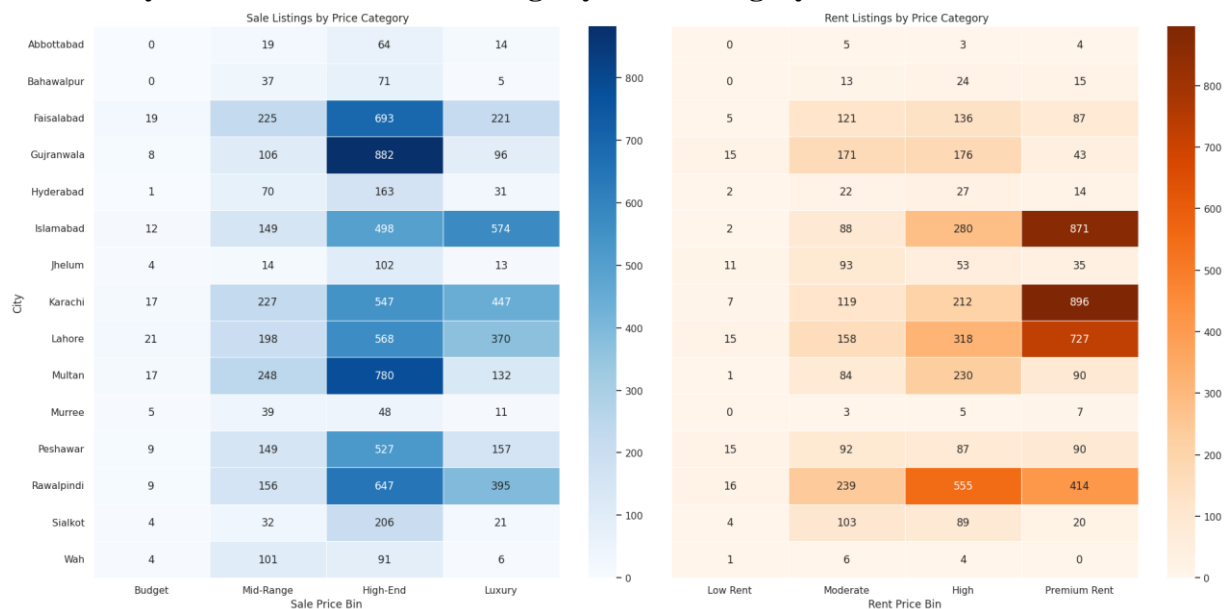
The analysis of property listings across different price bins for both **sale and rent purposes** reveals several key patterns:

- 🏠 **Sale Listings are dominated by high-end and luxury properties:**
  - **High-End (15M - 50M)** has the **highest number of listings: 6,170 properties.**
  - **Luxury properties ( $> 50M$ )** are also significant: **2,547 listings.**
  - **Budget properties ( $\leq 5M$ )** are rare, with only **143 listings**, indicating **less supply in the affordable housing segment.**
- 🏡 **Rent Listings are skewed toward higher rent categories:**
  - **Premium Rent ( $> 100K$ )** leads with **3,321 listings**, followed by

- **High Rent (50K - 100K): 2,211 listings.**
- **Moderate Rent (20K - 50K): 1,359 listings.**
- **Low Rent ( $\leq 20K$ ) is underrepresented with only 99 listings, highlighting a gap in affordable rental options.**

Found that:

- **Most sale listings** are in the **High-End (15M - 50M)** range.
- **Most rent listings** fall in the **Premium ( $> 100K$ )** category
- **City-wise Distribution of Listings by Price Category**



## Visual Overview

We created two heatmaps to analyze how different cities distribute their listings across various **sale** and **rent price bins**. These charts give us a clear view of affordability, luxury concentration, and market skew across locations.

### ◆ Heatmap 1: Sale Listings by Price Category

This heatmap shows how properties in each city fall into the following price categories:

- **Budget ( $\leq 5M$ )**
- **Mid-Range (5M – 15M)**
- **High-End (15M – 50M)**
- **Luxury ( $> 50M$ )**

### Insights:

- **Islamabad, Lahore, Rawalpindi, and Multan** dominate the **Luxury** listings.

- **Gujranwala** and **Faisalabad** have the highest number of **High-End** listings, despite being lower-tier cities — suggesting high-value enclaves.
- **Budget** listings are scarce across most cities, highlighting the **limited affordability** in urban centers.
- **Jhelum, Wah, and Bahawalpur** have very few listings in luxury or high-end — mostly **mid-range**.

◆ **Heatmap 2: Rent Listings by Price Category**

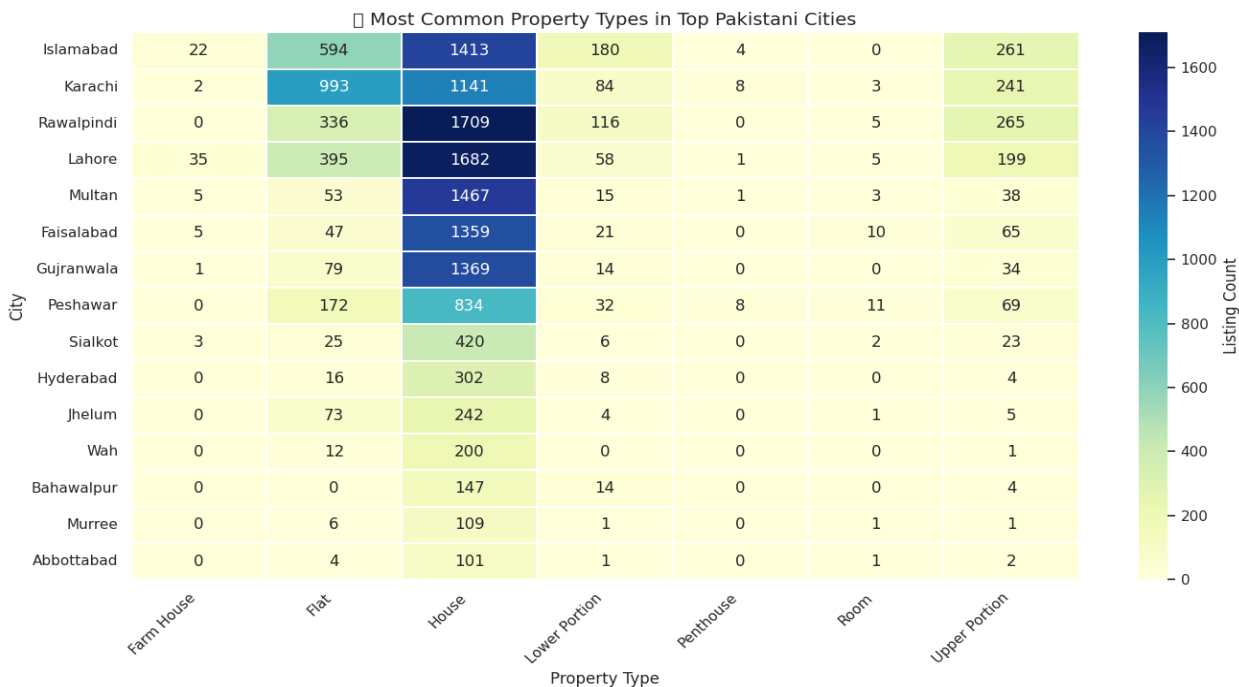
This heatmap shows rent property distribution across:

- **Low Rent ( $\leq 20K$ )**
- **Moderate (20K – 50K)**
- **High (50K – 100K)**
- **Premium ( $> 100K$ )**

**Insights:**

- **Karachi, Islamabad, and Lahore** are hotspots for **Premium Rent** listings.
- **Rawalpindi** has a surprisingly balanced distribution but still leans towards **High and Premium Rent**.
- **Gujranwala and Faisalabad** show dominance in **Moderate to High rent** bins, reflecting affordable rental markets.
- Cities like **Murree, Sialkot, and Wah** have a relatively small volume of rental listings — likely more seasonal or second homes.

**4. Most Common Property Types Across Cities**

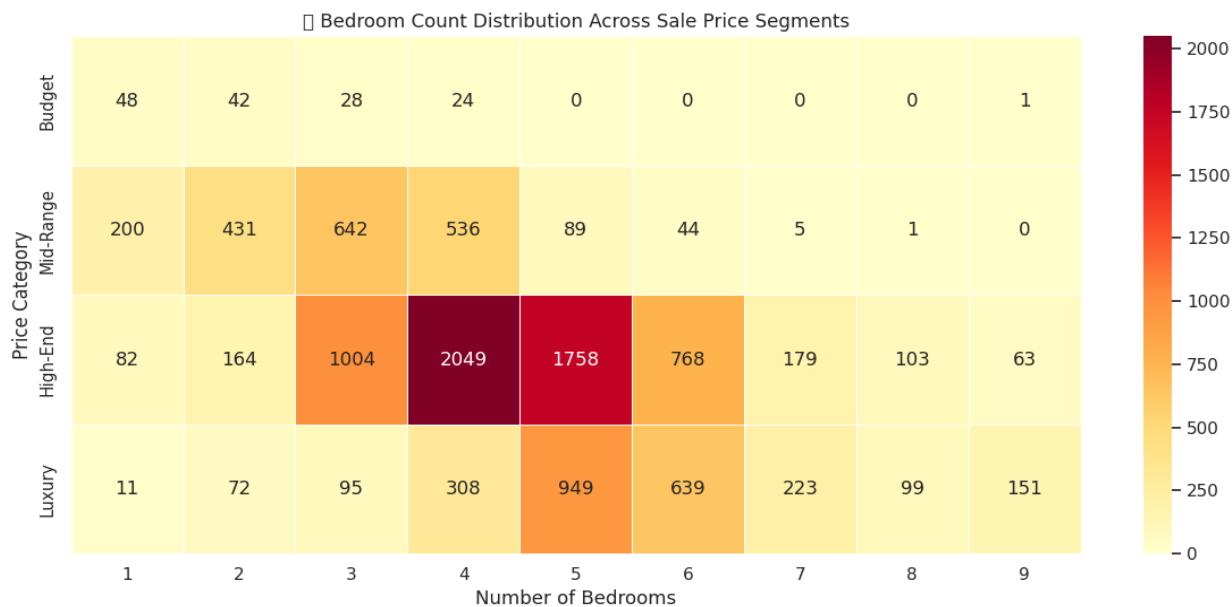


The heatmap provides a comparative view of property type distribution across major cities in Pakistan. The key observations are:

- **Houses dominate** the listings in almost every city, especially in Lahore, Rawalpindi, and Multan — each with over **1,400 house listings**, indicating a strong preference for independent residential units.
- **Flats are particularly popular in Karachi** (993 listings) and Islamabad (594 listings), reflecting the growing trend of vertical living in urban hubs.
- **Upper and lower portions** are most frequently listed in Islamabad and Rawalpindi, suggesting common use of portion-based living arrangements in these cities.
- **Farm houses**, although fewer in number, are relatively more common in Lahore and Islamabad, possibly due to the availability of peri-urban land and lifestyle preferences.
- **Penthouses and rooms** are listed in small numbers and appear more in Karachi and Peshawar, indicating niche markets or limited availability.
- **Cities like Bahawalpur, Murree, and Abbottabad** show low overall diversity and volume of property types, suggesting smaller or more focused real estate markets.

This distribution insight helps in understanding **urban housing trends, investor interest,** and **consumer demand**, which can inform city-wise property marketing strategies and urban planning decisions.

• **Bedroom Count vs. Sale Price Segments**



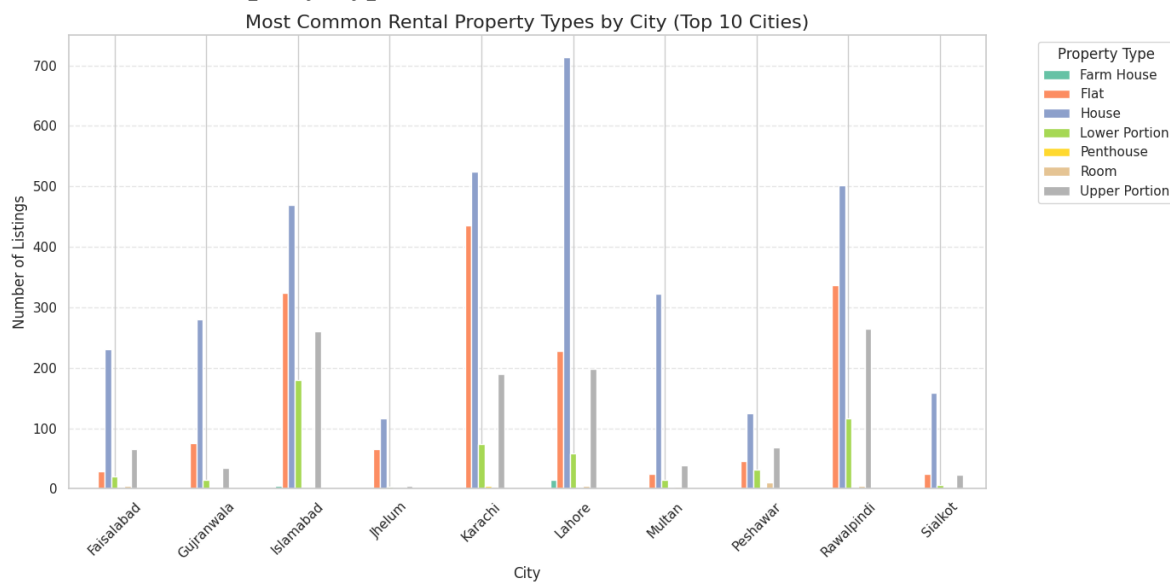
This analysis reveals a strong correlation between the number of bedrooms and the sale price segment of properties:

- **High-End Properties (15M–50M)** dominate the market for **4- and 5-bedroom homes**, indicating that this price bracket is most popular for larger family homes.
- **Luxury Segment (>50M)** shows a **clear demand for very large houses**, especially with **5 to 6 bedrooms**, and even includes exclusive listings with **7 to 9 bedrooms**, reflecting premium estate offerings.
- **Mid-Range Segment (5M–15M)** caters primarily to **3-4 bedroom homes**, aligning well with the needs of average families seeking affordability and comfort.
- **Budget Segment (≤5M)** features mostly **1-3 bedroom properties**, highlighting its focus on small families, individuals, or investors seeking lower-priced housing.
- There's a **notable scarcity of large-bedroom properties** in lower price ranges, emphasizing that **as the number of bedrooms' increases, so does the likelihood of the property falling into a higher price category.**

### Conclusion:

This bedroom-price analysis helps stakeholders understand which property types dominate each market tier, aiding better targeting for buyers, sellers, and developers.

- **Rental Property Type Distribution**



The analysis of rental property types across the top 10 cities highlights distinct urban preferences:

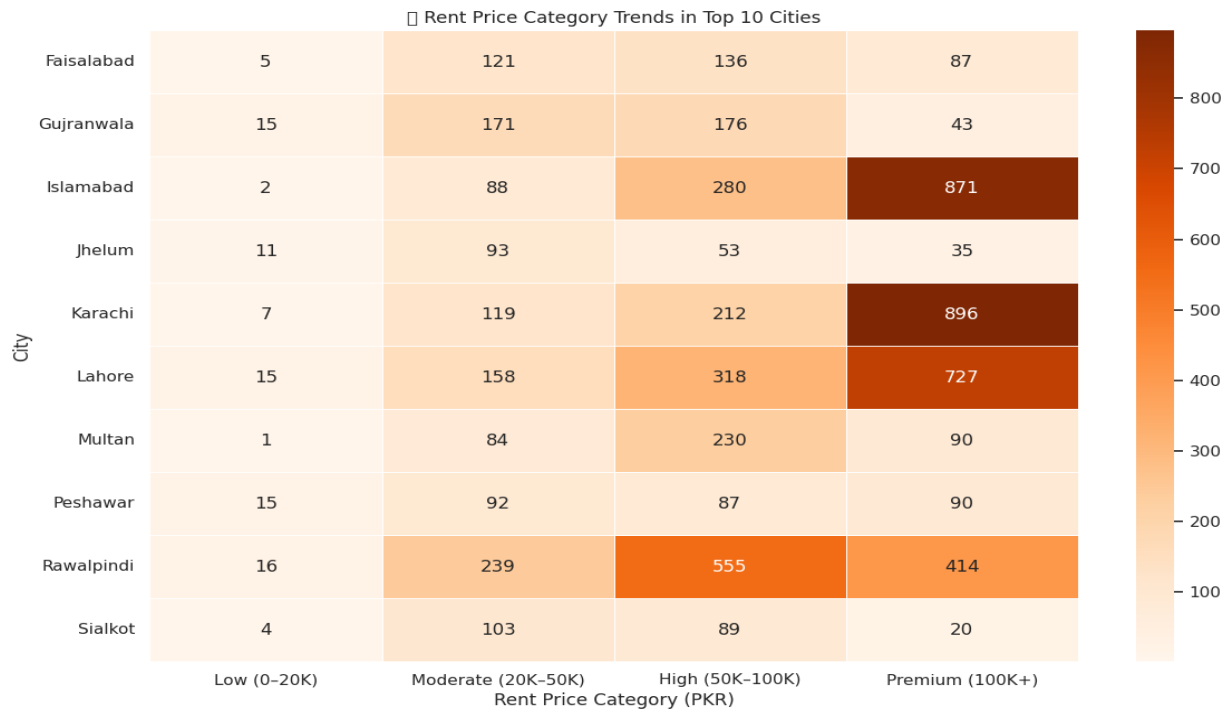
- **Houses** are the most commonly listed rental type, particularly dominating in cities like **Lahore, Gujranwala, and Faisalabad**, where standalone homes remain the preferred living style.
- **Flats** show significant popularity in **Karachi, Islamabad, and Rawalpindi**, indicating a strong urban shift towards apartment living in densely populated areas.
- **Upper Portions** and **Lower Portions** are moderately present, especially in **Islamabad and Rawalpindi**, reflecting the trend of multi-family homes and partitioned rental spaces.

- **Farmhouses, Penthouses, and Rooms** are rarely listed, representing a very niche segment of the rental market.

**Insight:**

This distribution suggests that while traditional houses are still the dominant rental option, **flats are an essential and growing offering** in major cities where space is limited and vertical living is more feasible.

- **Rent Price Category Trends in Top 10 Cities**



**Key Insights:**

- **Premium Rentals Dominate Major Metros**  
Cities like **Islamabad (871)**, **Karachi (896)**, and **Lahore (727)** show a high concentration of Premium rental listings. This reflects elevated demand in urban hubs, likely fueled by higher incomes, expatriate populations, and affluent renters.
- **Strong High Rent Demand**  
High category listings are prominent in **Rawalpindi (555)**, **Lahore (318)**, **Islamabad (280)**, and **Multan (230)**—highlighting healthy demand from upper-middle-class tenants.
- **Moderate Segment Activity in Mid-Tier Cities**  
Cities such as **Rawalpindi**, **Gujranwala**, and **Lahore** also show significant rental listings in the Moderate category, suggesting affordability and stable middle-income rental activity.
- **Lack of Low Rent Options**  
Very few listings fall under the Low category—e.g., **Islamabad (2)** and



**Faisalabad (5)**—indicating a possible affordability issue or underreporting of low-cost housing.

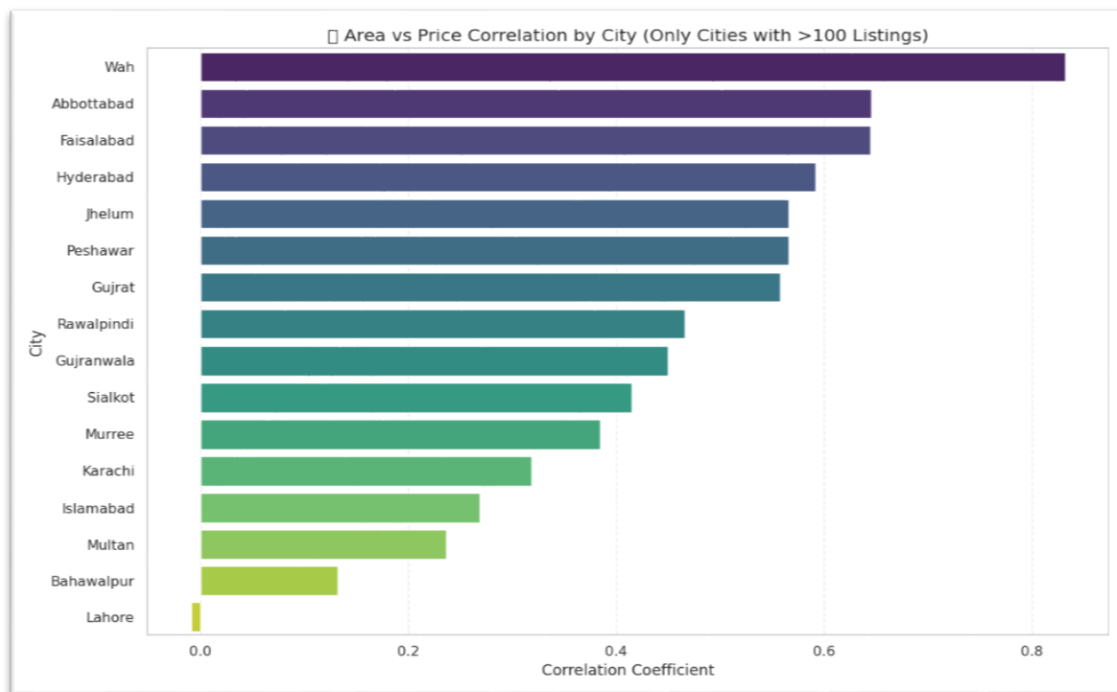
- **City-Specific Rental Structures**

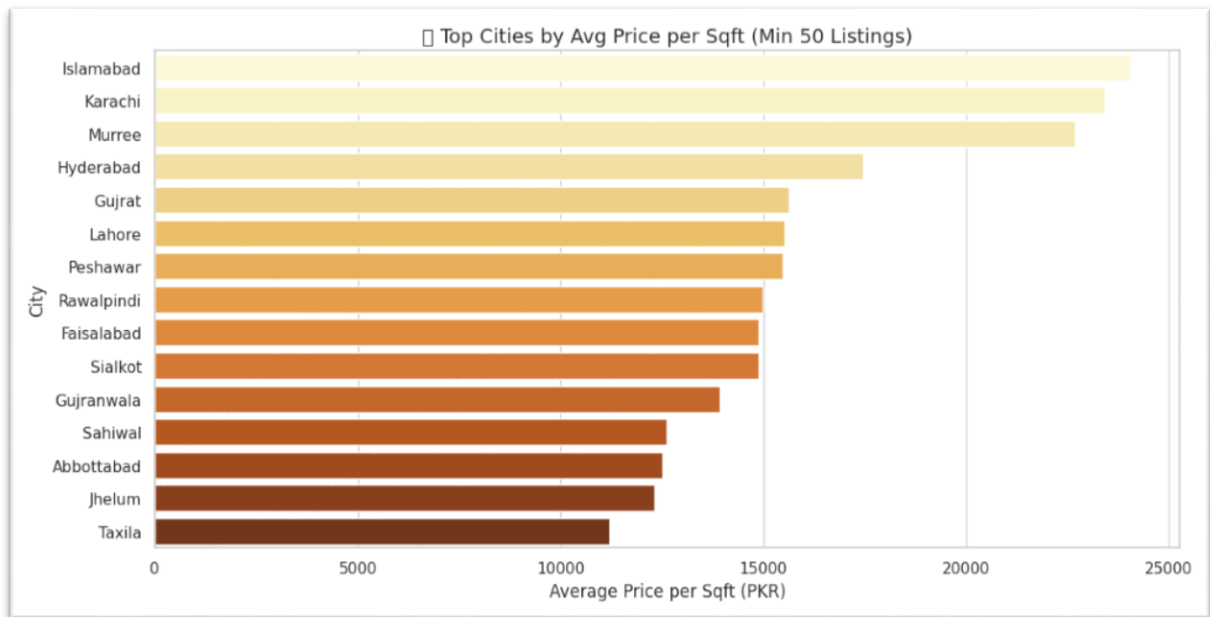
- **Islamabad & Karachi:** Heavily skewed toward Premium, showing luxury-oriented rental markets.
- **Lahore:** Balanced presence in High and Premium, reflecting a diverse tenant base.
- **Rawalpindi:** Strong in Moderate and High categories, suggesting a balanced market.
- **Smaller cities** (e.g., Jhelum, Sialkot, Multan): Limited listings with a tilt toward Moderate or High rent ranges.

💡 **Implications:**

- **For renters:** Affordable rental options (under 20K PKR) are scarce in most cities.
- **For investors:** Strong investment opportunities lie in High and Premium rental markets—especially in major cities—due to robust demand and higher yield potential.

**Area-Price Correlation vs. Price Per Square Foot in Major Cities:**





A compelling trend arises when comparing the “Area vs. Price Correlation by City” with the “Top Cities by Average Price per Square Foot”:

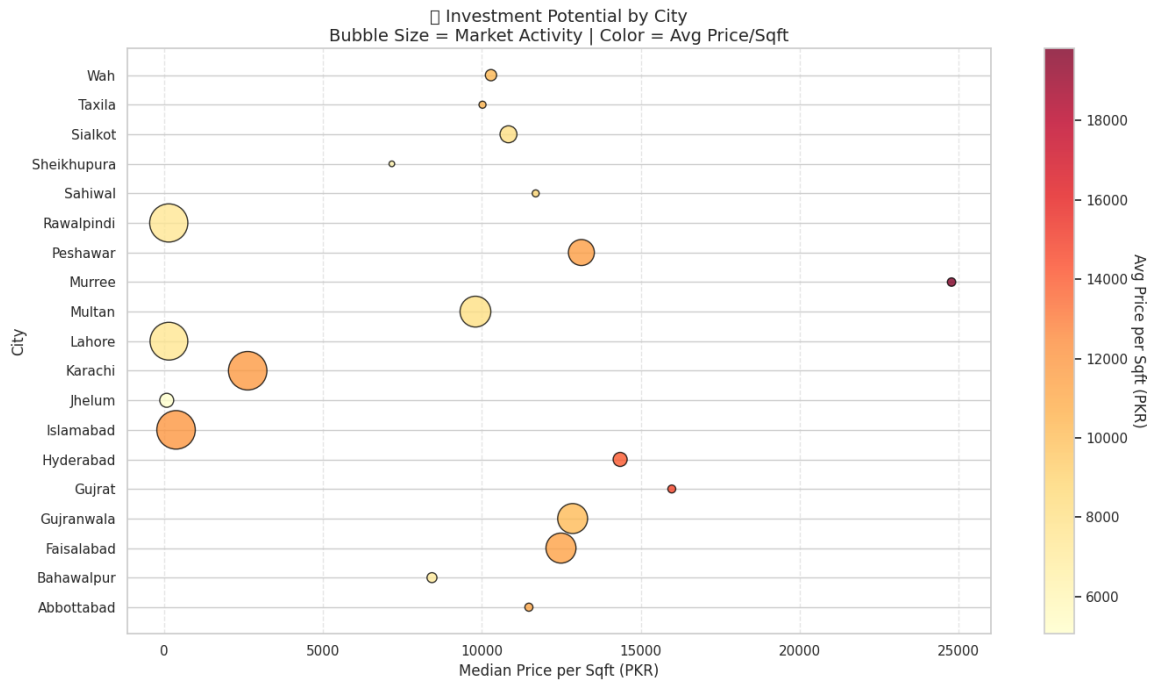
### Key Insights:

- Weak Area–Price Correlation in Major Cities:** Urban hubs such as **Islamabad, Karachi, Lahore, and Multan** demonstrate relatively low correlation between a property’s area and its total price. This means larger size doesn’t always lead to proportionally higher prices in these markets.
- High Price per Square Foot Persists:** Despite the weak correlation with area, these same cities—**especially Islamabad and Karachi**—consistently report the **highest average prices per square foot** in the country. This indicates that buyers are paying more for each square foot of property, even if the overall property size is modest.
- Implication of Urban Market Maturity:** The disconnect between area and price in these cities highlights that **value is driven more by location, amenities, demand, and land scarcity** than by size alone. This reflects the behavior of a **mature, demand-driven real estate market**, where per-unit value matters more than total land area.

### Summary:

In major Pakistani cities, investing in **smaller, well-located properties** may yield higher returns per square foot compared to larger but less centrally located ones. This insight is especially valuable for investors and developers targeting urban buyers who prioritize **location and lifestyle over space**.

- Investment Potential Analysis



The bubble chart comparing **Median Price per Sqft**, **Average Price per Sqft (color)**, and **Market Activity (bubble size)** across major Pakistani cities offers valuable insights into the real estate investment landscape:

### ◆ 1. High Investment Potential in Major Cities

Cities such as **Rawalpindi**, **Lahore**, and **Islamabad** exhibit **high market activity** (larger bubbles) and are positioned toward the **lower-middle range** of median prices per square foot. This balance between **strong demand** and **affordable pricing** makes them **attractive investment hubs**, especially for residential or commercial developments. The **average price per square foot** in these cities (as indicated by color intensity) is moderate to high, reflecting good overall value.

### ◆ 2. Premium Niche Markets

**Murree** stands out as a **luxury market** with the **highest average price per square foot**, yet it has **lower market activity**. This pattern suggests a **specialized segment**, likely catering to holiday homes or high-net-worth individuals, where properties are scarce and command premium pricing despite fewer transactions.

### ◆ 3. Emerging Growth Cities

**Gujranwala** and **Faisalabad** show **moderate activity** with **average pricing**, indicating **up-and-coming markets**. These cities may appeal to mid-level investors seeking **expansion potential** without entering the already saturated top-tier urban markets.

### ◆ 4. Low-Activity, Affordable Markets

Cities like **Wah**, **Taxila**, **Sheikhupura**, **Sahiwal**, **Bahawalpur**, and **Abbottabad** show **smaller bubbles** and **lower pricing metrics**, pointing to **early-stage or underserved markets**. These may present **long-term opportunities** for developers or investors willing to take on more risk for potentially higher future returns.

### ◆ 5. Balanced but Quiet Markets

**Hyderabad** and **Gujrat** maintain **moderate pricing** with **low market activity**, suggesting **stable but less dynamic investment options**. These may be suitable for investors prioritizing consistency and affordability over rapid appreciation.

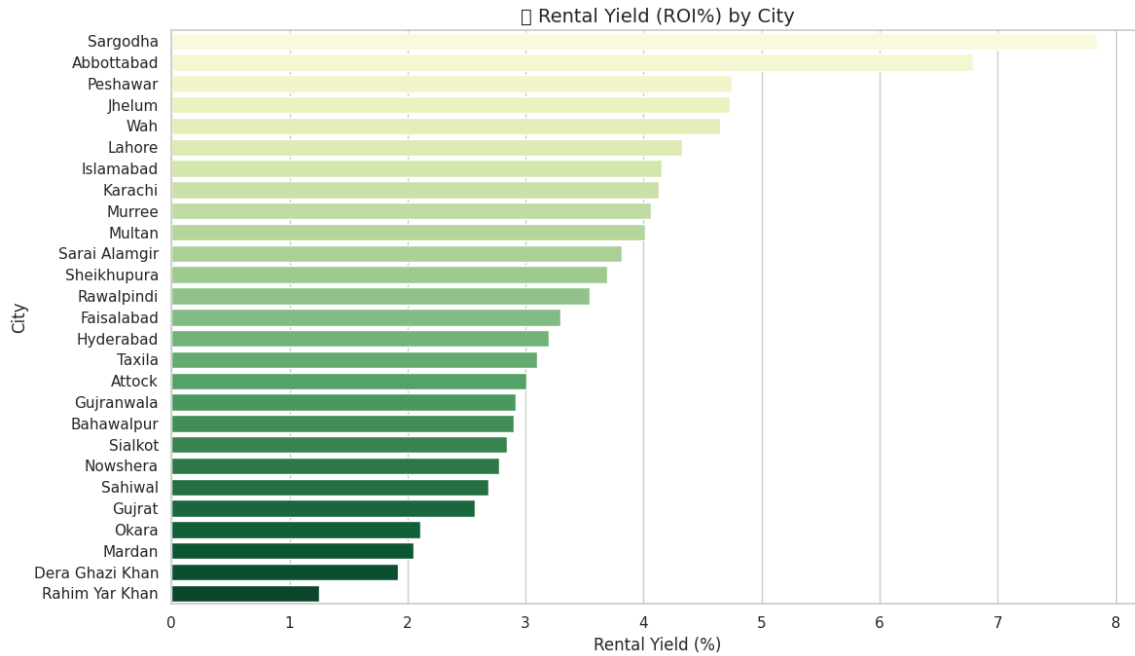
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## ★ Summary

This analysis reveals that:

- **Major cities combine high activity and value**, making them prime investment targets.
- **Niche markets like Murree are expensive but exclusive.**
- **Emerging cities offer mid-level risk and potential.**
- **Underserved areas may appeal to long-term or strategic investors.**

- Rental Yield (ROI%) Insights**



No.	City	ROI (%)	Total Listings
1	Sargodha	7.84	39
2	Abbottabad	6.80	109
3	Peshawar	4.75	1126
4	Jhelum	4.73	325
5	Wah	4.65	213
6	Lahore	4.32	2375
7	Islamabad	4.15	2474
8	Karachi	4.13	2472
9	Murree	4.06	118
10	Multan	4.01	1582
11	Sarai Alamgir	3.82	25
12	Sheikhupura	3.69	53
13	Rawalpindi	3.54	2431
14	Faisalabad	3.30	1507
15	Hyderabad	3.20	330
16	Taxila	3.09	83
17	Attock	3.01	12
18	Gujranwala	2.92	1497
19	Bahawalpur	2.90	165
20	Sialkot	2.84	479
21	Nowshera	2.77	20

No.	City	ROI (%)	Total Listings
22	Sahiwal	2.69	82
23	Gujrat	2.57	105
24	Okara	2.11	14
25	Mardan	2.05	24
26	Dera Ghazi Khan	1.92	10
27	Rahim Yar Khan	1.25	43

In addition to evaluating market activity and price per square foot, **Rental Yield (ROI%)** is a key metric that highlights the **profitability of property investments through rental income**. Here's what the analysis reveals:

### ◆ 1. Top ROI Performers in Smaller Markets

Cities like **Sargodha (7.84%)** and **Abbottabad (6.80%)** exhibit the **highest rental yields**, despite having a relatively **lower volume of listings**. This suggests that **lower property prices** coupled with **strong rental demand** result in **excellent returns**, making these cities attractive for investors focused on yield rather than capital growth.

### ◆ 2. Strong ROI in Major Urban Centers

Cities with significant real estate activity such as:

- **Peshawar (4.75%)**
- **Jhelum (4.73%)**
- **Wah (4.65%)**
- **Lahore (4.32%)**
- **Islamabad (4.15%)**
- **Karachi (4.13%)**

All show **robust rental yields**, indicating that **even high-demand, high-price markets offer strong rental income potential**. These cities represent a **balanced investment opportunity** with both **appreciation potential** and **rental profitability**.

### ◆ 3. Murree's Premium yet Profitable Market

**Murree**, known for its **luxury and vacation-oriented real estate**, maintains an impressive **ROI of 4.06%**. Despite having one of the **highest average prices per square foot**, it continues to deliver **respectable rental returns**, aligning with its **niche, high-value investment profile**.

#### ◆ 4. Moderate ROI in Other Active Markets

Cities like:

- **Rawalpindi (3.54%)**
- **Faisalabad (3.30%)**
- **Gujranwala (2.92%)**

Show **moderate ROI levels** despite a **high number of listings**. This could suggest **higher property purchase prices relative to rent**, or an **oversupply of rental units**, slightly dampening yield performance.

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#### □ Summary

- **Small markets** (like Sargodha and Abbottabad) can provide **exceptionally high rental yields** with lower investment amounts.
- **Major cities** maintain a **healthy balance between rental ROI and property value**, making them ideal for long-term investors.
- **Niche locations** like Murree offer both **premium property pricing** and **steady rental returns**<sup>7</sup>.

- Listings may not reflect actual transaction prices.
- Missing values and outliers could influence insights.
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#### ✓ Summary of Key Learnings

After a detailed analysis of over **18,000 property listings** from Zameen.com, the following major trends and insights have emerged:

##### 1. Urban Centers Are Pricey but Attractive

- Major cities like **Karachi, Lahore, and Islamabad** have the highest volume of listings, high **price per square foot**, and significant activity in **premium sale and rental markets**.
- These cities demonstrate **mature, demand-driven real estate behavior**, where **location and lifestyle** matter more than sheer size.

##### 2. Affordable Housing is Scarce

- Both **low-rent listings (≤20K PKR)** and **budget sale listings (≤5M PKR)** are significantly underrepresented, especially in top-tier cities.

- This reflects a **shortage of affordable options**, signaling a market gap for both **low-income renters** and **first-time buyers**.

### 3. Rental Yield is Strong in Smaller Cities

- Cities like **Sargodha** and **Abbottabad** offer **rental yields above 6%**, making them excellent choices for **ROI-focused investors**.
- Even large cities like **Lahore, Karachi, and Islamabad** maintain decent yields (~4%), balancing capital appreciation with rental income.

### 4. Property Type Preferences Vary by City

- **Houses** are the most listed property type in most cities.
- **Flats dominate in Karachi and Islamabad**, showing a shift toward **vertical living** in high-density urban areas.
- **Portions (upper/lower)** are common in **Islamabad and Rawalpindi**, aligning with family-based or shared living setups.

### 5. Investment Hotspots Identified

- **Rawalpindi, Lahore, and Islamabad** are ideal for high-activity, mid-priced investments.
- **Murree** is a premium niche market with high price/sqft but low volume.
- **Emerging cities** like **Gujranwala and Faisalabad** offer potential for growth at a lower entry cost.

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## 💡 Suggestions for Stakeholders (Investors, Developers, and Policymakers)

### For Real Estate Investors:

- Focus on **high-yield smaller cities** like **Sargodha** and **Abbottabad** for rental income.
- Consider **flats in Karachi or Islamabad** to capitalize on the growing demand for **urban apartments**.
- Invest in **High-End properties (15M–50M PKR)**, especially 4–5 bedroom homes, as this is the **most demanded segment** in urban areas.

### For Urban Developers:

- Address the **affordable housing gap** by launching **mid-size flats or 1–2 bedroom homes** in Lahore, Karachi, and Islamabad.
- Develop **high-rise apartments** and **mixed-use buildings** in cities with limited land availability but high demand.



### **For Policymakers and Housing Authorities:**

- Encourage **rental housing development** with incentives in cities lacking **low-rent** options.
- Support **land-use planning and zoning reforms** to manage growth in high-demand urban zones like Islamabad and Karachi.
- Improve **data transparency and regulation** on property listings to ensure accuracy for investors and renters.