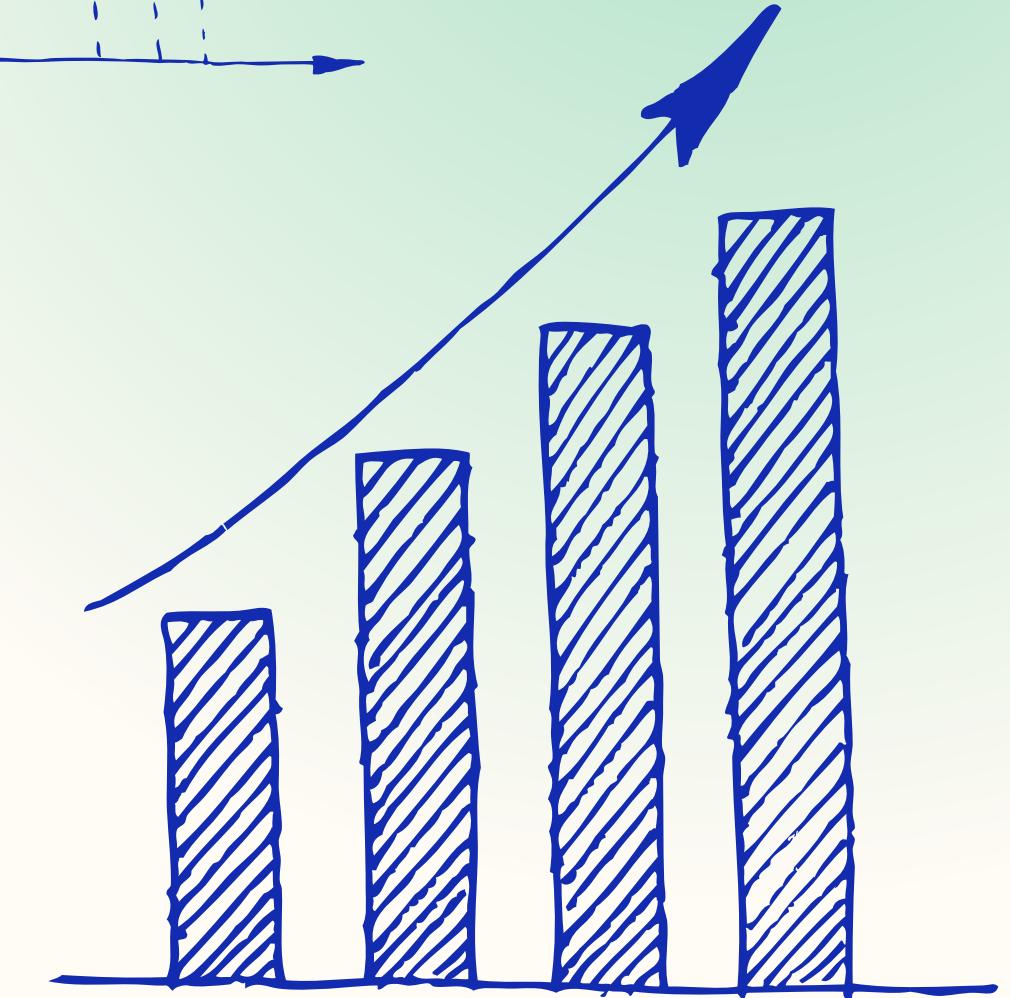
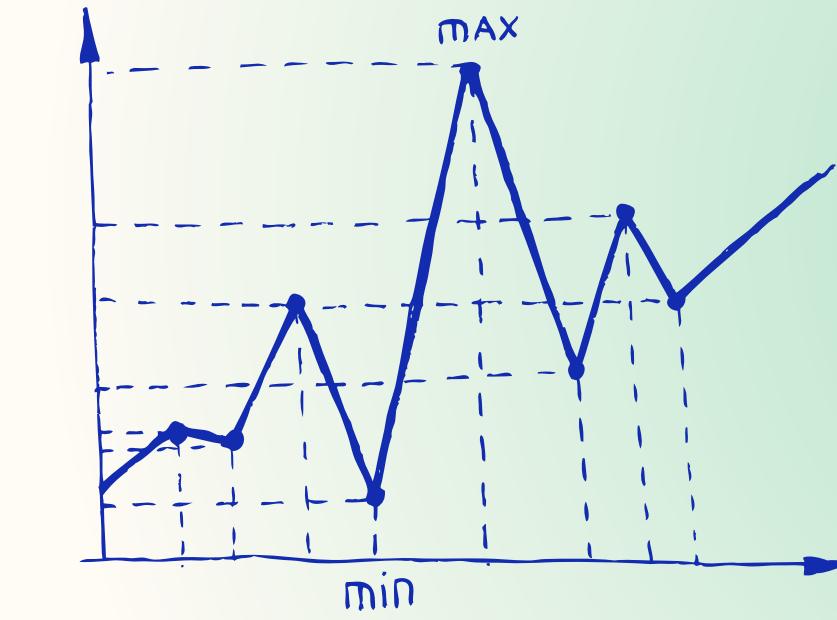
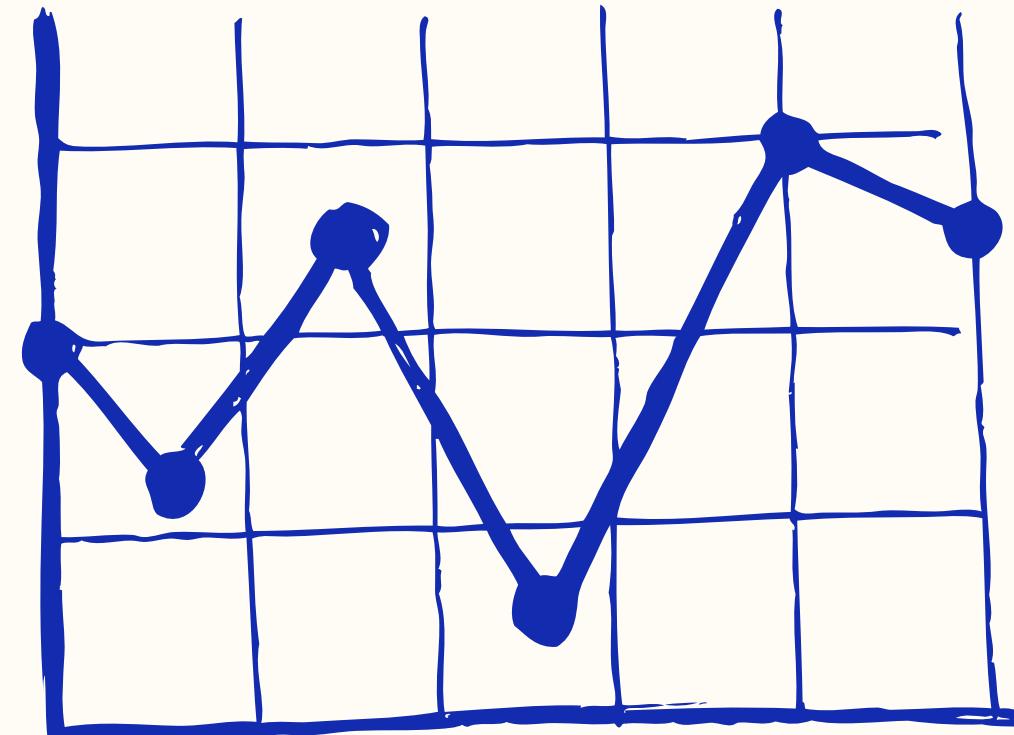
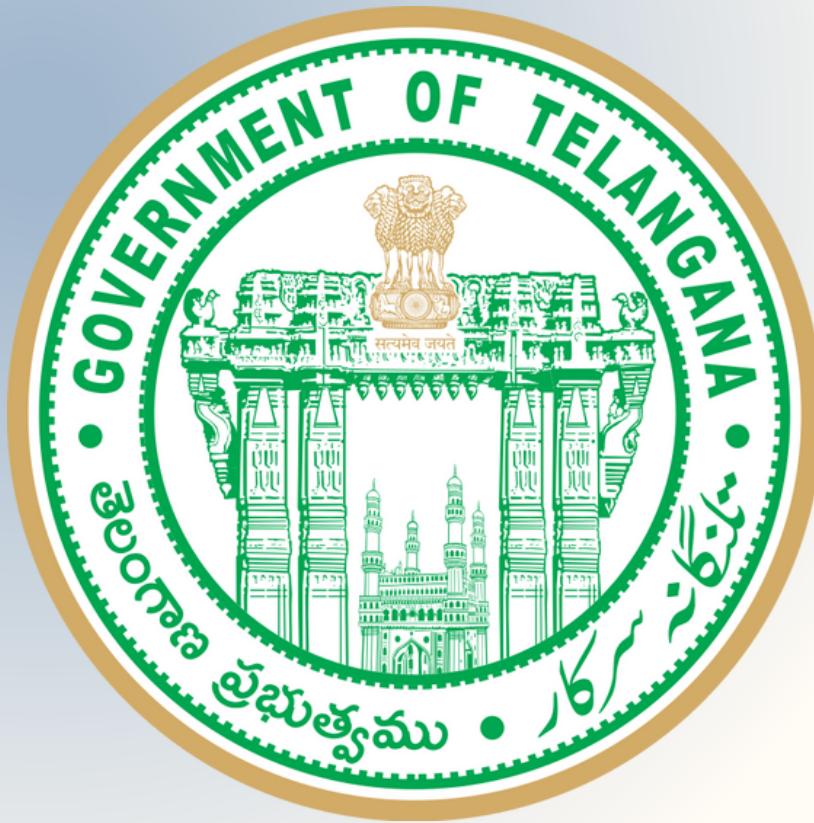


# Telangana Growth Analysis



By Jammula  
Srivasanth

# *About Myself*

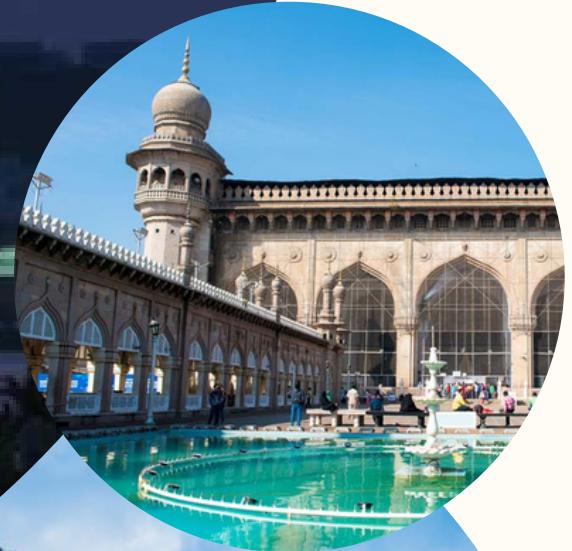


**Srivasanth Jammula**

*Front-end developer & Data  
Analyst*

# Table of Contents:

1. Purpose of analysis
2. About Telangana
3. Primary research analysis
  - Stamps and Document registration
  - Transportation
  - TS-iPASS
4. Secondary research analysis



- Purpose of Analysis

The purpose of analyzing the reports to examine the growth of Stamp registrations, Document registration, Transportation & TS-iPASS departments. This study assists the government in making better, data-based decisions.

- Explored Datasets

1. Stamp registration data.
2. Document registration data.
3. Transportation data.
4. TS-iPASS data.

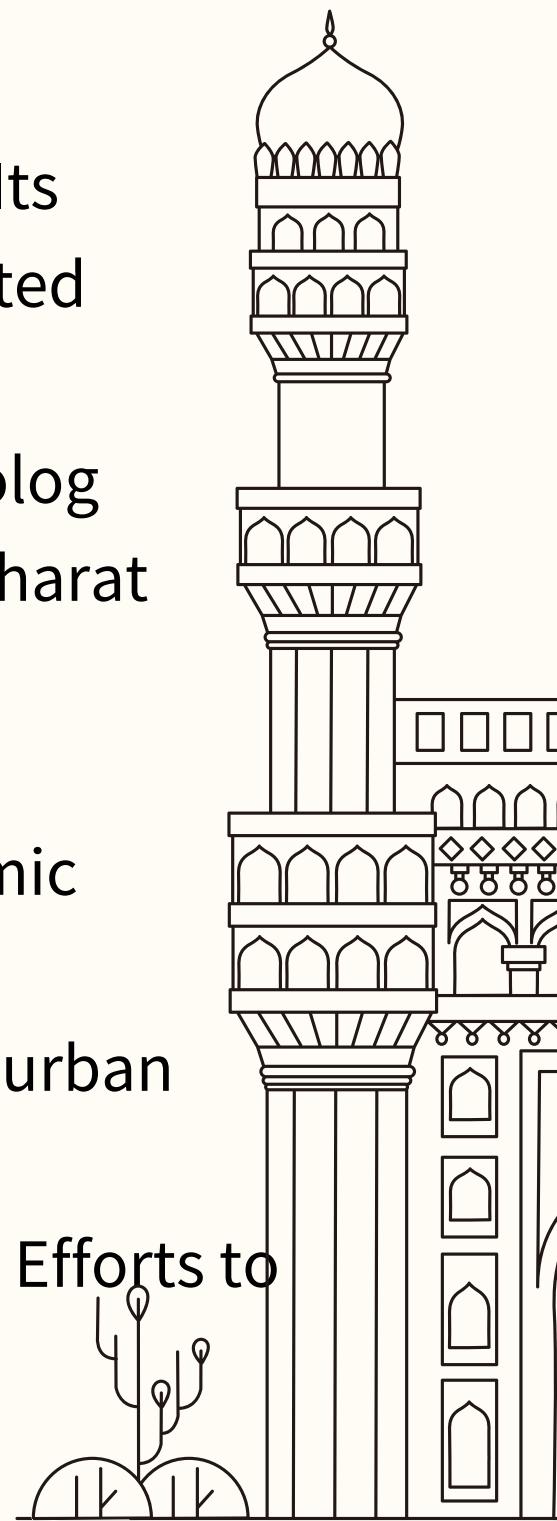
- Tools Used

1. MySQL
2. Excel
3. Canva

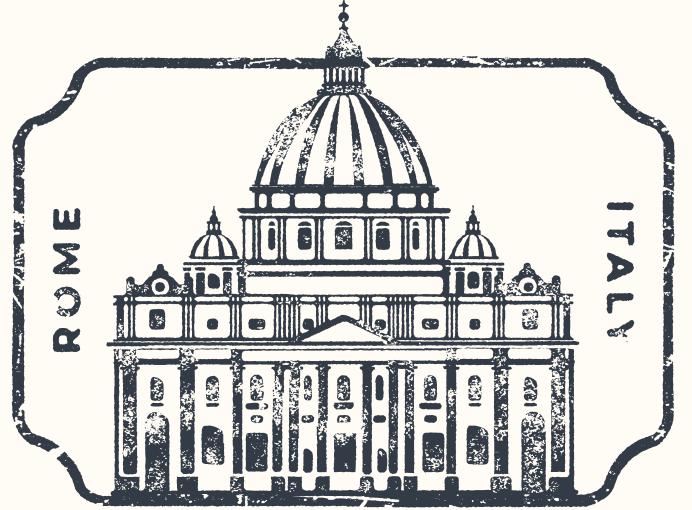
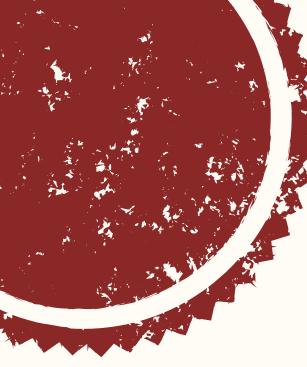


# About Telangana

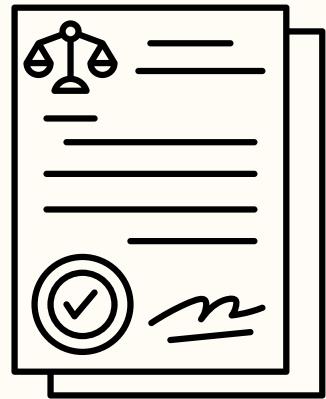
1. Telangana is often referred to as the "Seed Hub" because it was the greatest seed exporter to Asia and Africa.
2. Telangana, India's 29th state, was formed on June 2, 2014, making it the nation's youngest state.
3. Hyderabad, a bustling metropolis, serves as the capital of Telangana. It is known for its historical landmarks, high-tech industries, and a blend of traditional and modern cultures.
4. Telangana is one of economically developing state.
5. Telangana is predominantly situated on the Deccan Plateau, a vast elevated region in southern India. Its topography is characterized by rolling hills, plateaus, and fertile plains. Therefore, agriculture and related activities are been developing.
6. Hyderabad is known as the "Pharma Capital of India" due to its thriving pharmaceutical and biotechnology industry. It hosts major pharmaceutical companies and research institutions. And i really thankful to Bharat Biotech's (the place where covid vaccines are found). Hyderabad is the hometown of Bharat biotech.
7. The state has a rapidly growing aerospace and defense sector, with the presence of defense research organizations, defense manufacturing units, and aerospace engineering companies, furthering economic development.
8. Telangana has invested heavily in infrastructure development, including road networks, bridges, and urban transport systems.
9. The state's rich cultural heritage, historical sites, and natural beauty have untapped tourism potential. Efforts to promote tourism can create jobs and stimulate economic growth.



# **Primary Research analysis**



# Stamp & Document registration

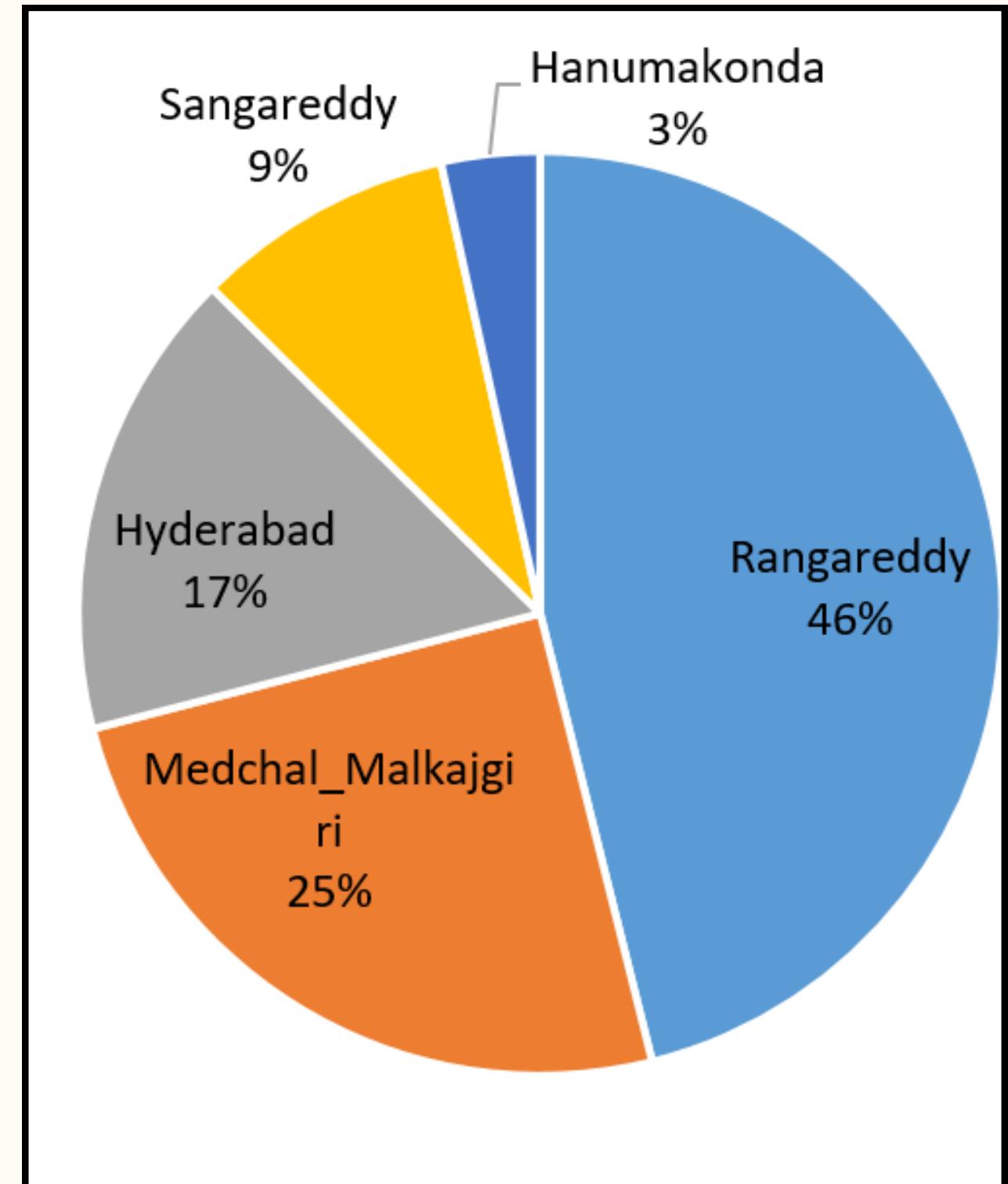


# Question-1

How does the revenue generated from document registration vary across districts in Telangana?

List down the top 5 districts that showed the highest document registration revenue growth between FY 2019 and 2022.

- Rangareddy seems to have the most documents registered for the FY 2019 to 2022, followed by Medchal\_Malkajgiri and Hyderabad.
- It shows there is lot of economic activity happening in the state. And people from this districts showing interest to invest the in the property and other assets.
- One needs to register the legal documents so as to prevent any property dispute, fraud, conserve the evidence, be assured of the title and publicizing the information.



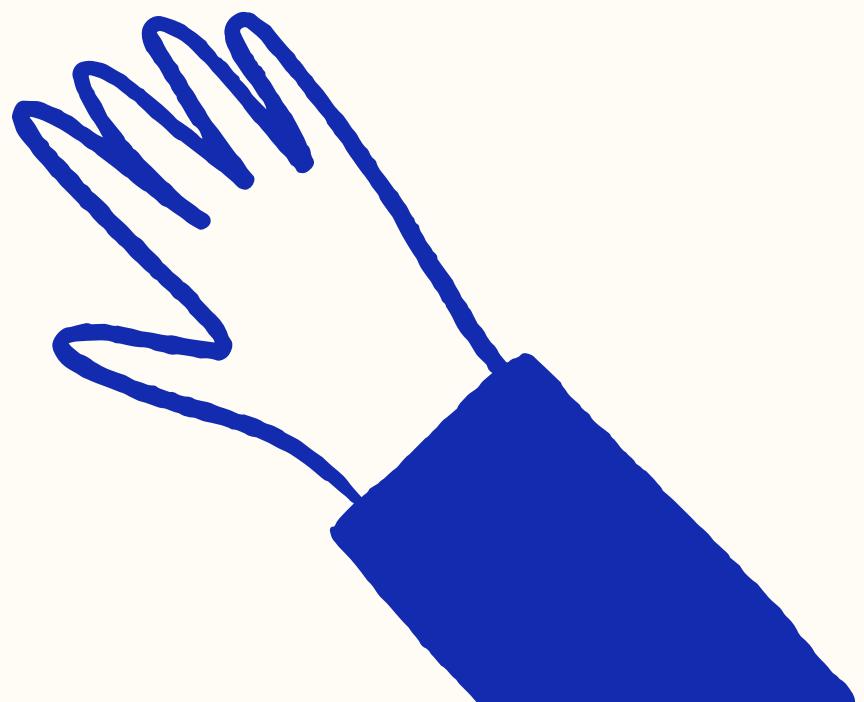
Note: Just pause and take a brief look

## Insights -

Revenue generated from document registration can vary across districts in Telangana due to several factors, including the population, economic activity, urbanization, and property values in each district. Additionally, local real estate market conditions and government policies can also influence the revenue generated from document registration.

1. **Population and Urbanization:** More populated and urbanized districts tend to have higher real estate transactions, leading to increased revenue from document registration. Urban areas usually have more property transactions and higher property values.
2. **Property Values:** Districts with higher property values tend to generate more revenue from document registration. Urban districts or those with a booming real estate market often see higher property values, resulting in increased revenue.
3. **Economic Activity:** Districts with a stronger economy, more businesses, and industrial activity often see higher property transactions, which can contribute to higher registration revenue.

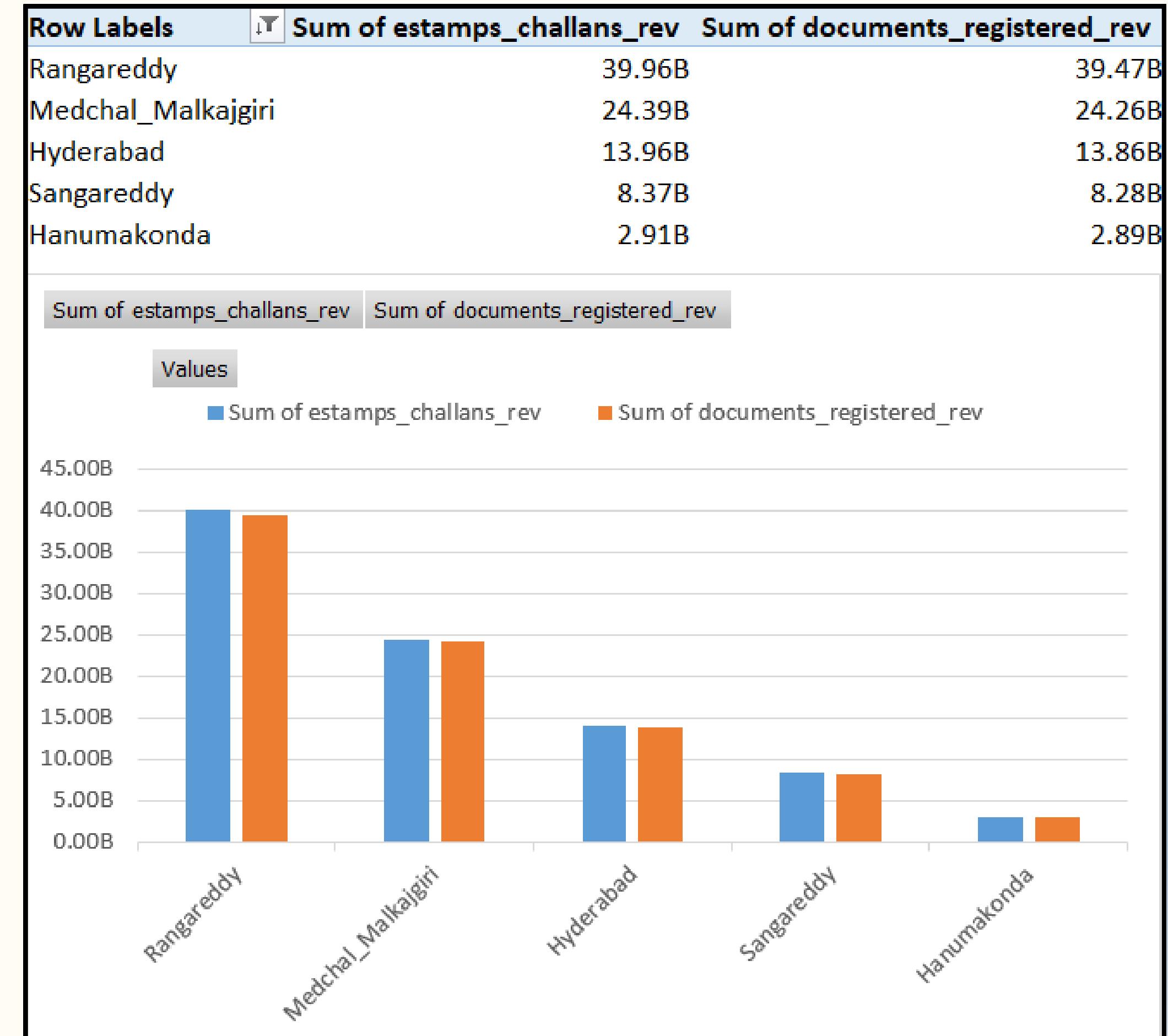
And there are many other factors which can vary in document registration like government policies, geographic location, legal & regularity factors etc.



## Question-2

How does the revenue generated from document registration compare to the revenue generated from e-stamp Callahan across districts? List down the top 5 districts where e-stamps revenue contributes significantly more to the revenue than the documents in FY 2022?

- Here are the top 5 districts that generated revenue from e-stamps comparatively higher than document registration in FY 2022.
- Some districts may have a higher adoption of digital methods for document registration, leading to more e-stamps challans being used compared to traditional paper documents.
- E-stamps are often seen as more convenient and efficient compared to traditional paper documents.



# Question-3

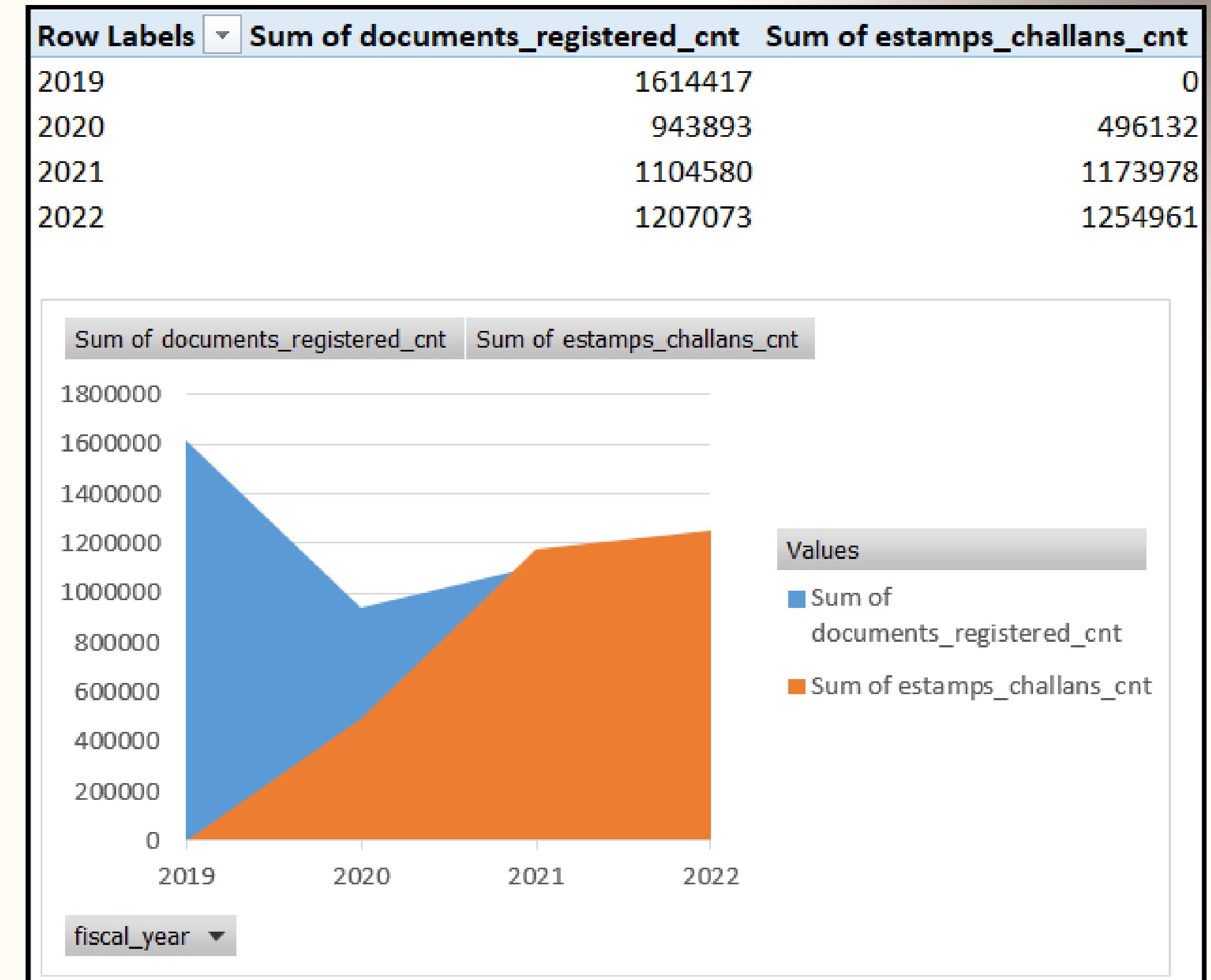
Is there any alteration of e-Stamp challan count and document registration count pattern since the implementation of e-Stamp challan? If so, what suggestions would you propose to the government?

Yes, there has been significant alteration of e-stamps challan count. But, document registrations count has been reduced from 2019-2022.

As per data, e-stamps challan was established in Telangana at year 2021 (may be due to covid).

## Suggestions:

1. Regular updates.
2. User - friendly portal.
3. Data security and privacy.
4. Feedback mechanism.
5. Public awareness.



## Question-4

Categorize districts into three segments based on their stamp registration revenue generation during the fiscal year 2021 to 2022.

Here, “B” - billion

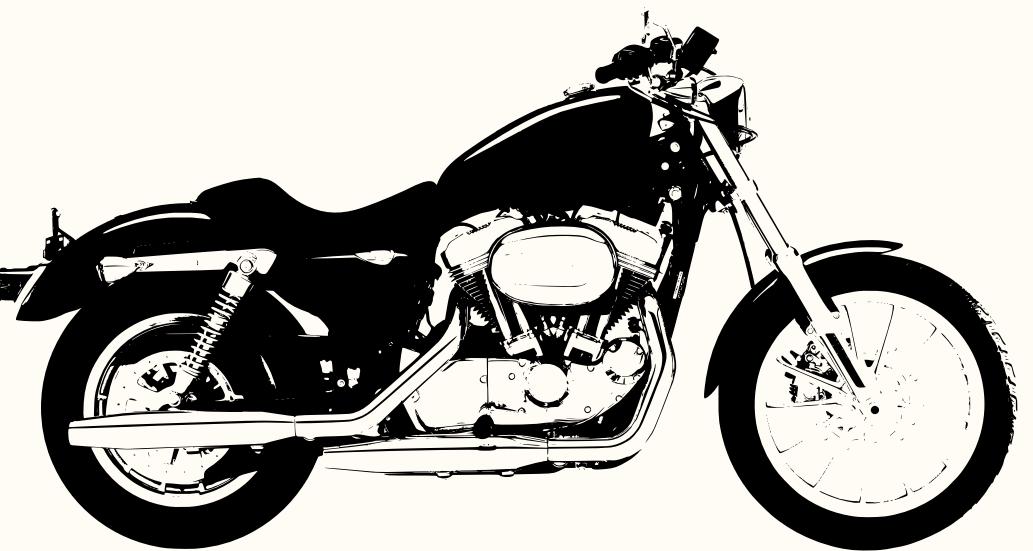
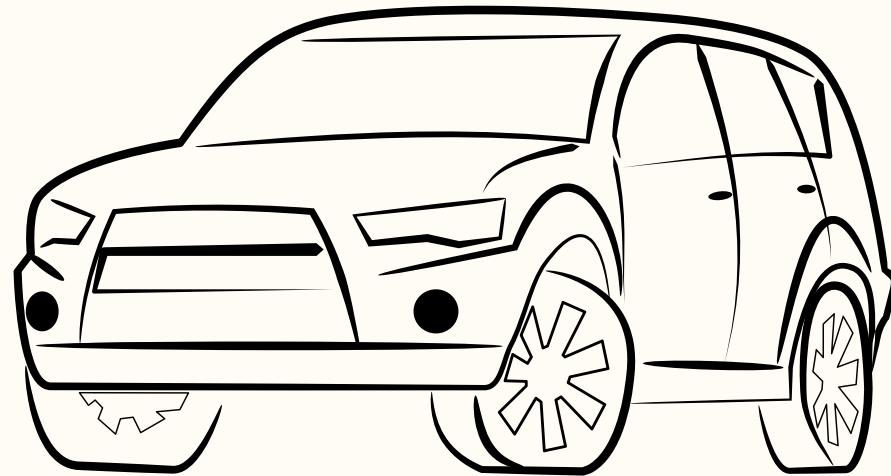
Below 1.0 B - Categorized as segment 1 or LOW

Between 1.0 B to 10.0 B - Categorized as segment 2 or MEDIUM

Above 10.0 B - Categorized as segment 3 or HIGH

Row Labels	Sum of estamps_challans_rev	Categorized
Kumurambheem Asifabad	0.1B	LOW
Mulugu	0.4B	LOW
Warangal	0.4B	LOW
Narayanpet	0.5B	LOW
Bhadradri Kothagudem	0.5B	LOW
Nirmal	0.6B	LOW
Jogulamba Gadwal	0.6B	LOW
Mahabubabad	0.7B	LOW
Adilabad	0.7B	LOW
Wanaparthy	0.7B	LOW
Rajanna Sircilla	0.7B	LOW
Jangoan	0.7B	LOW
Kamareddy	0.8B	LOW
Nagarkurnool	0.8B	LOW
Vikarabad	0.9B	LOW
Jagtial	1.0B	MEDIUM
Mancherial	1.1B	MEDIUM
Medak	1.1B	MEDIUM
Peddapalli	1.1B	MEDIUM
Siddipet	1.6B	MEDIUM
Suryapet	1.8B	MEDIUM
Mahabubnagar	2.0B	MEDIUM
Karimnagar	2.5B	MEDIUM
Nalgonda	2.6B	MEDIUM
Nizamabad	2.6B	MEDIUM
Yadadri Bhuvanagiri	3.5B	MEDIUM
Khammam	3.7B	MEDIUM
Hanumakonda	4.9B	MEDIUM
Sangareddy	14.3B	HIGH
Hyderabad	23.9B	HIGH
Medchal_Malkajgiri	41.7B	HIGH
Rangareddy	69.6B	HIGH

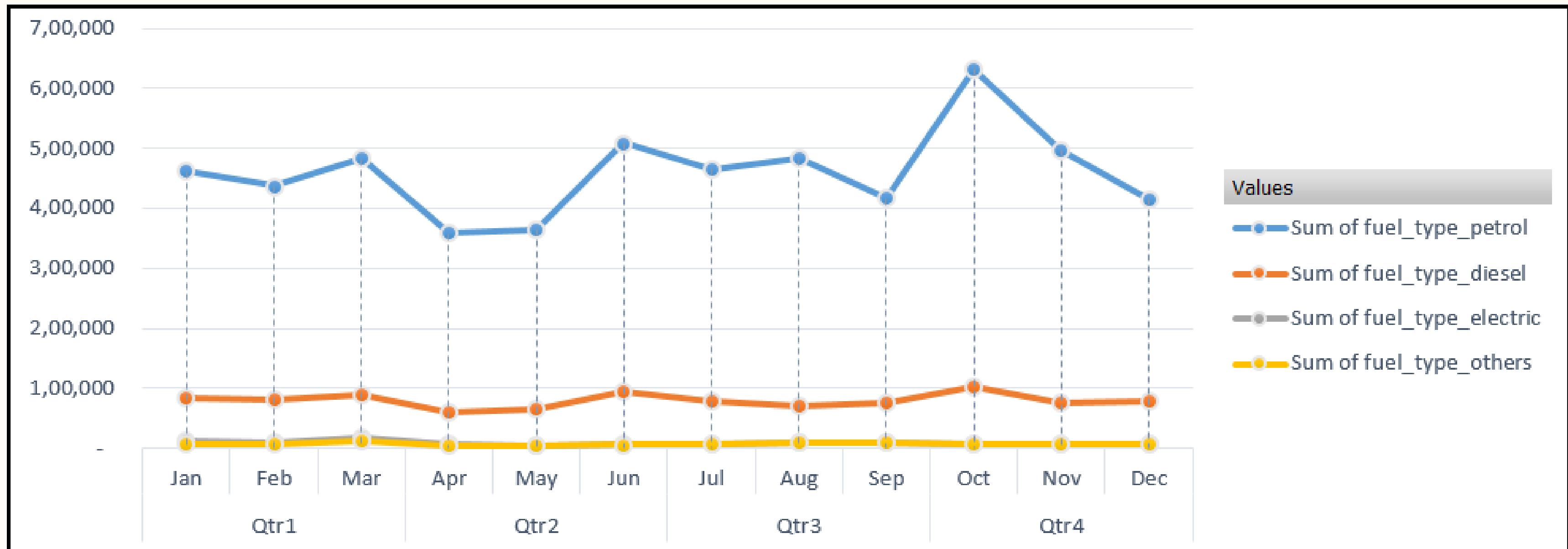
# Transportation



# Question-5

Investigate whether there is any correlation between vehicle sales and specific months or seasons in different districts. Are there any months or seasons that consistently show higher or lower sales rate, and if yes, what could be the driving factors? (Consider Fuel-Type category only)

Total Vehicle sales quarterly - Considering fuel type Chart



## Top 5 districts -

- Hyderabad
- Medchal\_Malkajgiri
- Rangareddy
- Sangareddy
- Nizamabad

Row Labels	Sum of fuel_type_petrol	Sum of fuel_type_diesel	Sum of fuel_type_electric	Sum of fuel_type_others
Hyderabad	9,76,654	93,133	32,012	41,680
Medchal_Malkajgiri	8,40,822	1,21,602	22,846	7,107
Rangareddy	7,86,086	1,11,061	21,755	7,731
Sangareddy	2,21,583	41,543	5,170	7,031
Nizamabad	2,00,091	31,493	3,609	916

## Insights -

Yes, there is positive co-relation between vehicle sales in different districts.

As per my research, quarter 2 sales are comparatively low than other quarter's. And quarter 4 sales are higher than other quarter's. These sales differ from quarter to quarter due some factors like:

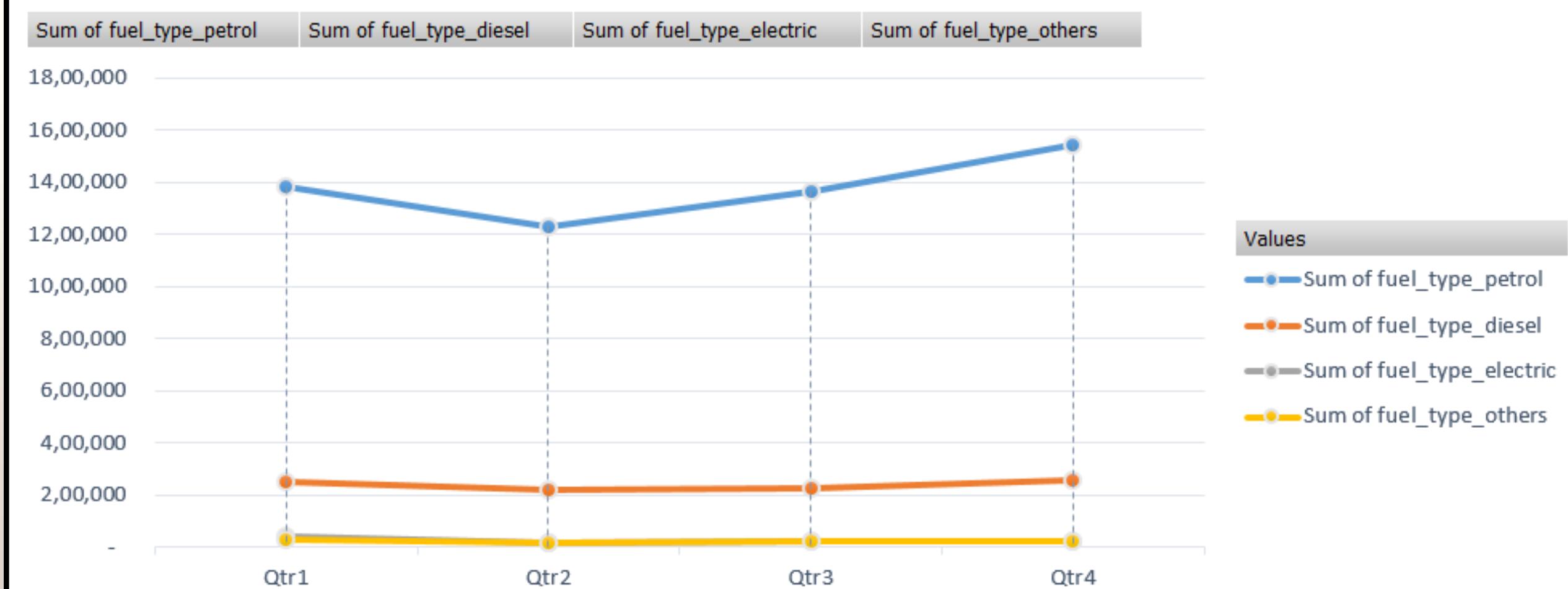
- 1. Festive Season :** In October, festivals like Diwali, Navratri lies so many dealerships offer significant discounts and promotions, and people consider this time auspicious for making significant purchases.
- 2. End of Model Year Clearance :** Many automobile manufacturers release new models in the fall, typically between September and November. To make room for the new inventory, dealerships offer significant discounts and promotions on the outgoing model year vehicles, which can attract buyers looking for deals.
- 3. Favorable Weather :** We can consider weather also as significant vehicle sales.
- 4. Credit Availability:** The availability of credit and financing options can affect vehicle sales. Tightening or loosening of credit policies can influence consumers' ability to purchase vehicles.

Row Labels	Sum of fuel_type_petrol	Sum of fuel_type_diesel	Sum of fuel_type_electric	Sum of fuel_type_others
Qtr1				
Jan	4,61,802	83,417	11,431	7,841
Feb	4,37,066	80,949	10,366	7,062
Mar	4,83,165	87,782	17,390	12,121
Qtr2				
Apr	3,58,884	59,739	7,127	4,973
May	3,64,607	65,556	4,384	4,648
Jun	5,08,584	93,581	5,797	5,452
Qtr3				
Jul	4,65,809	79,271	6,992	6,920
Aug	4,82,193	69,282	9,177	8,399
Sep	4,17,136	75,262	8,981	9,452
Qtr4				
Oct	6,31,877	1,01,603	7,603	7,729
Nov	4,97,327	74,429	7,458	7,162
Dec	4,14,815	78,513	6,953	7,710

-Quarter wise sales data table

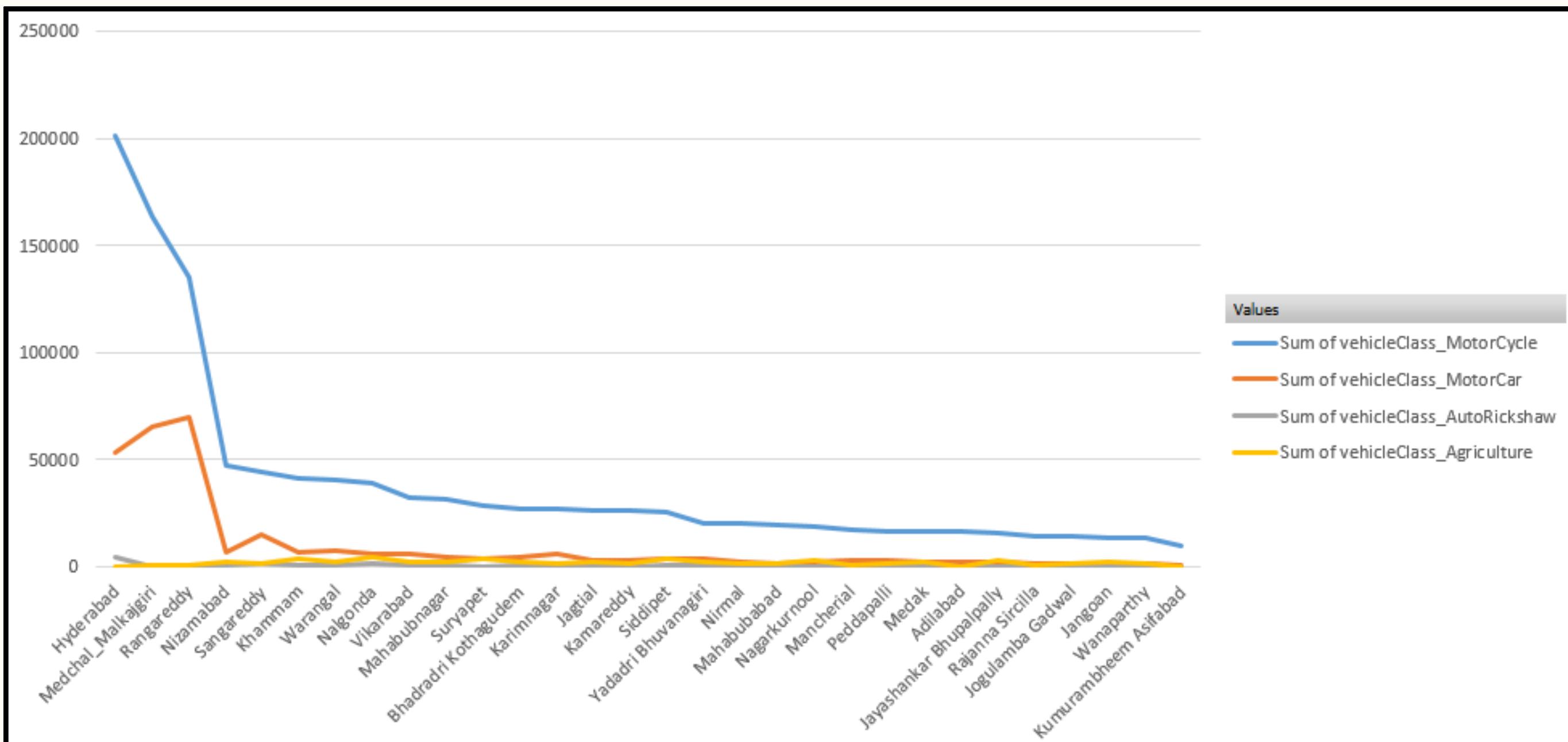
After Corona, due to improvement of electric and CNG vehicles, resulting in successful sales of these vehicles in 2022 and 2023.

Quarter wise graph -



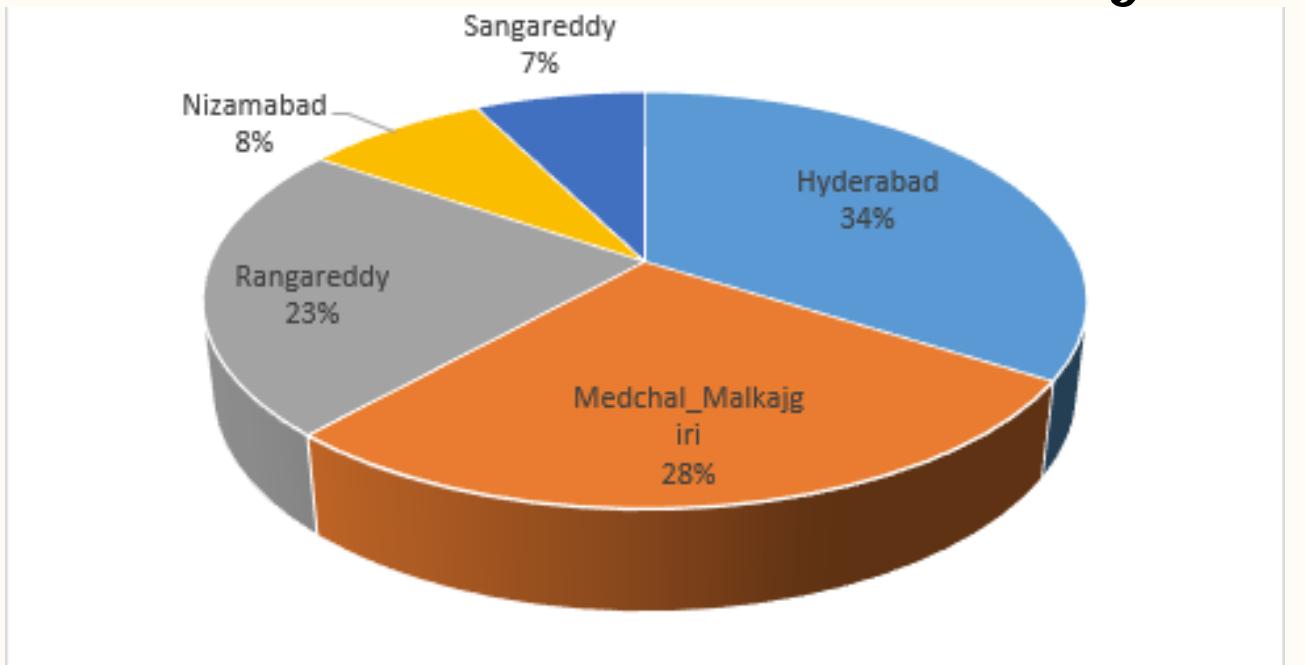
# Question-6

How does the distribution of vehicles vary by vehicle class (MotorCycle, MotorCar, AutoRickshaw, Agriculture) across different districts? Are there any districts with a predominant preference for a specific vehicle class? Consider FY 2022 for analysis

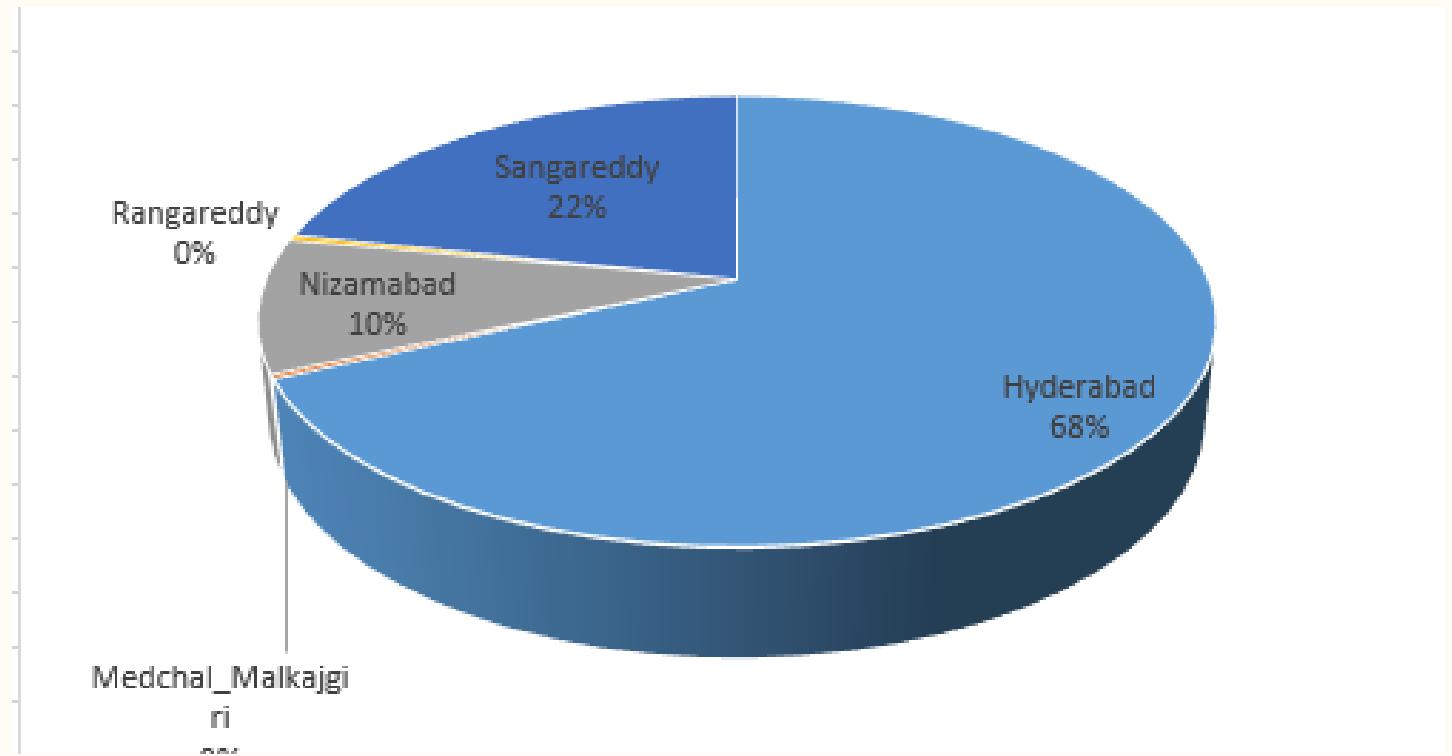


Hyderabad seems to be predominant in the highest number of vehicles registered in all four vehicle classes and majority of Auto-rickshaw sales held at Hyderabad district due to the heavy population and urbanization. Many IT professionals use MotorCycle & MotorCars for their daily use.

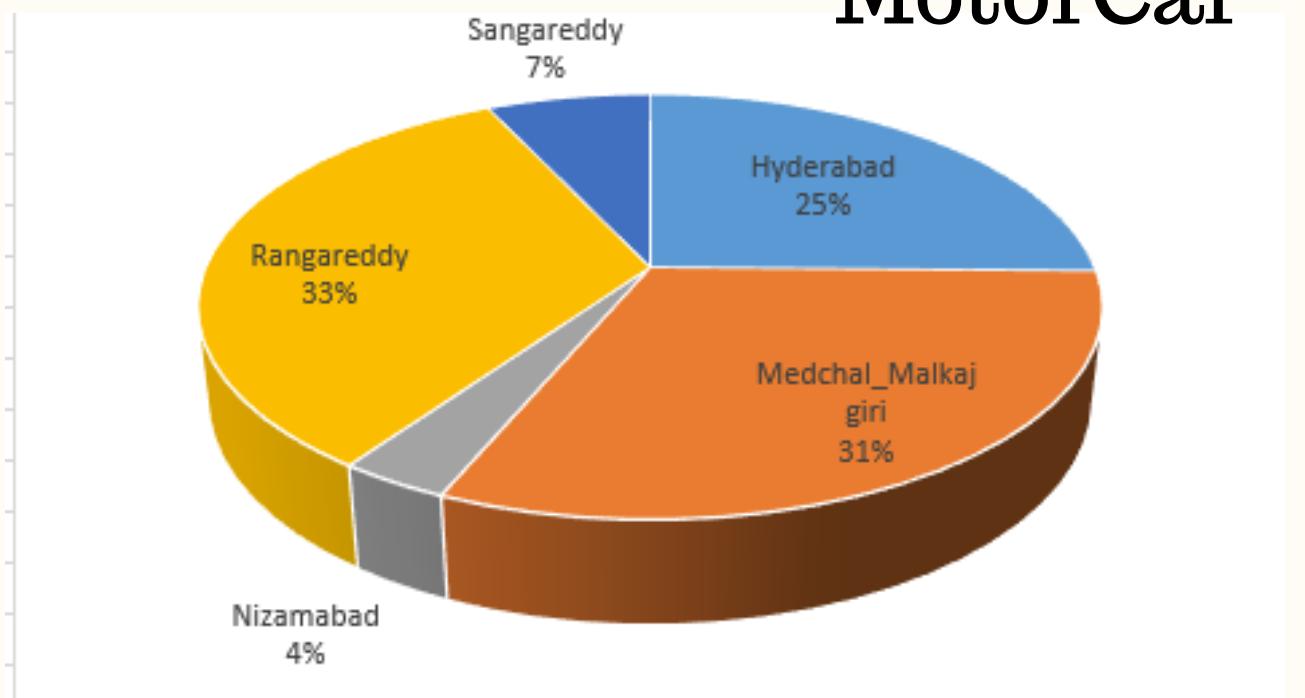
# MotorCycle



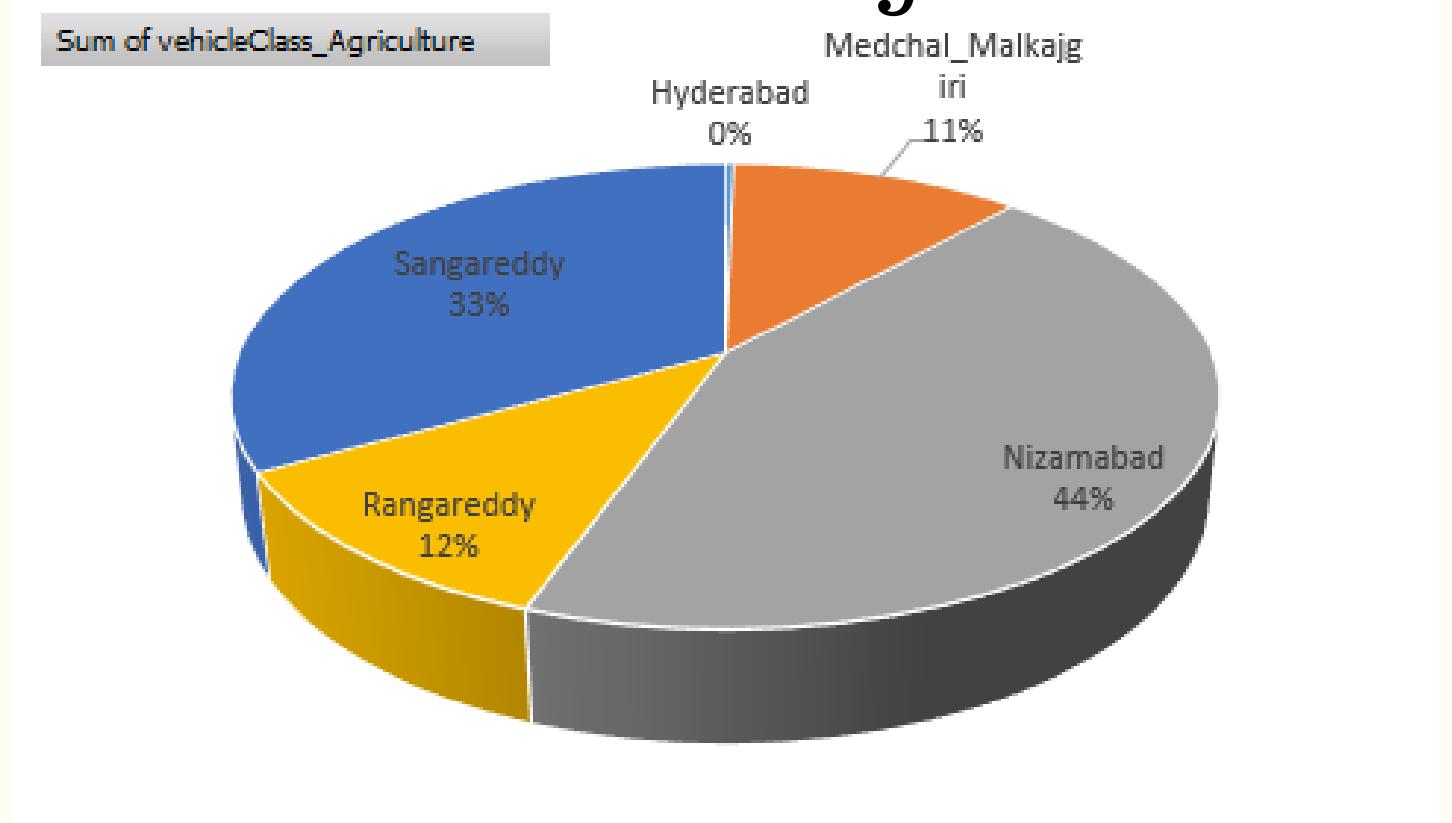
# AutoRickshaw



# MotorCar



# Agriculture



# Question-7

List down the top 3 and bottom 3 districts that have shown the highest and lowest vehicle sales growth during FY 2022 compared to FY 2021? (Consider and compare categories: Petrol, Diesel and Electric)

2021

Row Labels	Sum of fuel_type_petrol	Sum of fuel_type_diesel	Sum of fuel_type_electric
Hyderabad	238164	20783	5911
Medchal_Malkajgiri	211732	26616	4658
Rangareddy	188759	23653	3713

Here are top 3 district's those are Hyderabad, Medchal\_Malkajgiri & Rangareddy. Most vehicle's are sold at these district's due to high population and good economic conditions and etc. Here, there is good sales growth of electric vehicle's. As we know electric vehicles are enviromental friendly and it impacts positive trend in enviroment.

Top 3

2022

Row Labels	Sum of fuel_type_petrol	Sum of fuel_type_diesel	Sum of fuel_type_electric
Hyderabad	234151	21605	18276
Medchal_Malkajgiri	202344	29139	12388
Rangareddy	200396	28566	12248

Note: Combined three of the categories and analyzed the data

## 2021

Row Labels	Sum of fuel_type_petrol	Sum of fuel_type_diesel	Sum of fuel_type_electric
Jangoan	14714	3726	40
Wanaparthy	14503	2899	96
Kumurambheem Asifabad	10577	1904	16

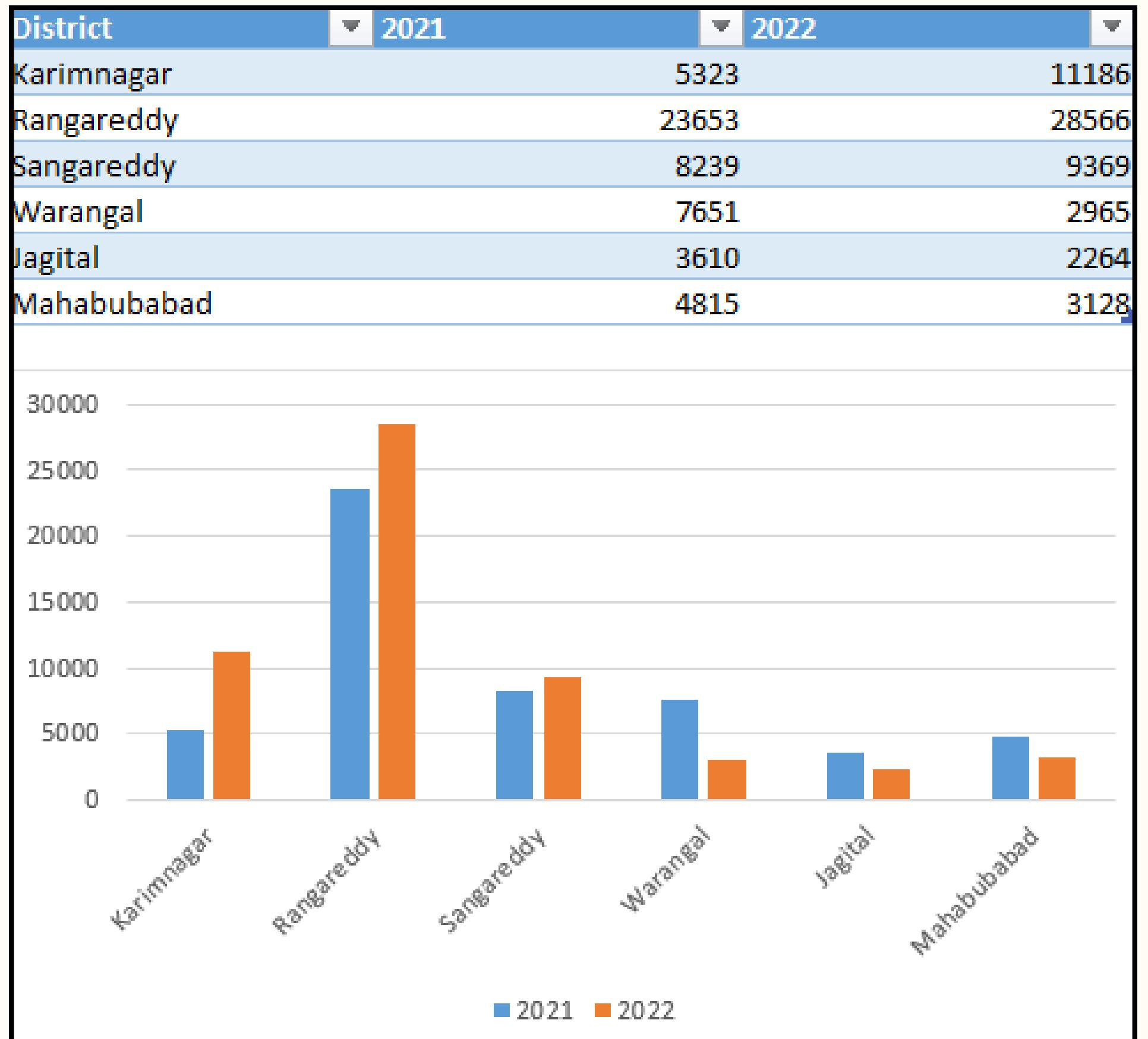
## Bottom 3

## 2022

Row Labels	Sum of fuel_type_petrol	Sum of fuel_type_diesel	Sum of fuel_type_electric
Wanaparthy	10258	2688	163
Rajanna Sircilla	9777	2031	389
Kumurambheem Asifabad	7592	1809	73

Here are bottom 3 district's those are Wanaparthy, Rajanna Sircilla, Kumurambheem Asifabad. Here people are less attractive to vehicles due to low population, less economic growth etc.

↑  
top  
↓  
bottom



**Diesel vehicle's sales growth rate increased at Karimnagar from FY 2021 to 2022, followed by Rangareddy & Sangareddy. Whereas sales growth rate of diesel vehicle's at Mahabubabad, Jagital, Warngal has been decreased.**

### Factors for increased sales growth of diesel vehicle's :

- Commercial Use
- Consumer Preferences
- Environmental Conditions etc.

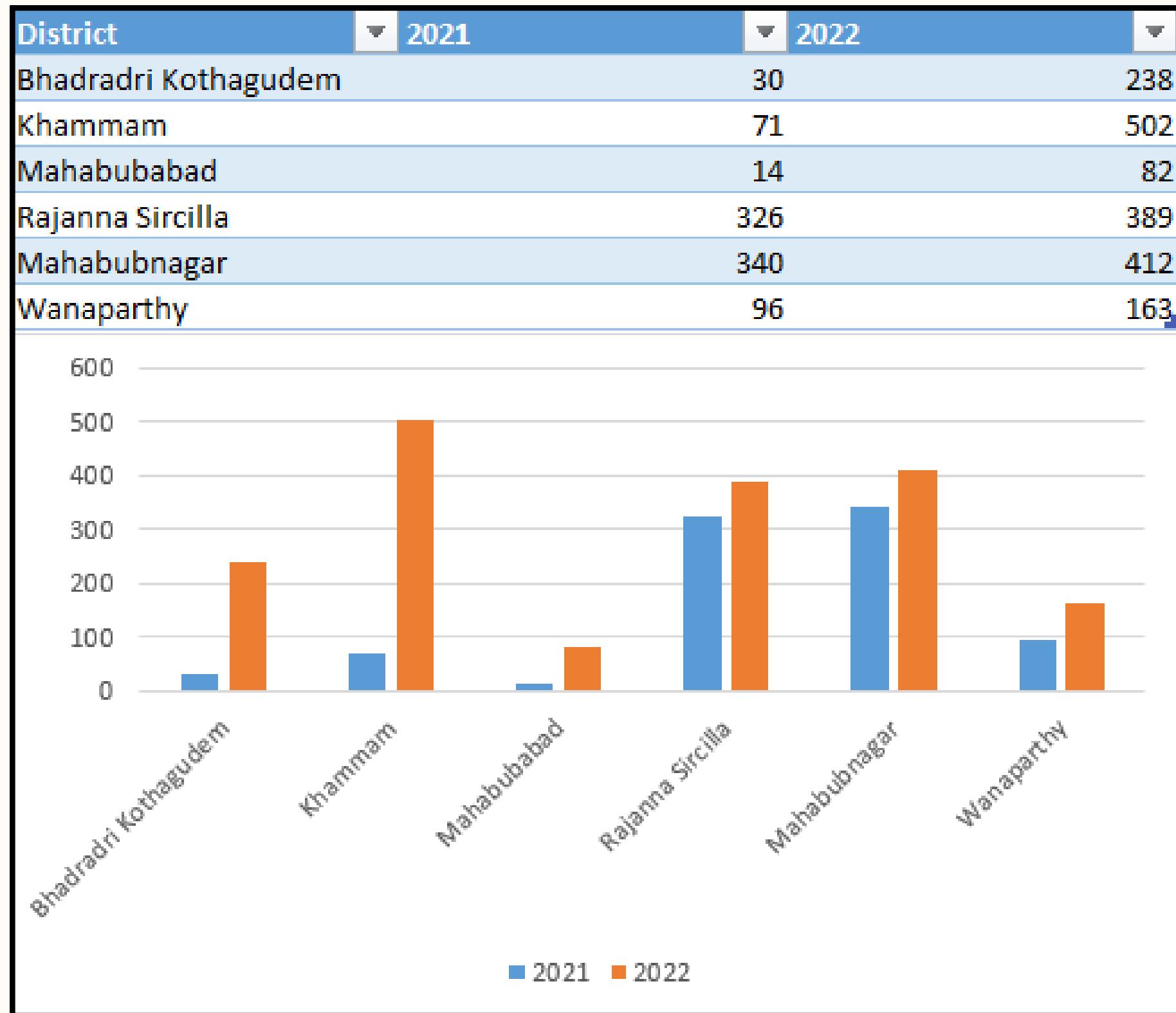
### Factors for decreased sales growth of diesel vehicle's :

- Shift Towards Cleaner Fuels
- Consumer Preferences
- Rising Petrol Prices at some areas
- Maintenance Costs
- Due to trend

Only diesel category sales growth chart

Note: Individual category data analysis

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top  
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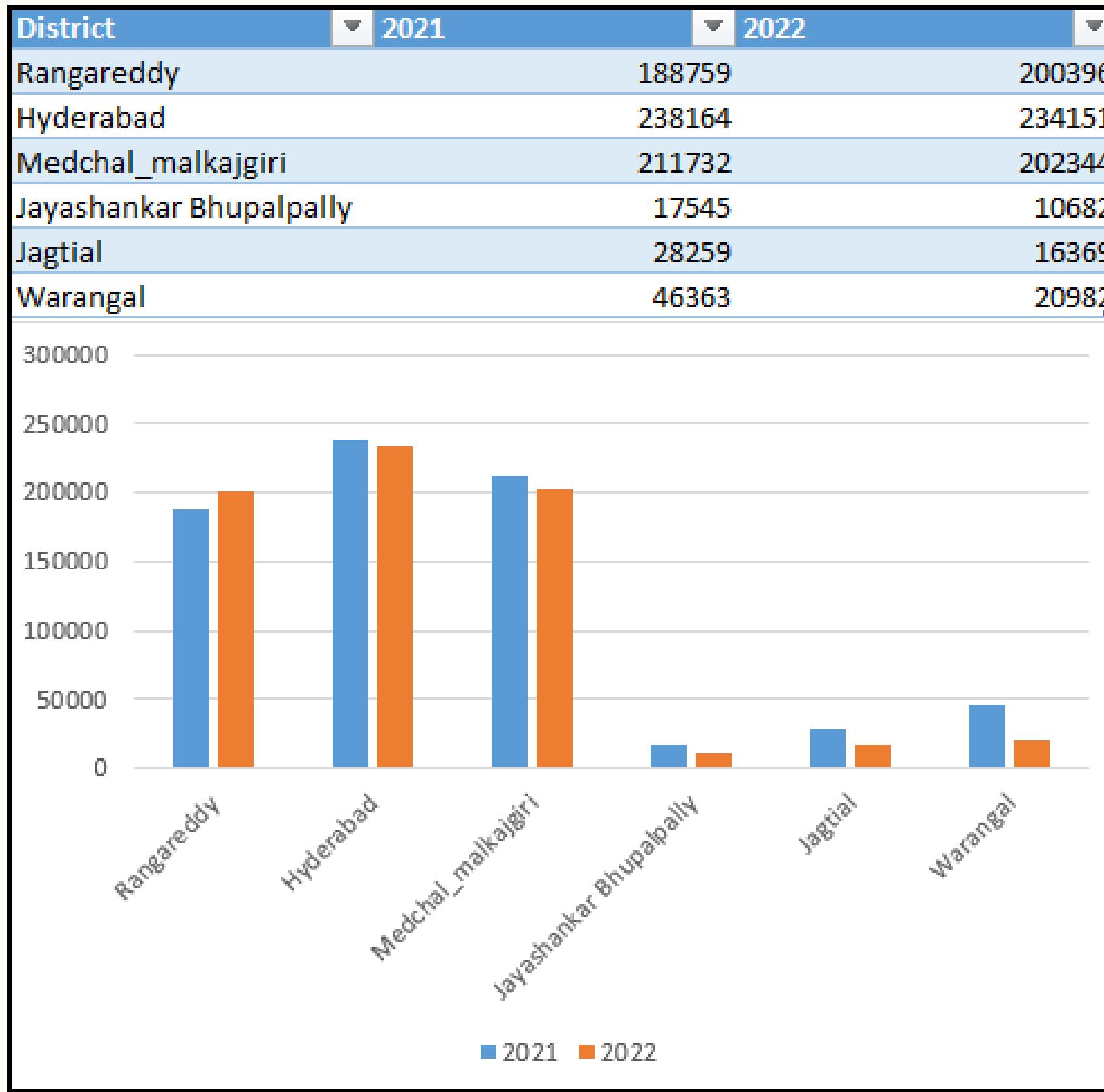
**Electric** vehicle's sales growth rate are increased at Bhadrakot followed by Khammam and overall at Telangana state electric sales growth is positive from FY 2021 to 2022.

### Factors for the growth of sales of electric vehicles:

- Government Incentives
- Charging Infrastructure
- Environmental Concerns
- Consumer Awareness
- Rising Fuel Costs
- Technological Advancements
- Due to trend

Only electric category sales growth chart

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top  
↓  
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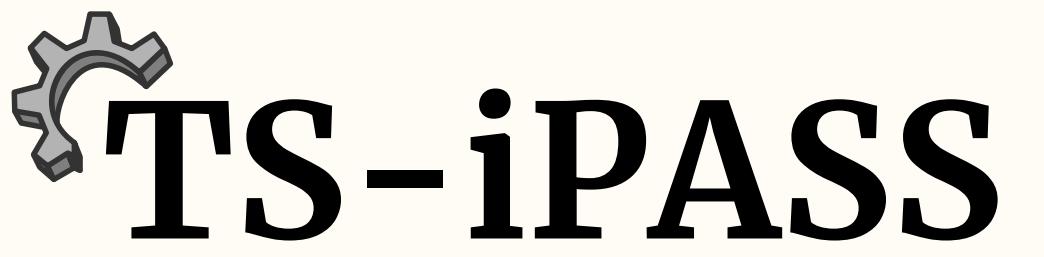


Only petrol category sales growth chart

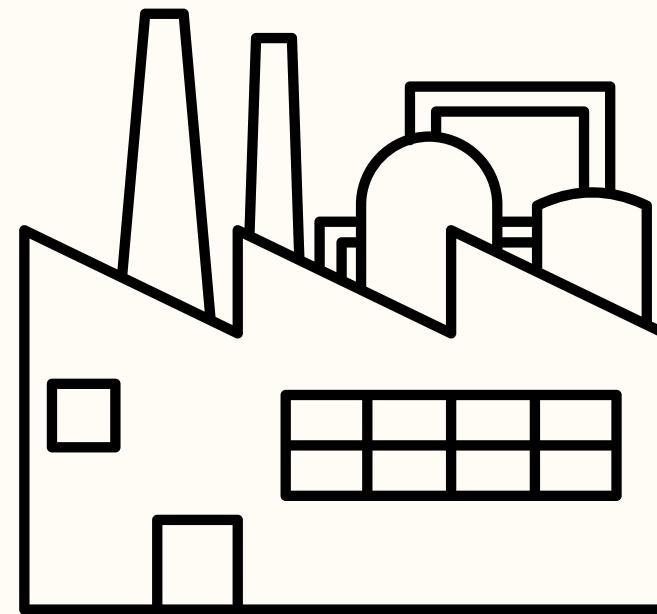
Petrol vehicle's sales growth rate are going on decreased from FY 2021 to 2022.

### Factors for the decrement of sales of petrol vehicles:

- Rising Fuel Prices
- Environmental Concerns
- Economic Factors
- Public Awareness and Education
- Due to trend of electric vehicle's



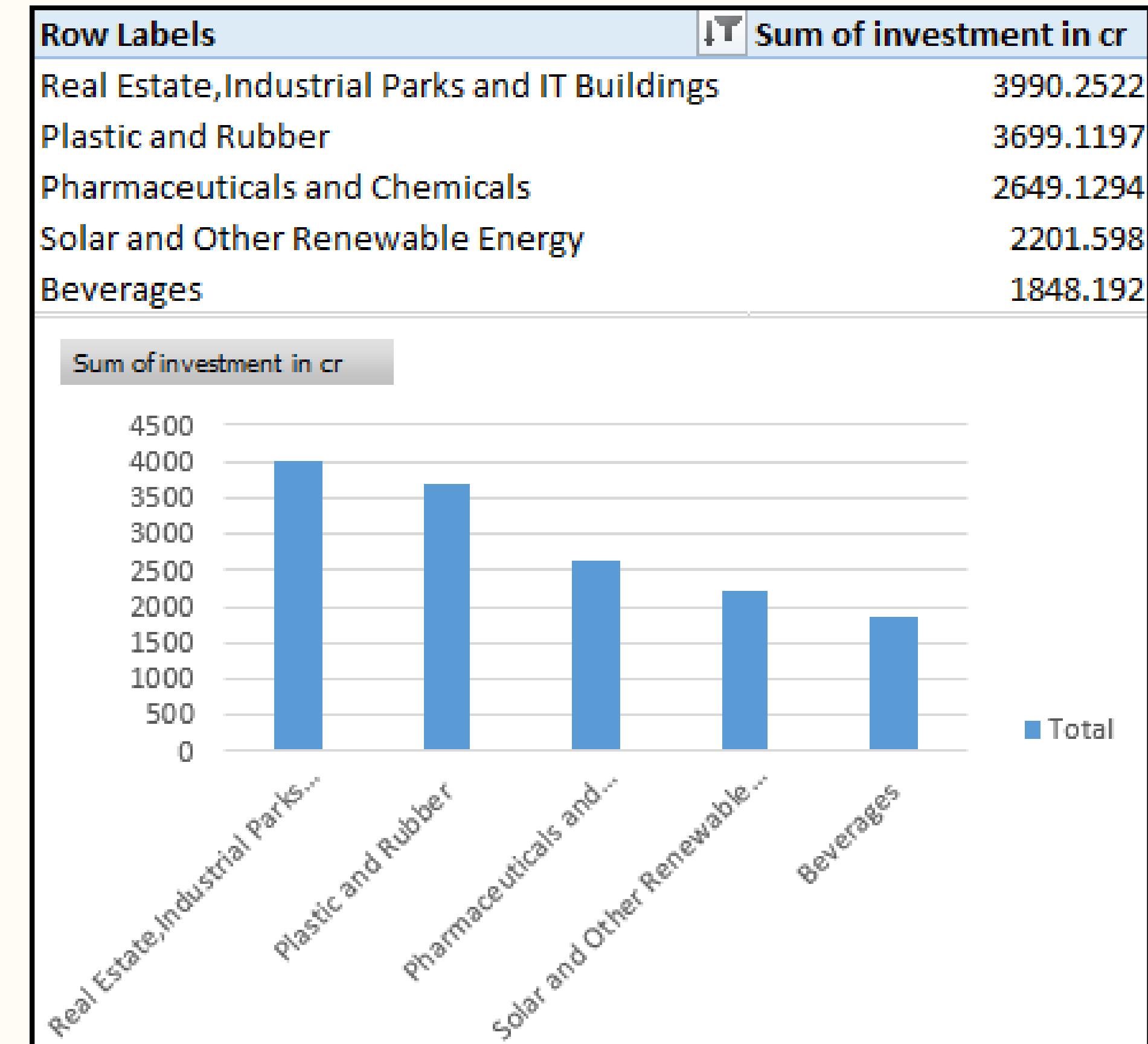
(Telangana State Industrial Project Approval and Self Certification System)



## Question-8

List down the top 5 sectors that have witnessed the most significant investments in FY 2022.

- Telangana Government focusing and investing large amount in Real estate, Industrial and IT buildings to make economically grow, Infrastructure development, Public private partnerships, to attract tourism etc.
- And government is investing good amount in manufacturing sectors may recycling and sustainability as in focus.
- As we know Hyderabad is a largest drug exporter of India. And many pharma companies exist here. Telangana's investments in pharmaceuticals often include funding for research and development (R&D) initiatives.

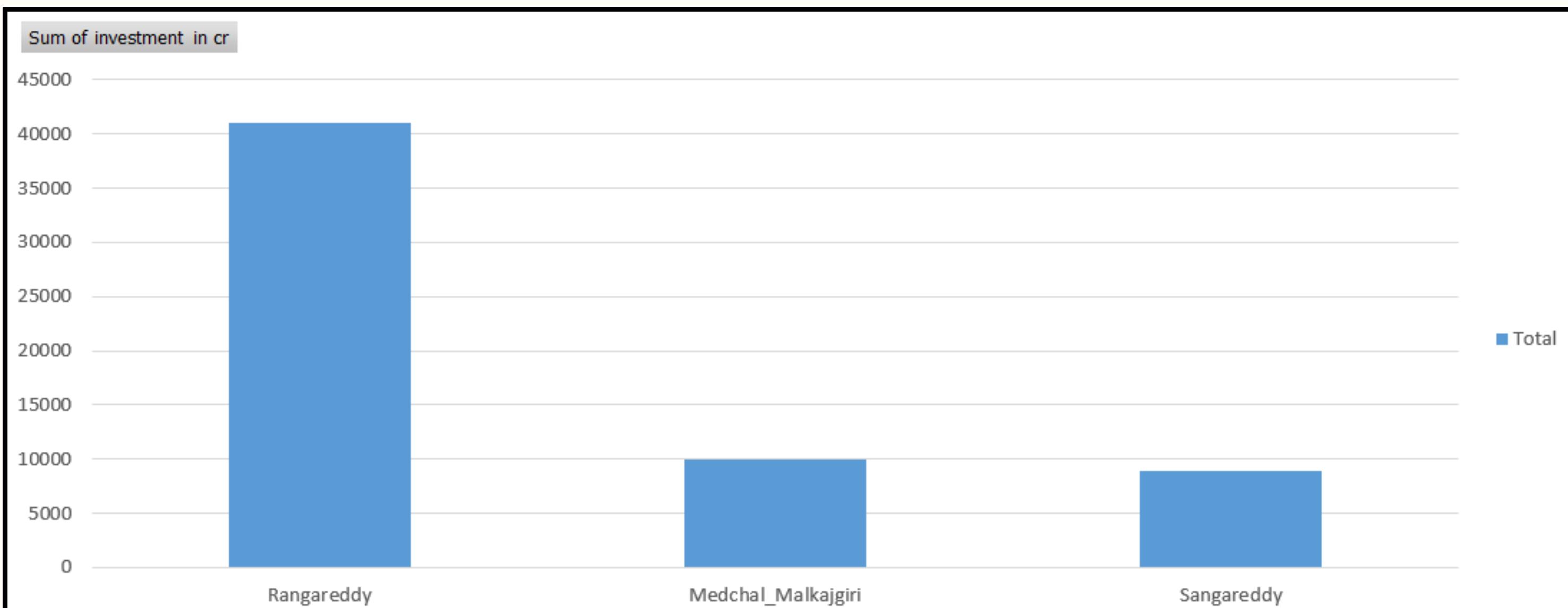


# Question-9

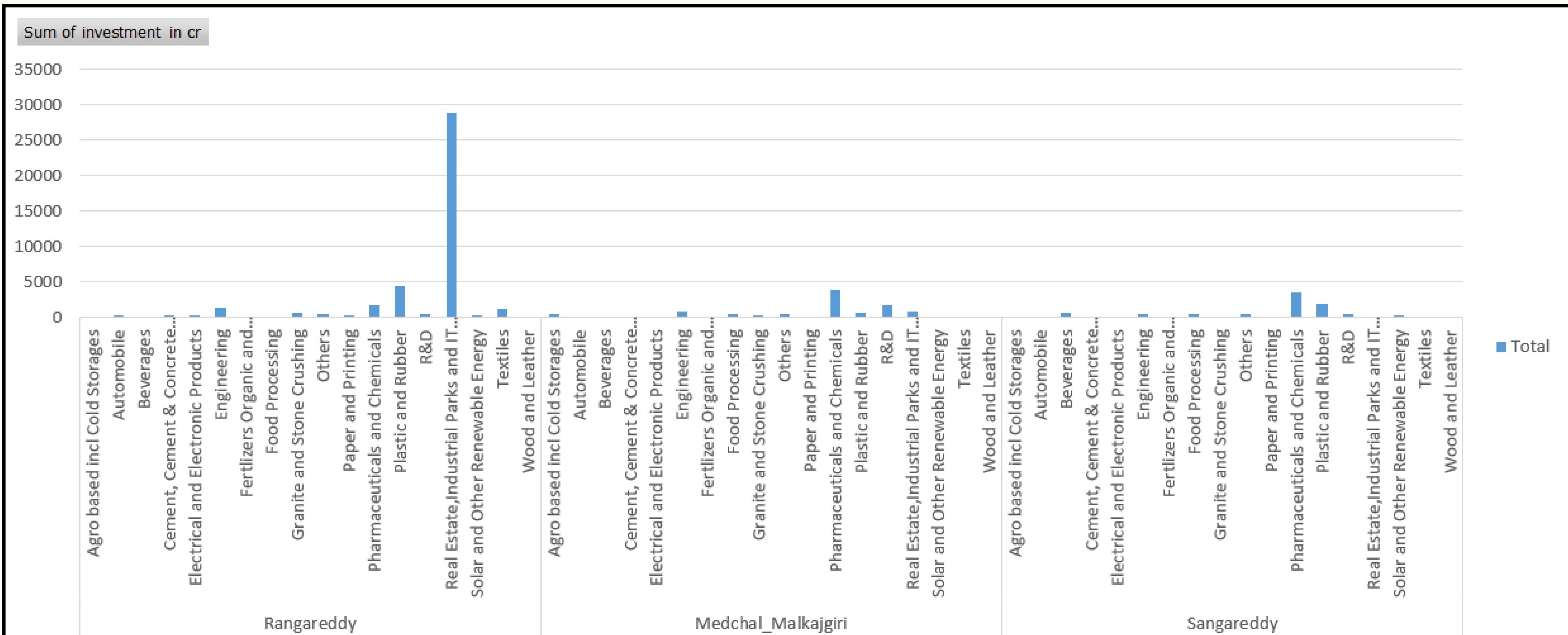
List down the top 3 districts that have attracted the most significant sector investments during FY 2019 to 2022?

What factors could have led to the substantial investments in these particular districts?

- Rangareddy, Medchal\_Malkajgiri, Sangaredd are the top 3 districts that have attracted the most significant sectoral investments from FY 2019 - 2022.
- This three districts are having favorable business environment, so government is showing interest to investment in sectors at this districts.



- Government is invested huge amount in real estate at Rangareddy for infrastructure development, tourism development etc.
- Here below, in graph we can see government is invested good amount in Pharmaceuticals & Chemicals industries, this helped in the supply of medicine's at the COVID period.
- The plastic and rubber industry also made a substantial contribution over three districts, this helped in the supply of gloves, PPE kits etc which were used by doctors and as well as patients the time of COVID.



## Question-10

Is there any relationship between district investments, vehicles sales and stamps revenue within the same district between FY 2021 and 2022?

Column1	investment in cr FY21	investment in cr FY22	estamps Rev FY21	estamps Rev FY22	vehicle sales FY21	vehicle sales FY22
Rangareddy	4572.5448	9354.407	29.7B	40.0B	217506	246187
Sangareddy	4206.4151	1798.0619	5.9B	8.4B	66593	66368
Medchal Malkajgiri	2609.7035	2818.6977	17.3B	24.4B	244886	247261

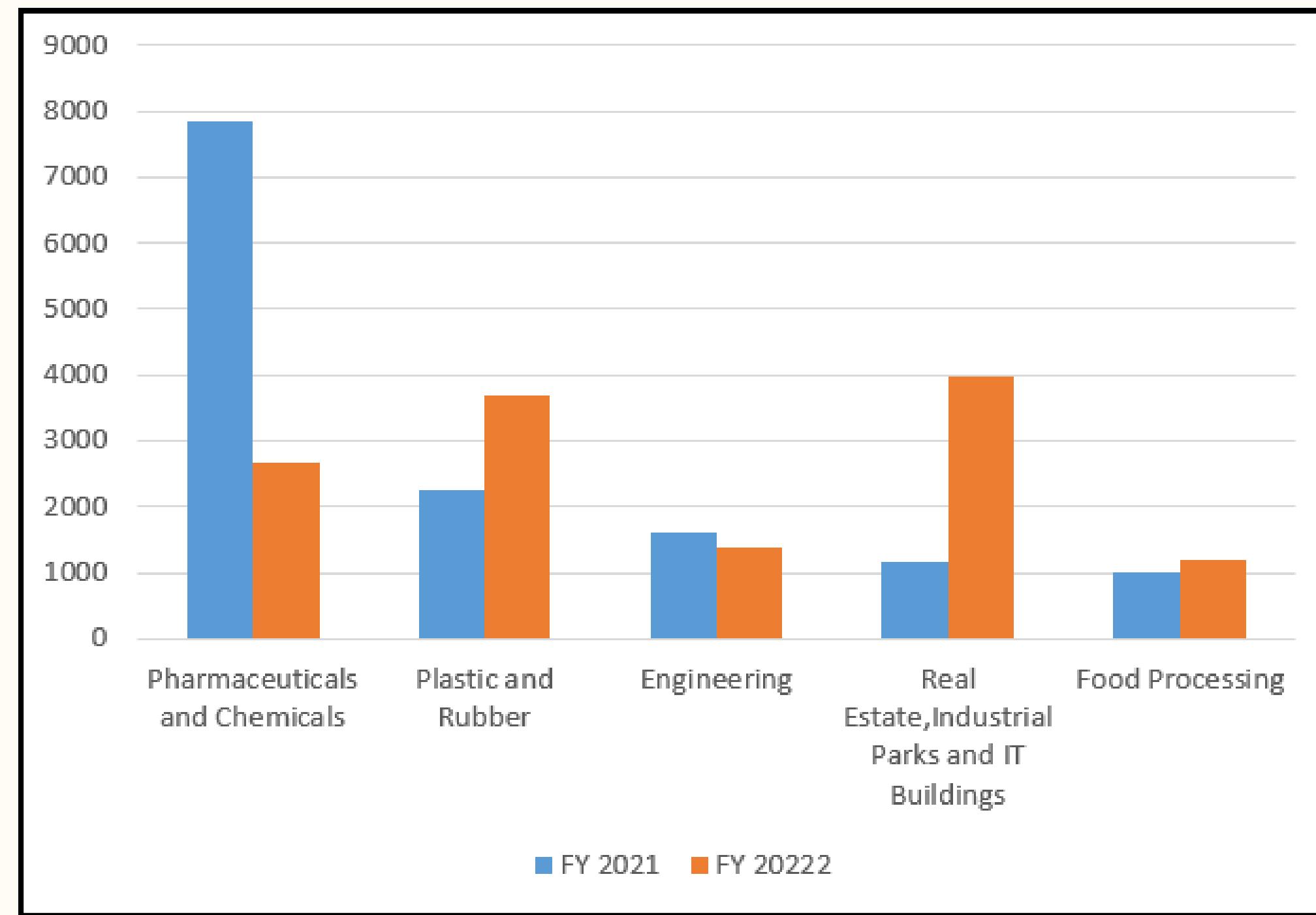
- Yes, there is potential co-relation between districts investment, estamps revenue & vehicle sales.
- Increment of investment means good growth in economy, good infrastructure, good charging facilities for EV vehicles and many more.
- Good economy growth results to good growth of vehicle sales in the market.
- And good growth of vehicle sales results document revenue growth and stamp revenue growth.
- Good stamp and documentation revenue will lead to investment in district sectoral investments like infrastructure, real-estate, tourism etc and many more.

## Question-11

Are there any particular sectors that have shown substantial investment in multiple districts between FY 2021 and 2022?

Yes, there are few sectors shown substantial growth in multiple districts between FY 21 & 22.

Pharmaceuticals & Chemicals received highest investment due to COVID. And Plastic & Rubber sector also received good investment due to manufacture of masks, gloves etc. And there is good amount of investment by government in other sectors like Engineering, Real estate & Food Processing.



sector	FY 2021	FY 2022	District Count
Pharmaceuticals and Chemicals	7830.0366	2649.1294	27
Plastic and Rubber	2234.4348	3699.1197	27
Engineering	1601.5872	1372.8952	31
Real Estate, Industrial Parks and IT Buildings	1155.476	3990.2522	4
Food Processing	1005.635	1203.0973	33

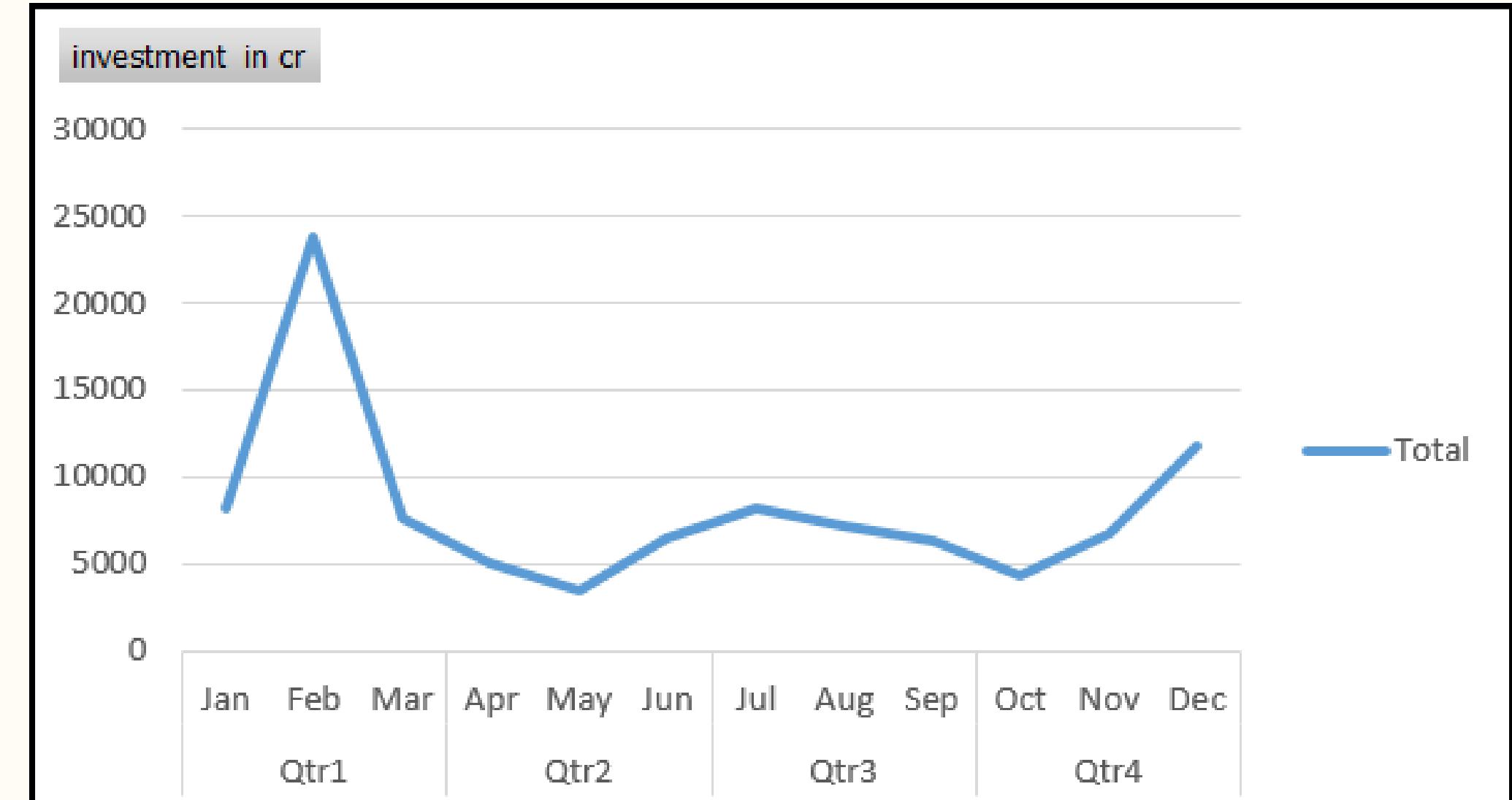
## Question-12

Can we identify any seasonal patterns or cyclical in the investment trends for specific sectors? Do certain sectors experience higher investments during particular months?

Yes, there is certain seasonal pattern and cyclic in the investment trends for specific sectors.

**Real Estate:** Due to Tax Benefits and Fiscal Year-End, Annual Budget Allocations, Positive economic news, investor confidence, Changes in interest rates and a generally optimistic outlook at the beginning of the year can lead to increased investment in various asset classes, including real estate.

**Pharmaceuticals:** Due to new product launches, Regulatory Approvals, Global Health Events such as COVID.



# **Secondary Research analysis**

# Question-1

What are the top 5 districts to buy commercial properties in Telangana? Justify your answer.

**Hyderabad :** Hyderabad, the capital city of Telangana, is a prime real estate market. I found there are nearly 1L properties are not sold yet. Hyderabad also offers a diverse range of properties, from affordable housing options to luxury apartments and commercial spaces. Hyderabad include its robust job market, thriving IT sector, educational institutions, and infrastructure development

**Rangareddy:** It benefits from the economic opportunities of the city while offering a more semi-urban lifestyle. Rangareddy has witnessed significant residential and commercial developments, making it an attractive option for investors. And it is the place where Rajiv Gandhi International airport is located the demand for commercial properties are hiked.

**Medchal\_Malkajgiri:** This district is adjacent to Hyderabad and is experiencing rapid urbanization. It's known for affordable housing options and is attractive for those looking for budget-friendly investments. The availability of land and the presence of upcoming infrastructure projects make it an appealing choice.

**Warangal:** Warangal is a growing city with a rich cultural heritage. It has the potential for property investment due to infrastructure development and its status as a tier-II city. Warangal Urban district offers affordable housing options compared to Hyderabad.

**Khammam:** Khammam district in southern Telangana is known for its scenic beauty and proximity to Hyderabad. It may appeal to those seeking a peaceful environment for retirement or leisure properties.

## Question-2

What significant policies or initiatives were put into effect to enhance economic growth, investments, and employment in Telangana by the current government? Can we quantify the impact of these policies using available data?

**TS-iPASS** - Simplified the process of obtaining clearances and approvals for industrial projects. This policy aimed to attract investments by reducing bureaucratic red tape. System helped to attract more than 1 lakh crore investments in Telangana in districts.

**T-Hub** - India's largest technology incubator, was established in Hyderabad to support startups and foster innovation in various industries. It aimed to create a vibrant entrepreneurial ecosystem in the state.

**TS-BPASS** - The Telangana State Building Permission Approval and Self-Certification System (TS-BPASS) aimed to simplify the process of obtaining construction-related permissions, facilitating faster infrastructure development. There is nearly 40% hike from last year to this year.

**T-Fiber:** The T-Fiber project aimed to provide high-speed internet connectivity to every household and business establishment in the state, enhancing the digital infrastructure for businesses and startups.

**Mission Bhagirath:** This initiative aims to provide safe drinking water to every household in the state. The availability of clean drinking water can lead to improved health and sanitation, indirectly contributing to economic growth.

# Question-3

what are the main reasons behind economic expansion?

**Infrastructure Development:** Telangana has invested heavily in infrastructure development, including the construction of roads, highways, and the Hyderabad Metro Rail. This infrastructure has improved connectivity within the state and facilitated the movement of goods and people, promoting trade and commerce.

**Startup Ecosystem:** The state has fostered a vibrant startup ecosystem through initiatives like T-Hub. This has promoted entrepreneurship, innovation, and the emergence of new businesses, adding to economic diversification.

**Investment in Aerospace and Defense:** Telangana has been actively promoting the aerospace and defense sectors. Initiatives like the Aerospace and Precision Engineering SEZ have attracted leading aerospace companies to set up operations in the state.

**Eco-Tourism, Religious & Cultural Tourism :** Telangana has diverse landscapes, including forests, lakes, and wildlife sanctuaries. The government has been promoting eco-tourism, offering opportunities for nature enthusiasts and wildlife lovers. The state is home to several religious sites, including temples and shrines. Places like Yadagirigutta, Vemulawada, and Basar attract pilgrims and tourists. Telangana boasts a rich cultural heritage with historical monuments, temples, and architectural wonders. Tourists are drawn to places like the Charminar, Golconda Fort, and Bhongir Fort.

# Question-4

Provide top 5 Insights & 5 recommendations to Telangana government for sustained growth in the next 5 years based on your analysis.

## Top 5 Insights

Telangana had good progress from past 5 years but then also it needs to be more developed to stay unique in India. There is less investment in R&D, and state is well have good investment in IT sectors, engineering, Manufacturing, Healthcare sectors. The state need to progress in the agriculture sector. The government also need to focus on development of tier-2 and tier-3 cities.

## Top 5 Recommendations

**Invest in Connectivity:** Continue investing in road, rail, and air connectivity to improve accessibility and facilitate trade.

**Public-Private Partnerships:** Collaborate with the private sector for infrastructure development, healthcare facilities, and education institutions.

**Digital Skills Training:** Invest in digital skills training programs to upskill the workforce for the technology-driven economy. Collaborate with educational institutions and private sector partners to provide training in areas like AI, data science, and cybersecurity.

**Water Resource Management:** Implement comprehensive water resource management strategies, including rainwater harvesting, efficient irrigation techniques, and watershed development programs. Ensure equitable distribution of water resources to mitigate drought and promote agricultural growth.

**Tourism Promotion:** Develop and promote lesser-known tourist destinations within Telangana to diversify the tourism industry. Invest in infrastructure, heritage preservation, and cultural festivals to attract domestic and international tourists.

**Promote Circular Economy:** Encourage the adoption of circular economy principles across industries. Support recycling, waste reduction, and sustainable production practices to reduce environmental impact and create new economic opportunities.

# Question-5

Why is Telangana a wonderful area to live for both young and old generations?

**Quality of Life:** Telangana has a high quality of life with access to good healthcare, education, and a range of amenities. The state government has been investing in improving infrastructure, making it an attractive place to live.

**Safety:** The state is known for its relatively low crime rate and is considered safe for residents of all ages.

**Green Spaces:** Telangana features lush greenery, parks, and recreational areas, providing spaces for both young and old residents to relax, exercise, and enjoy outdoor activities.

**Retirement Options:** Telangana offers retirement communities and senior living options that cater to the needs and preferences of older generations, providing a safe and supportive environment for retirees.

**Job Opportunities:** Telangana's capital city, Hyderabad, is a major IT and business hub, offering a wide range of job opportunities across sectors. This is appealing to young professionals and older individuals seeking employment or post-retirement work.

# THANK YOU



By Jammula  
Srivasanth