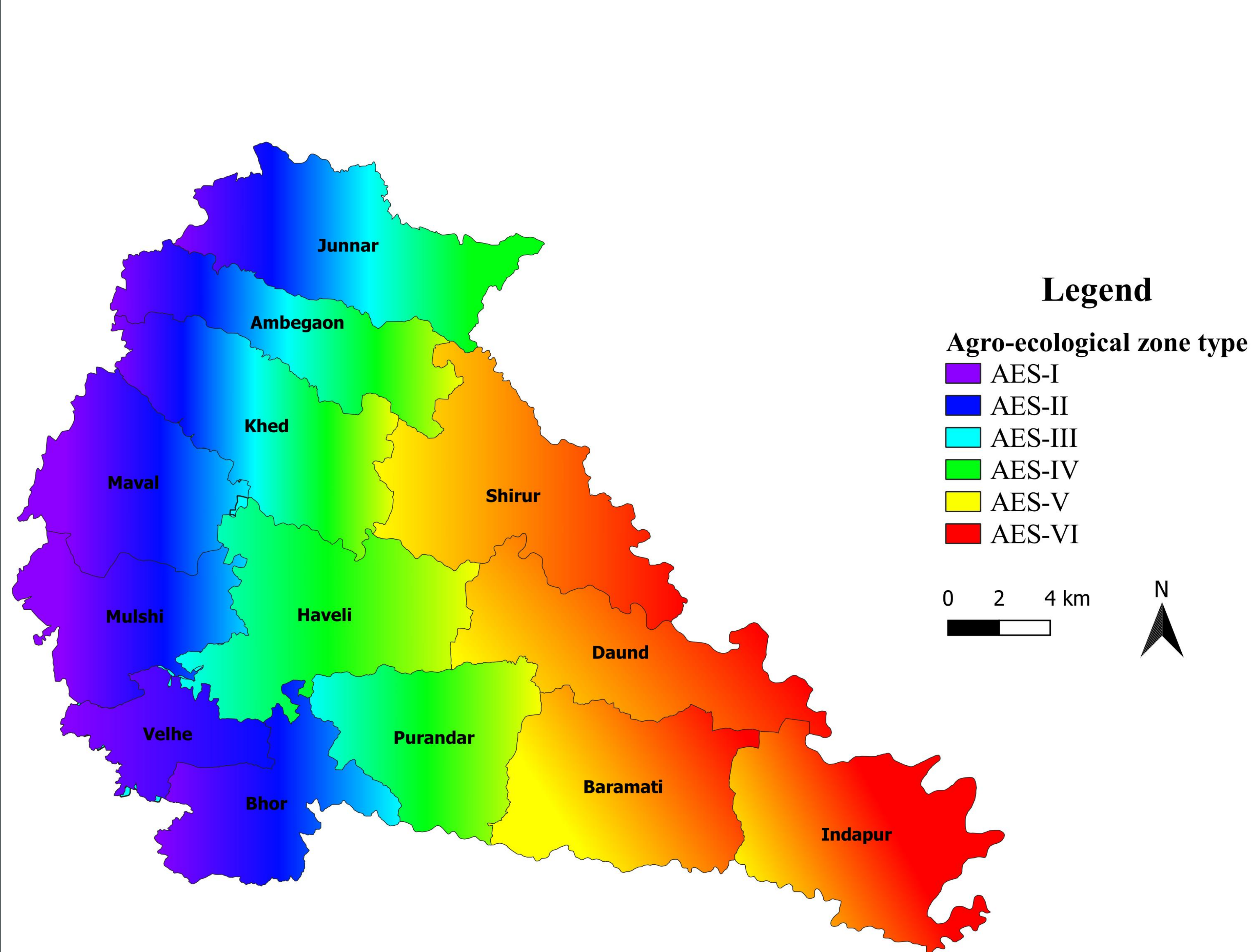


Title: Agro-Ecological Zones of Pune District

Map description and analysis



Introduction:
By considering parameters like height from sea level, rainfall, soil pattern. Pune is divided into 6 Agro-ecological zones.

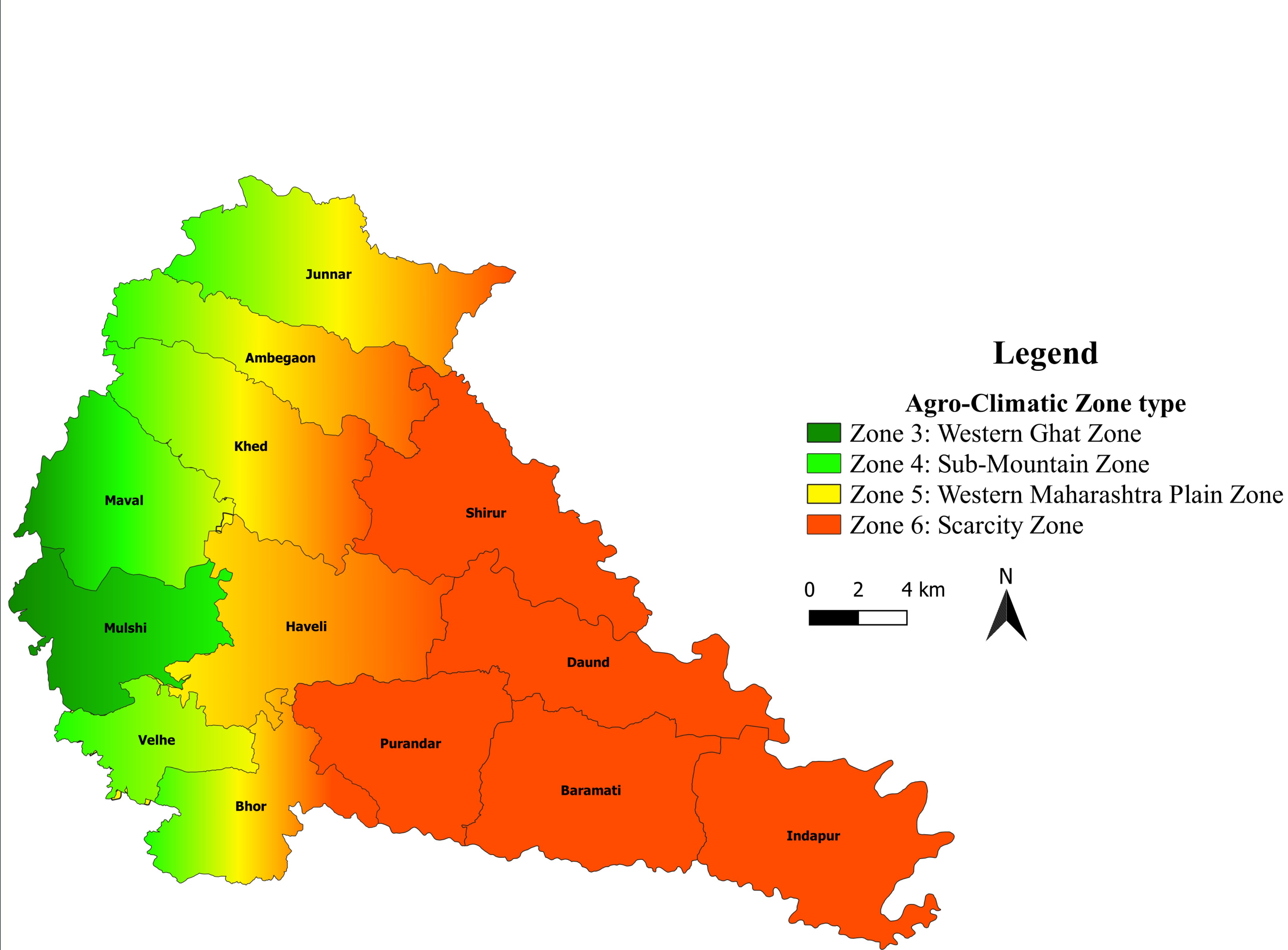
- AES-I:**
It comprises of part of Western Ghat. It has heavy rainfall and soil of this zone is shallow due to erosion. Western part of Pune district comes under this zone.
- AES-II:**
It consist of sub-mountains with medium rainfall and laterite soil. It covers Velhe, Bhore, Mulshi, Khed, Junnar, Ambegaon and Maval blocks of the district.
- AES-III:**
It is sub-mountaineous with limited rainfall and medium soil. This region is centered in between Maval, Mulshi, Bhore, Purandar, Haveli and some parts of Khed, Ambegaon and Junnar.
- AES-IV:**
It is a plain area with a assured rainfall and medium soil. This covers central part of Pune District.
- AES-V:**
The AES-V is a scarcity zone with low rainfall and light to medium soils covering parts of Khed, Haveli, Purandar, Shirur, Daund, Baramati.
- AES-VI:**
It is again a scarcity zone with light to medium soils and lowest rainfall. This covers eastern parts of Shirur, Daund, Baramati and Indapur.

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| Team Name: उर्वीभुज (Urvibhuj) |
| Topic: Agro-Ecology Map (Natural Resouces) |
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Data courtesy: Pradban Mantri Krishi Sinchayee Yojana, District Irrigation Plan, Pune

Title: Agro-Climatic Zones of Pune District

Map description and analysis



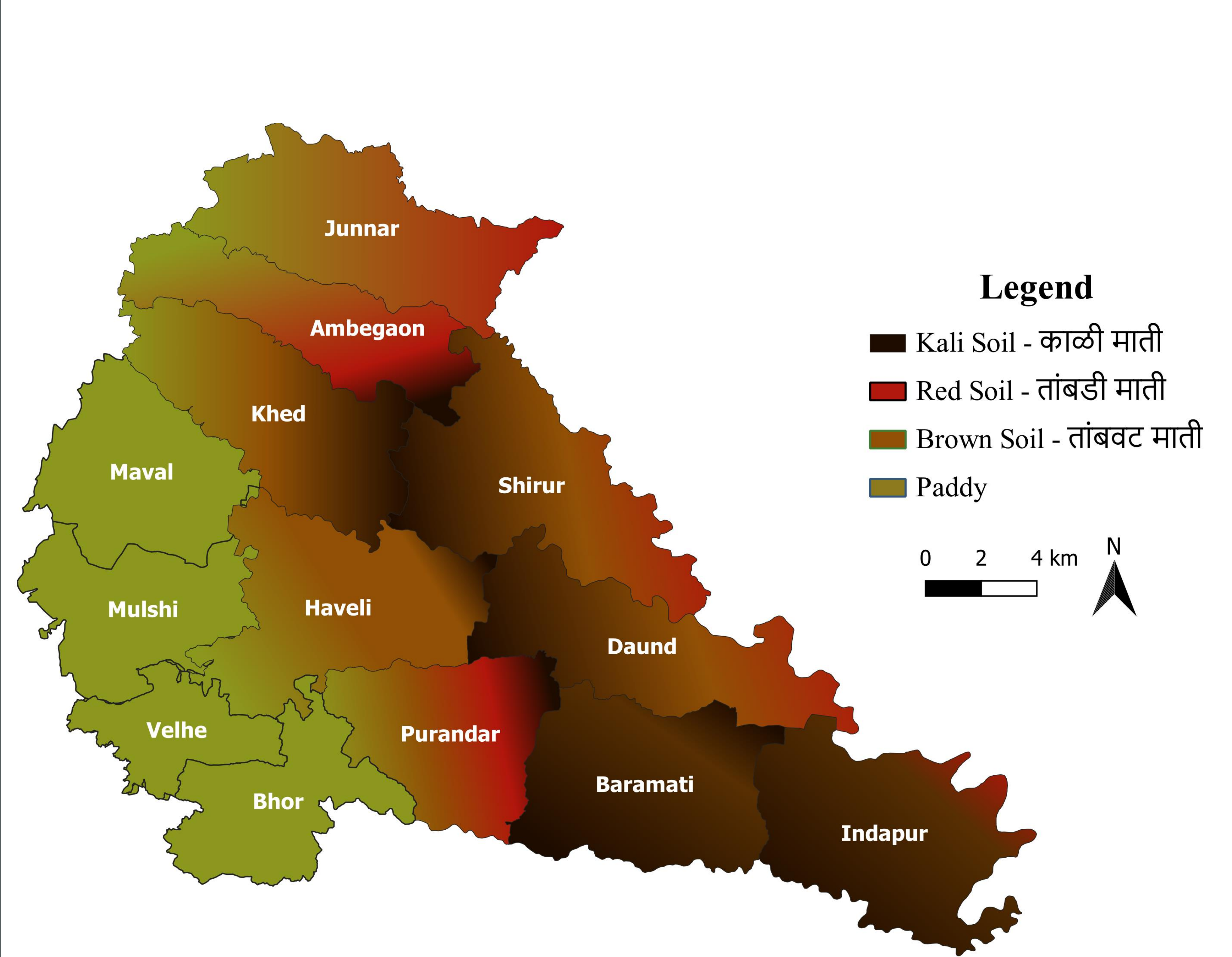
Introduction:
Pune district has drastic seasonal variation in temperature as well as rainfall. Rainfall decreases as moving towards eastwards. Western region is quite cool whereas eastern region is hot and dry . District is divided into four Agro-climatic zones.

- Zone - 3 : Western Ghat Zone:**
Zone comprises of the hilly, high lying terrains of Western Ghats. This zone covers 1.16 lakh Ha area of Pune district.
- Zone - 4 : Sub-Mountain Zone – Transition Zone-1 with red to reddish brown soils**
It covers parts with edge of Western Ghats. It includes western part of Bhore, Velhe and Mulshi, central part of Maval, western strip of Khed, Ambegaon and Junnar. The area covered by this zone is 3.08 Lakh Ha area of district.
- Zone – 5 : Western Maharashtra Plain Zone – Transition Zone-II with Grayish Black Soils**
It lies in between transition zone1 and Scarcity zone. It covers 3.14 lakh Ha area of Pune District
- Zone- 6: Scarcity Zone- With kharif - cum Rabi Cropping**
It covers traditionally known famine area of Maharashtra. This zone is the largest zone of Pune district constituting 8.21lakh Ha area. Half of the district is grabbed by this zone.

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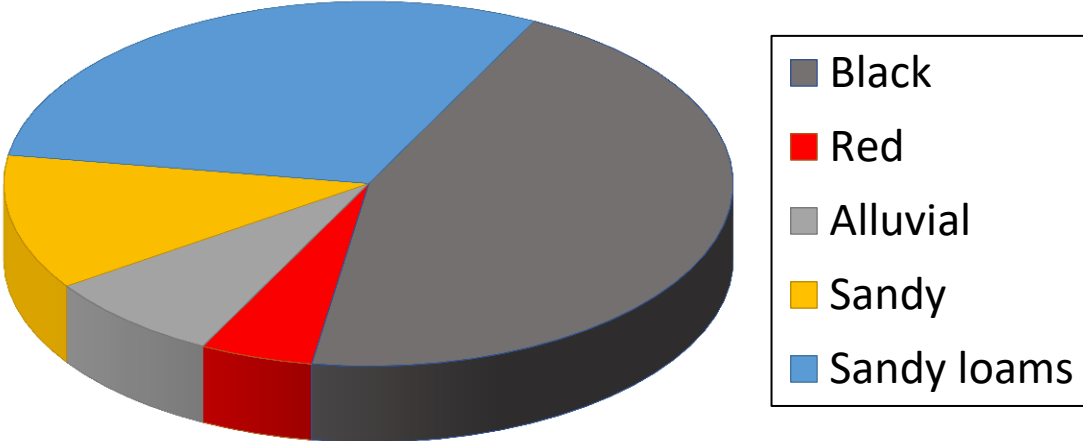
Title: Soil map of Pune District

Map description and analysis



Introduction:
Pune district has three types of soils black, brown and mixed type. Some regions cover brown soil which is less fertile whereas eastern part has comparatively more fertile black soil. Valley of Bhima, Indrayani river is rich with alluvial soil which is highly fertile.

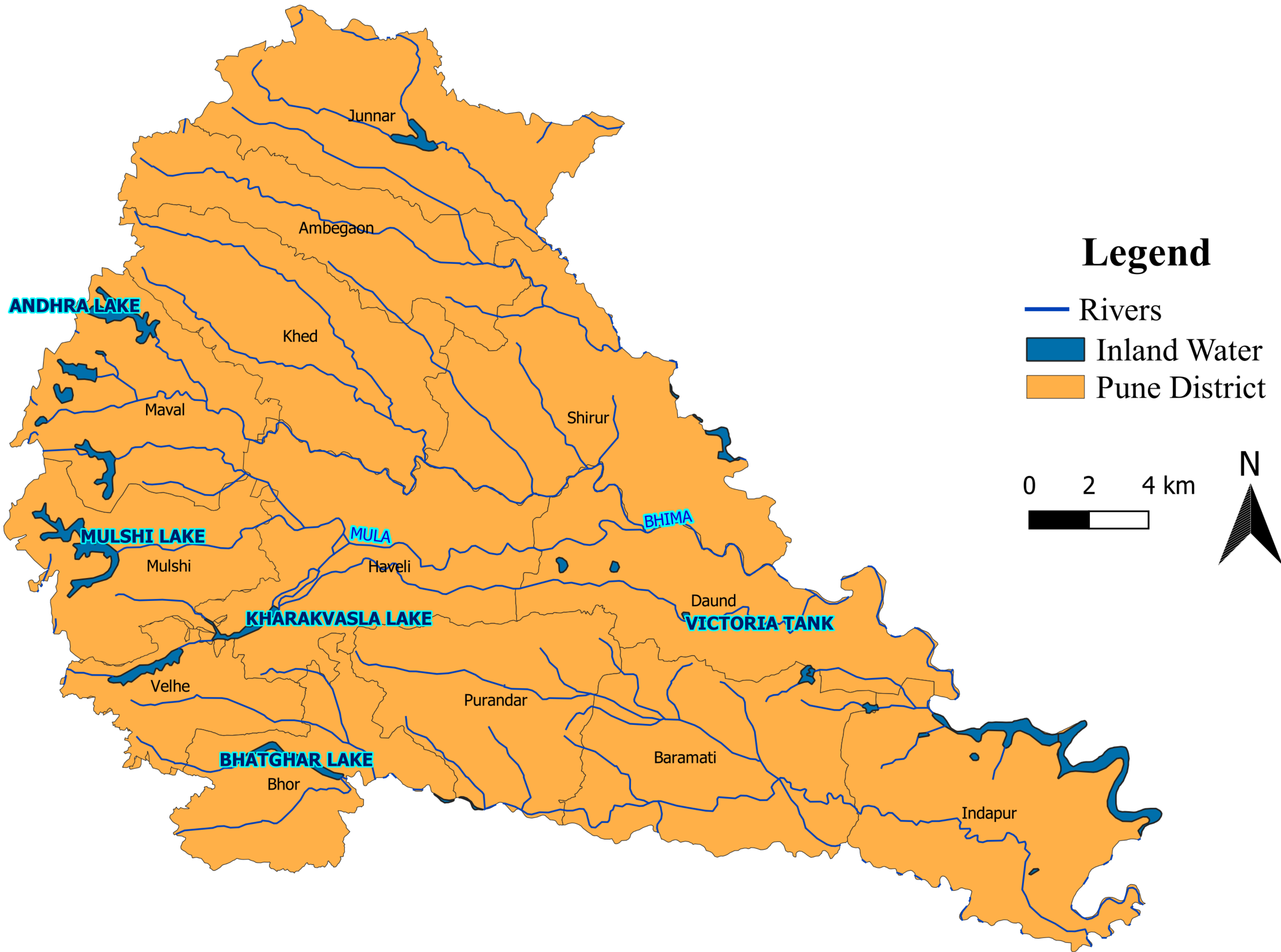
- Black or Kali Soil**
It is found in layers several feet deep and occurs mostly in the Eastern portion of middle sub districts and Baramati and Indapur. It is suited for Rabi crops. Wheat, gram, rabi jowar and sugarcane grown in black soil.
- Red or Tambdi soil**
It is found over the hill slopes east of the paddy lands in the North Central and middle portions. These soils are generally rough. It is suitable for the cultivation of bajra, matki, groundnuts and chillies. Soil erosion is critical in these soils.
- Brown or copper, tambvat soils**
Found in the transition tract eastern parts of Khed and Haveli Tahsils and the Western parts of Shirur, Daund and Purandhar Tahsils. Soil is well suited for wheat and kharif crops particularly jowar and bajra.
- Paddy soils**
It is found in the Western portion of the District. It is richest soil but covers the limited area of district.



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Title: Water bodies in Pune District

Map description and analysis



Introduction:
Pune district is cover by 4-5% of water bodies. At least one river is there in each sub district. Basin of these rivers are most fertile areas of the district.

• **Rivers**
Western Ghat or Sahyadri is origin for rivers flowing in Pune District. Kukdi, Ghod, Indrayani, Pauna, Mula, Ganjauni, Nira and Bhima rivers are some impotant rivers. All these rivers merge together and flow as river Bhima.

i. **Bhima-Ghod River System**
It flows in northern, north-eastern and eastern part . Bhima River has a total length of about 355 km and Ghod river has a drainage of about 196 km.

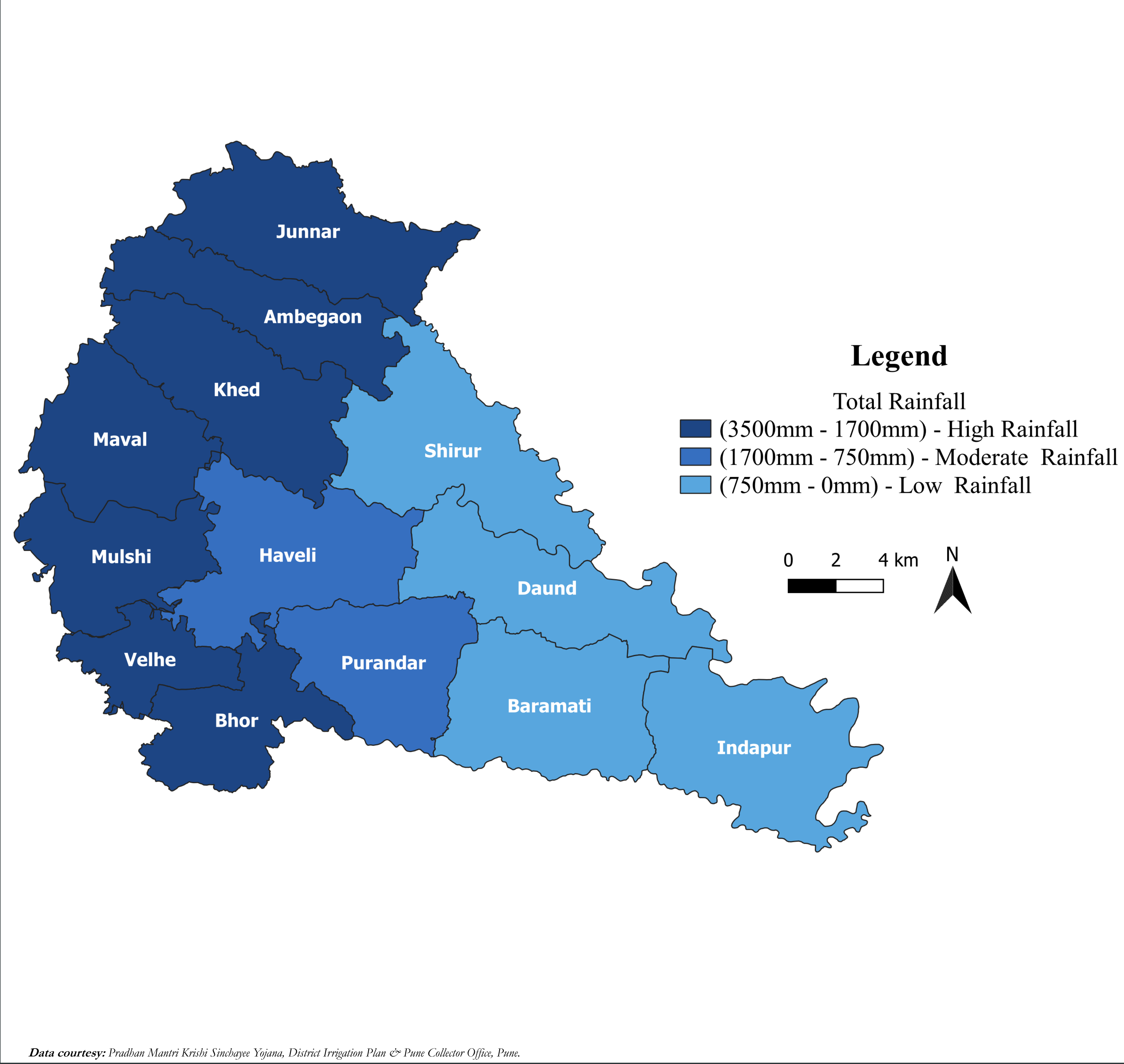
ii. **Mula-Mutha River System**
It covers the central part and having total length of 242 km in the district. Further it merges with Bhima.

iii. **Nira River system**
It flows through south, south-east and eastern part and has total length of about 231 km in the district.

| |
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| Team Name: उर्वीभुज (Urvibhuj) |
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Title: Annual Rainfall of Pune District

Map description and analysis



Introduction:
The distribution of rainfall is irregular and reduces from West to East. The normal annual rainfall over the district varies from about 468 mm to 4659 mm. Based on rainfall it is possible to divide the District into 3 broad regions High, Moderate and Low.

• **High Rainfall**
The extreme Western region of Pune district has highest rainfall. Some places of highest rainfall are Junnar; Ghod, Khed, Talegaon-Dabhade and Sinhgad. Highest rainfall intensity zone are Velhe, Mulshi and Maval.

• **Moderate Rainfall**
Central part of district is having moderate rainfall within 17000mm to 750mm. Ale, Belhe, Pabal, Loni, Saswad, Jejuri and Valha has a moderate but consistent rainfall.

• **Low Rainfall**
Eastern region of district has the lowest rainfall below 750 mm. It is irregular and uncertain. Lowest Rainfall is recorded in Daund (468mm).

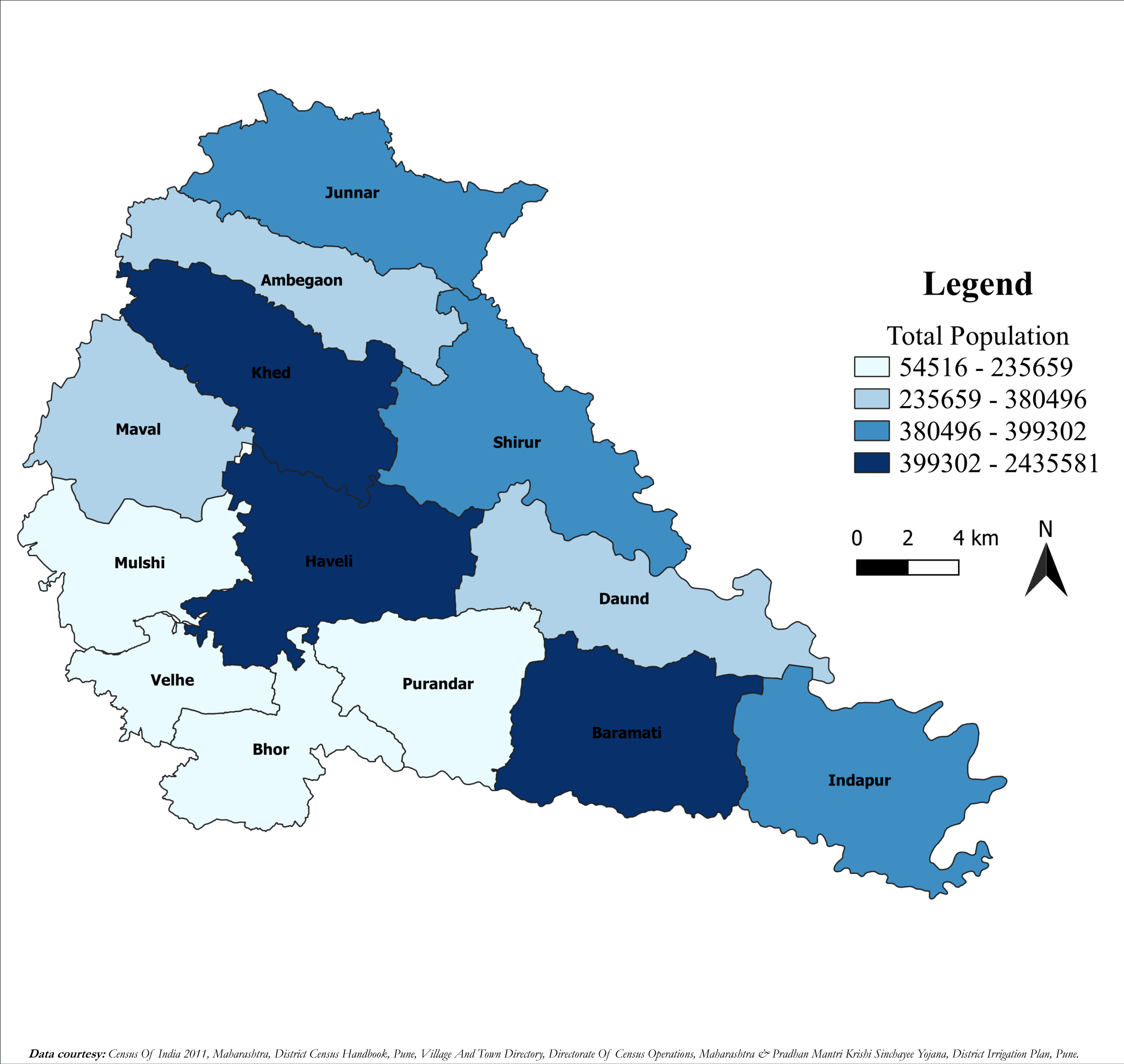
Rainfall analysis shows that drought prone area is in eastern & south-eastern. Sub-Districts like Baramati, Indapur, Daund, Shirur comes under drought prone area and covers maximum area of Pune district.

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| Topic: Rainfall Map (Natural Resources) |
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Data courtesy: Pradhan Mantri Krishi Sinchayee Yojana, District Irrigation Plan & Pune Collector Office, Pune.

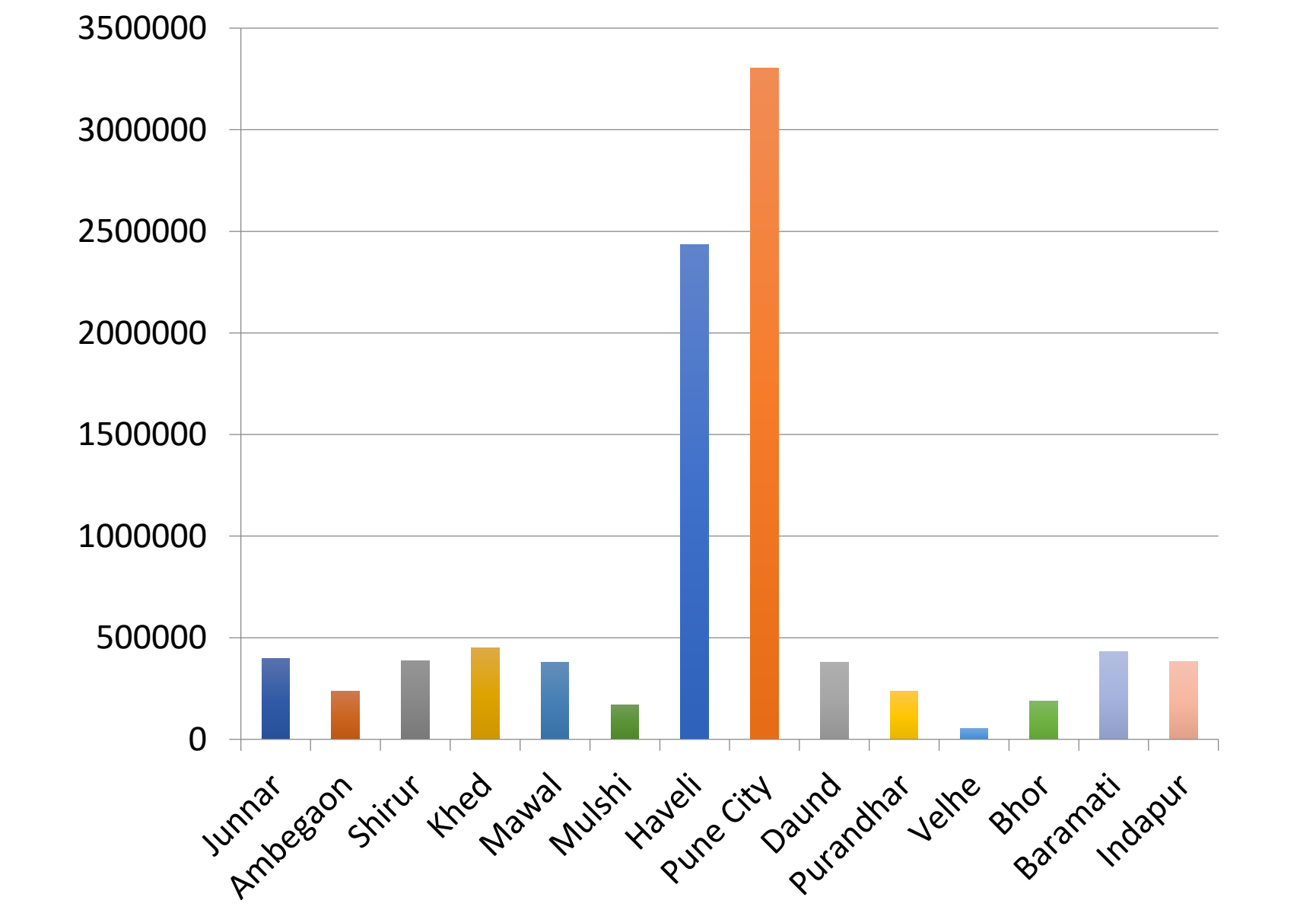
Title: Sub-districtwise Population (2011) of Pune District

Map description and analysis



Introduction:
Due to urbanization and industrialization growth of population is increasing in Pune District. According to Census 2011 the total population of the District is 94,29,408 having 36,78,226 in rural and 57,51,182 in urban.

- Effect of Urbanization**
Pune City is metropolitan city in the Haveli Sub district. Pune city has highest population of 3304888 whereas Haveli has 2nd rank with 2435581 population. Essential facilities like educational institutes, industries, markets required for city to be metropolitan are present in Baramati and Khed hence population of these regions is high.
- Low population areas**
Because of unavailability of transport and other facilities due to topography sub districts like Mulshi, Velhe, Bhore, Purandar has less population. Although this region has most non utilized and barren land.

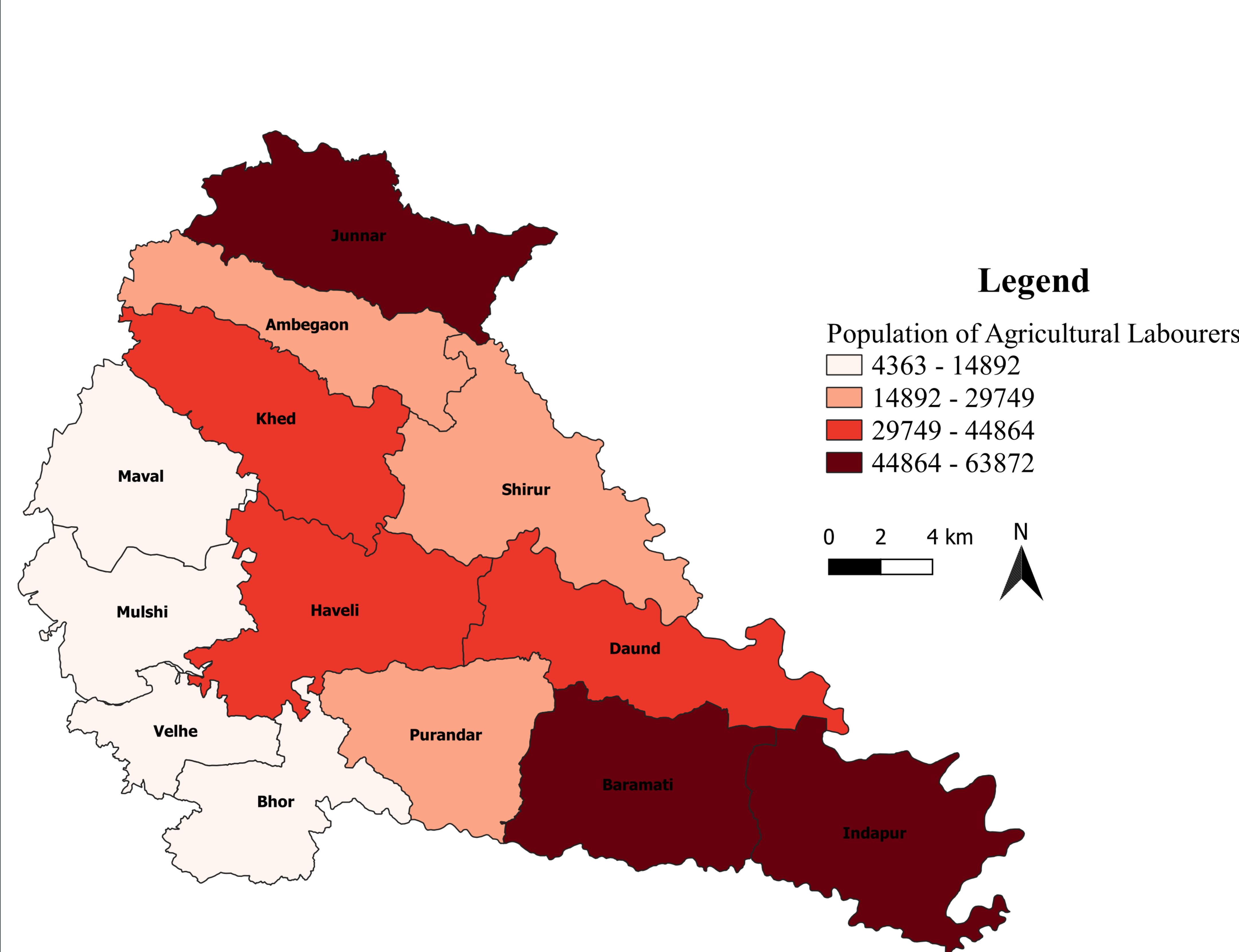


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| Team Name: | उर्वीभुज (Urvibhuj) |
| Topic: | Population Map (Natural Resources) |
| Team member/lead: | Rohan Sunil Gamare Pranay Yashwant Chavan Sandhya Sandeep Deshpande |
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Data courtesy: Census Of India 2011, Maharashtra, District Census Handbook, Pune, Village And Town Directory, Directorate Of Census Operations, Maharashtra & Pradhan Mantri Krishi Sinchayee Yojana, District Irrigation Plan, Pune.

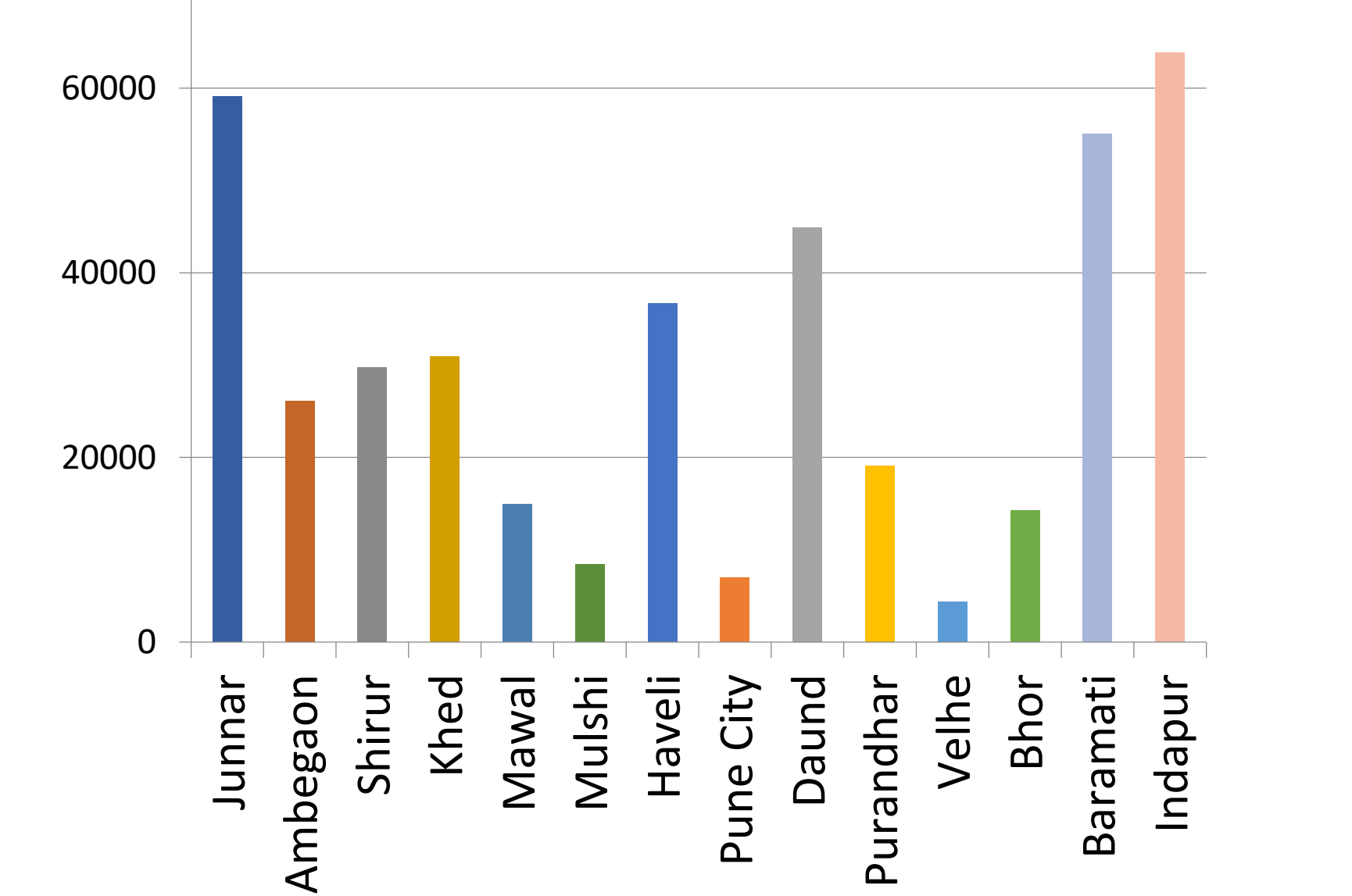
Title: Agricultural Labourers (2011) of Pune District

Map description and analysis



Introduction:
Not only industrial but also agricultural zones are equally contributing to the economical growth of Pune District. Around one-third of the workers are involved in agricultural activity and the remaining in other non-agricultural activities. 4.5% of Labourers of total population belongs to Agriculture.

- Agricultural labourer**
- A person who works on another person's land for wages in cash or kind or share is regarded as an agricultural laborer.
 - In the urban area of the District, 1.26 % of workers are cultivators, 0.96 % are agricultural laborers.
 - In the District, female workers as cultivator, agricultural labourer and in household industry show higher percentages than male workers.
 - 12-16% of total labors are there in Indapur, Junnar and Baramati.
 - After Maval & Mulshi the lowest number of workers found in Pune city.

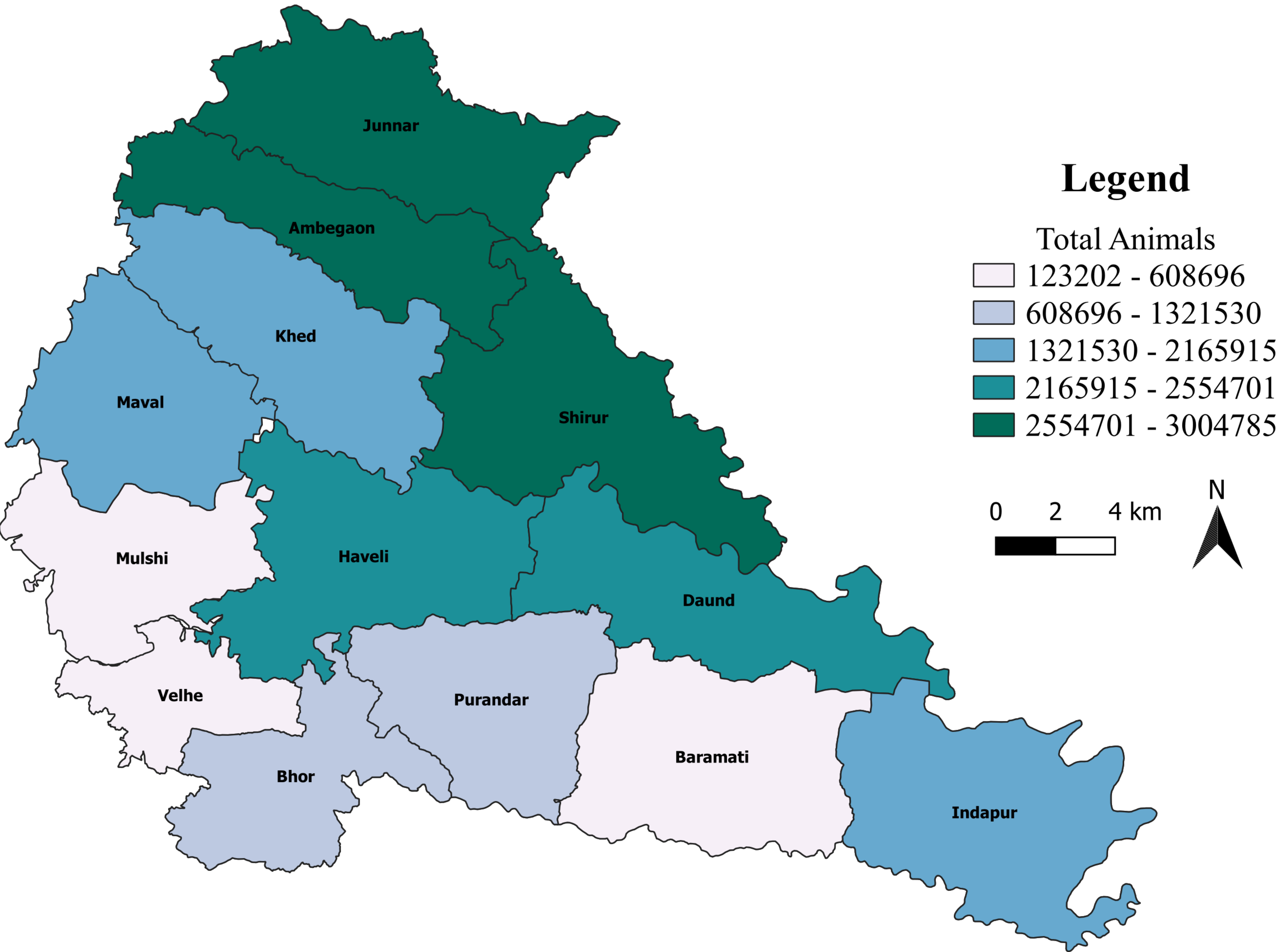


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Data courtesy: Census of India 2011, Maharashtra, District Census Handbook, Pune, Village And Town Directory, Directorate Of Census Operations, Maharashtra & Pradhan Mantri Krishi Sinchayee Yojana, District Irrigation Plan, Pune.

Title: Total number of Livestock (2013-14) of Pune District

Map description and analysis



Introduction:

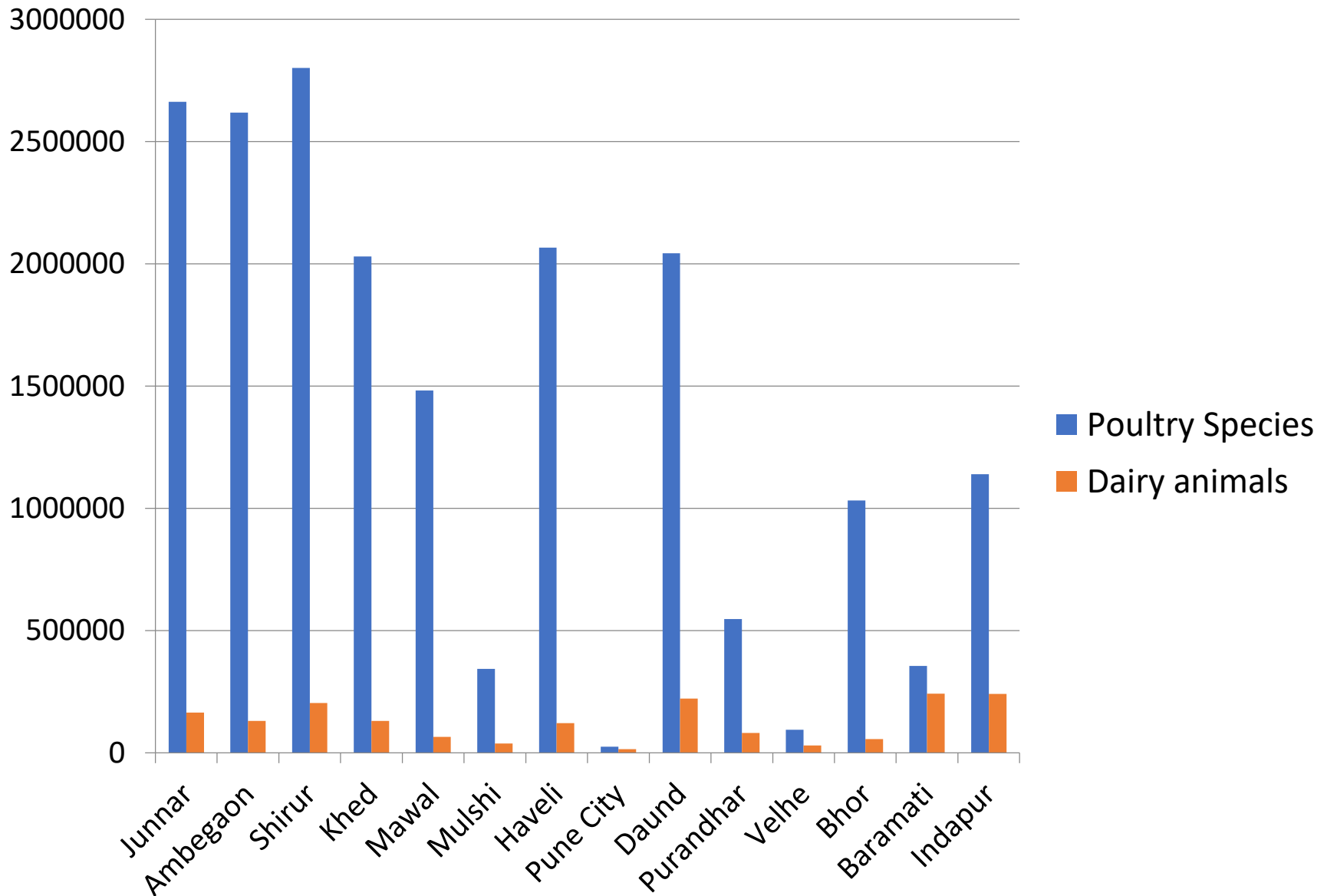
From ancient times livestock husbandry is required component of agriculture. Animal husbandry provides additional income to poor in rural areas as well as drought area farmers. Thus Dairy and Fisheries sectors are the part of economy’s growth of district. Livestock of the Pune district is divided largely in Four types namely Poultry, Small Animals, Large Animals and Draft Animals.

• **Small Animals**

Duck, hen, cock comes under Poultry category. Highest number of poultries are in Shiirur, Ambegaon and Junnar. Goats and sheep comes under Small animals category. Indapur has highest number of goats whereas Baramati has highest number of sheep.

• **Large animals**

Cow, Buffalo and Bull comes under this category. Shirur, Indapur and Khed has highest number of Cows, Buffalos and Bulls respectively.

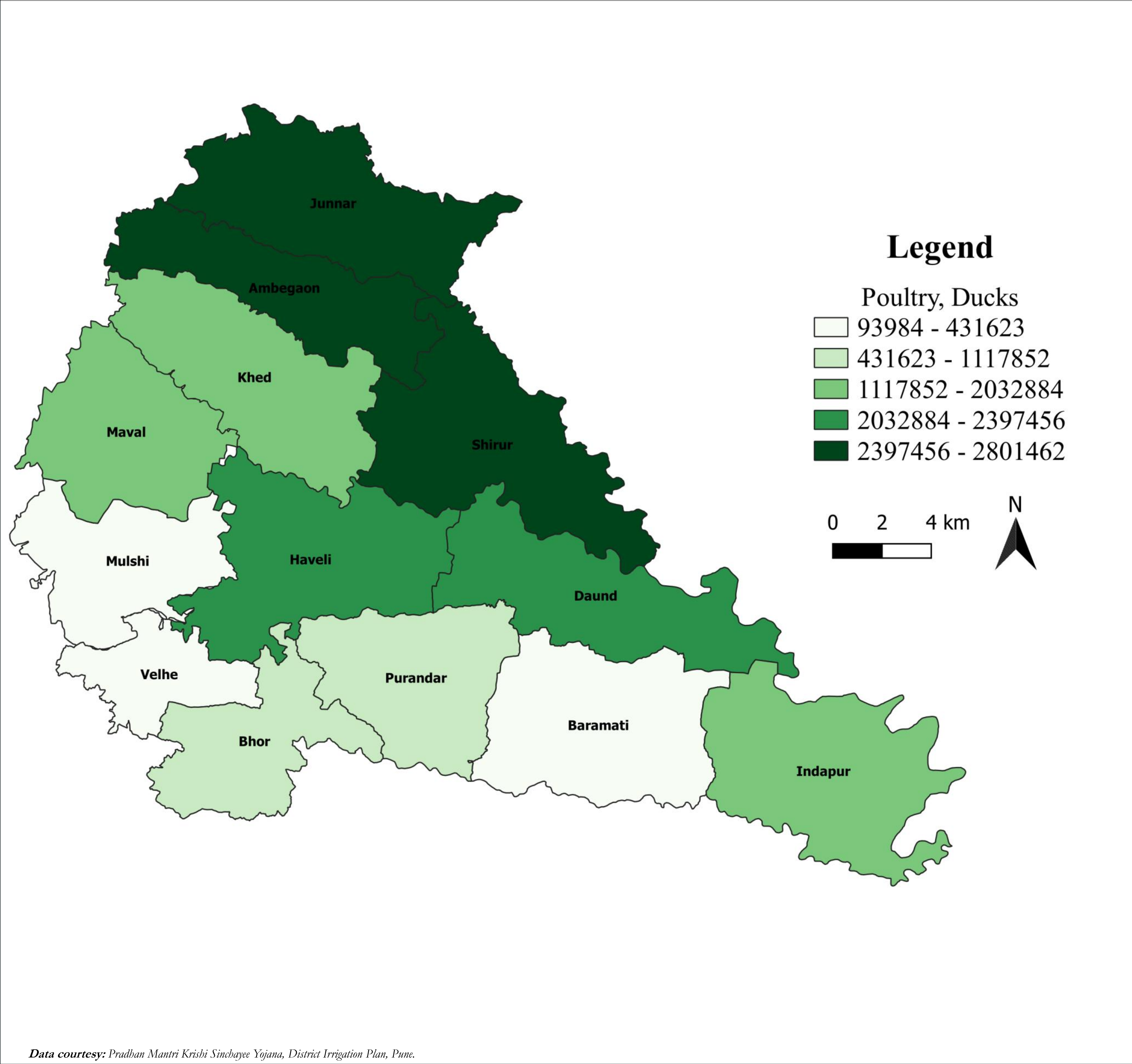


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|-------------------|---|
| Team Name: | उर्वीभुज (Urvibhuj) |
| Topic: | No. of Livestock Map (Natural Resources) |
| Team member/lead: | Rohan Sunil Gamare Pranay Yashwant Chavan Sandhya Sandeep Deshpande |
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Data courtesy: Pradhan Mantri Krishi Sinchayee Yojana, District Irrigation Plan, Pune.

Title: Total number of Poultry Species (2013-14) in Pune District

Map description and analysis



Introduction:
Poultry can be seen largely growing business in Pune district. There are total 1,85,37,999 poultries in Pune. In this type we consider ducks, hens and cocks.

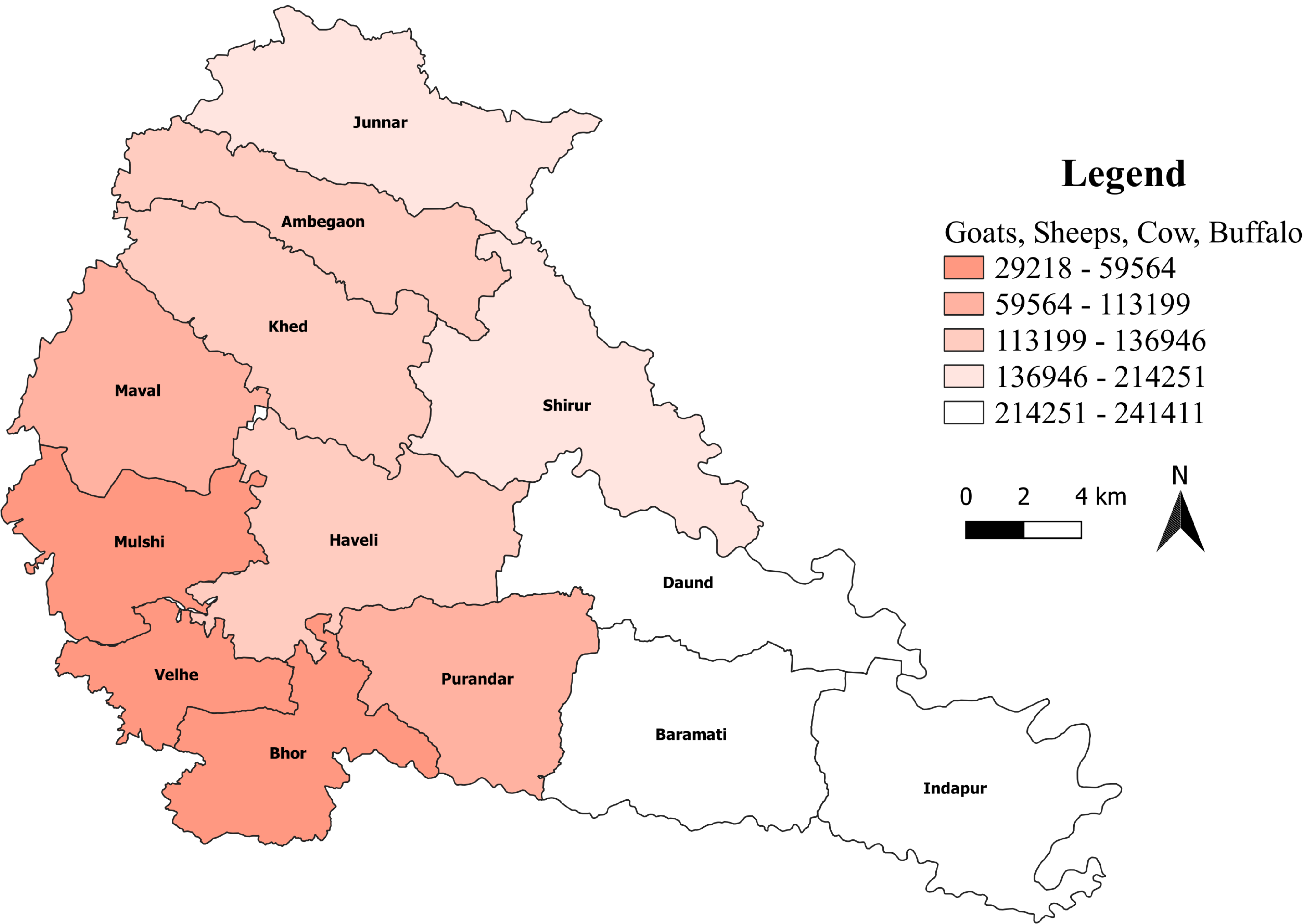
- The Shirur has the highest number of Poultry birds (27,20,328) in the district. Amebgaon, Junnar also shows significant number of Poultry birds.
- Shirur and Haveli has largest number of ducks.
- Western and central regions has minimum number of poultry units due to the high population, non availability of space and hilly areas.

| |
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| Topic: No. of Livestock Map (Natural Resources) |
| Team member/lead: Rohan Sunil Gamare Pranay Yashwant Chavan Sandhya Sandeep Deshpande |
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Data courtesy: Pradhan Mantri Krishi Sinchayee Yojana, District Irrigation Plan, Pune.

Title: Total number of Dairy animals (2013-14) of Pune District

Map description and analysis



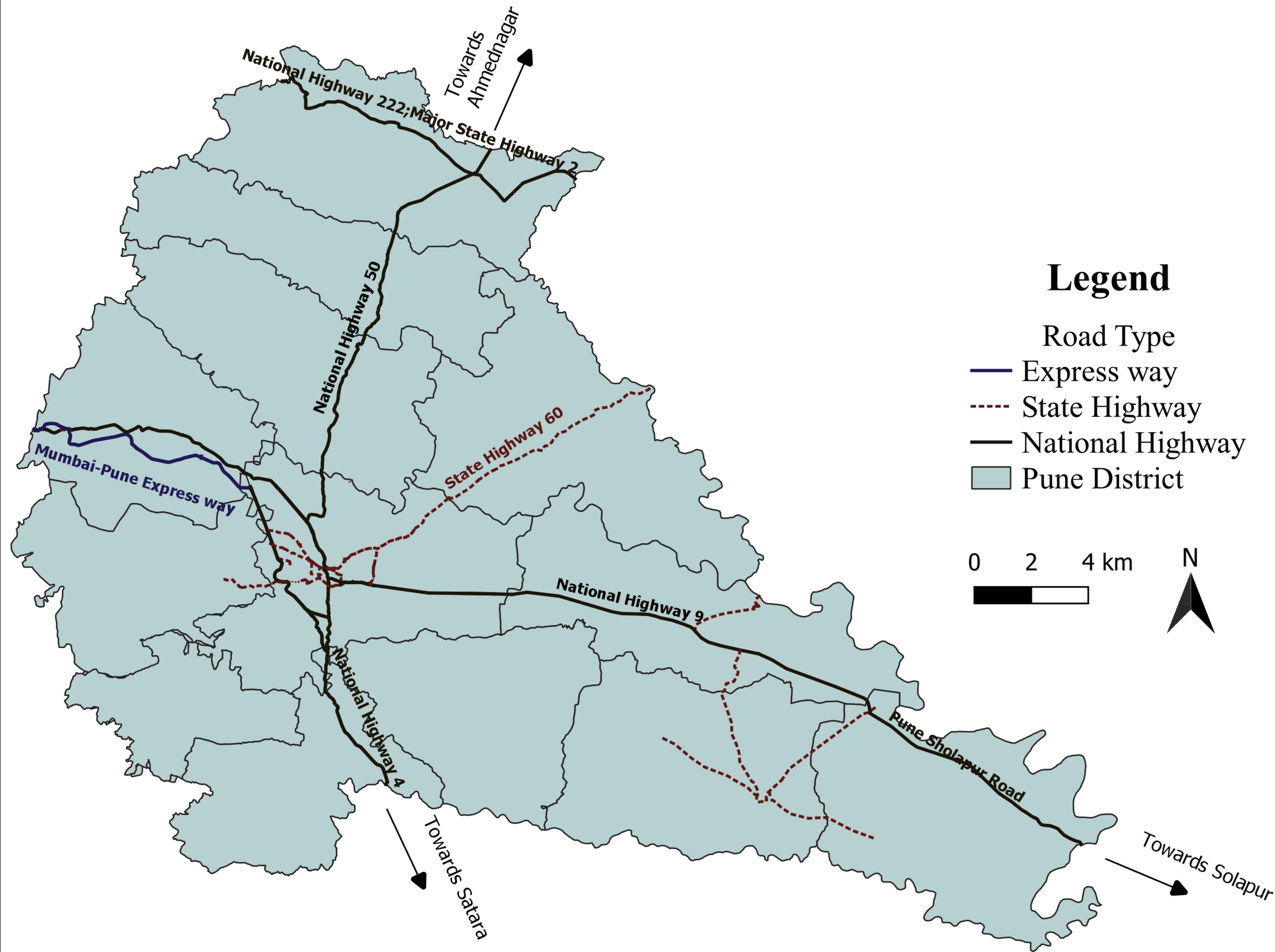
Introduction:
Dairy is another growing business in Pune district. In this category small animals like goats, sheep and large animals like cow and buffalo are included.

- The bullock and he buffalo power available in the district is predominantly used for agricultural operations
- Highest number of Goats and Sheep are available in Indapur and Baramati respectively.
- The maximum number of Cow and Buffalo could found in Shirur and Indapur respectively.
- Higher count of these dairy animals can be seen in scarcity zones as dairy business can be supplementary sources of income for landless farmers.

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| Topic: No. of Livestock Map (Natural Resources) |
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Title: Roads of Pune District

Map description and analysis



Introduction:
Pune district has Expressways, State highways, National highways, Local roads.

- National Highways**
NH4 (Mumbai-Banglore) enters from Raigad district and exits in Satara district. Total length of NH4 in the district is 120 km. Passing though Maval, Haveli, Purandar.

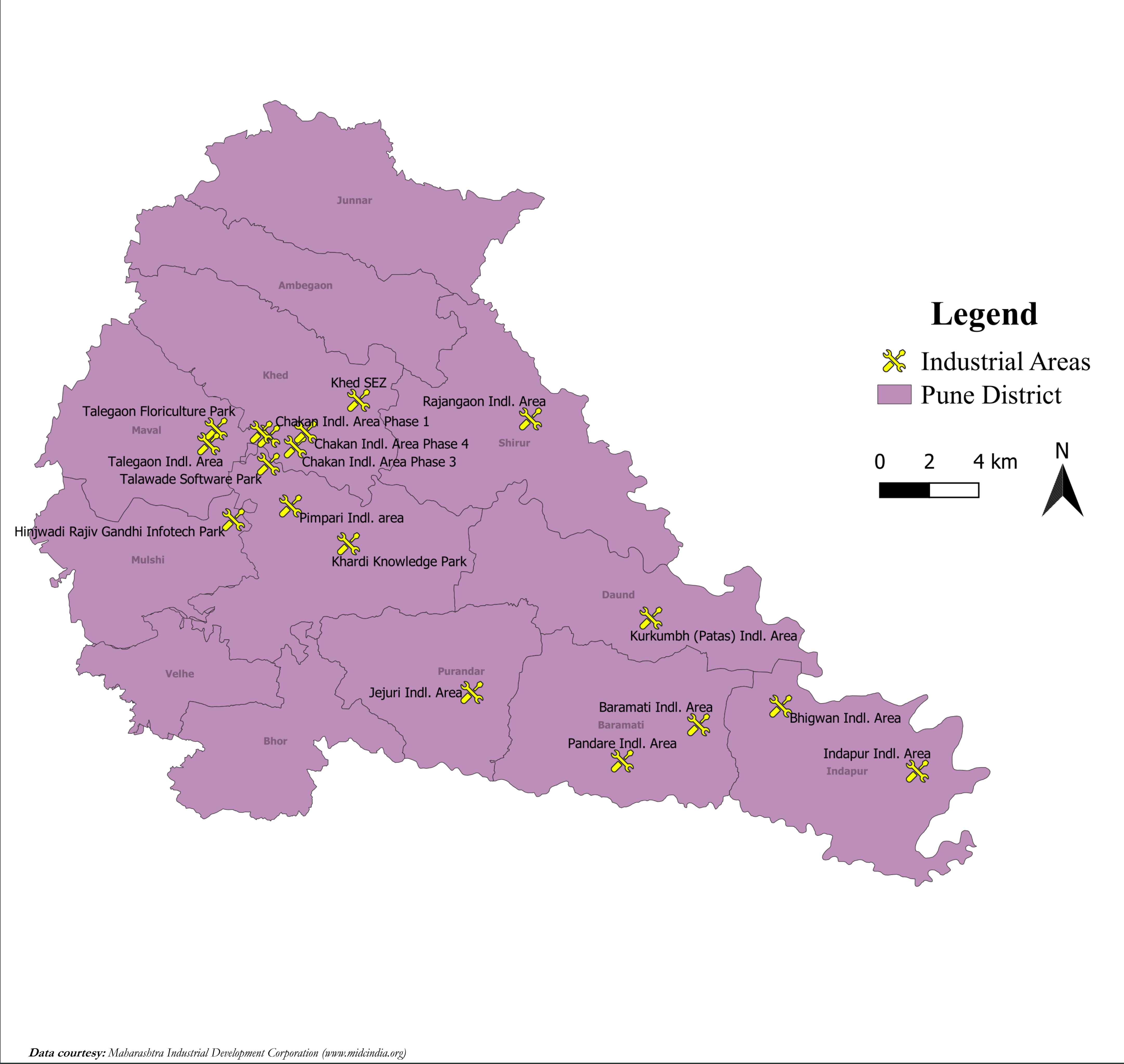
NH9 (Pune-Solapur-Hyderabad) starts at Pune district and exits in Solapur district. Total length of NH9 in the district is 152km. Passing though Haveli, Daund, Indapur.

NH50 (Pune-Nashik) originates at Pune exits in Nashik district. The total length of NH50 in the district is 95km. Passing though Haveli, Khed, Junnar, Ambegaon.
- Mumbai- Pune Expressway**
It has length 94.5 km connecting Mumbai. It enters in Pune in Maval and ends at Kiwale in Pune. It passes through tunnels as it crosses western ghat or Sahyadri region.
- State Highway**
State highways usually connects the districts. These are some State Highways:
MH 71 (Pune-Solapur), MH 27, MH 51, MH 55 (Pune-Ahmednagar),MH 54 (Pune-Mumbai) ,MH 57 ,MH 60 ,MH 61 ,MH 64 ,MH 65 ,MH 67 ,MH 68 ,MH 70 ,MH 54 ,MH 58 ,MH 61 ,MH 62 ,MH 63 ,MH 66, MH 155

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| Team Name: उर्वीभुज (Urvibhuj) |
| Topic: Road & Transport Map (Manmade Resources) |
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Title: MIDC Areas of Pune District

Map description and analysis



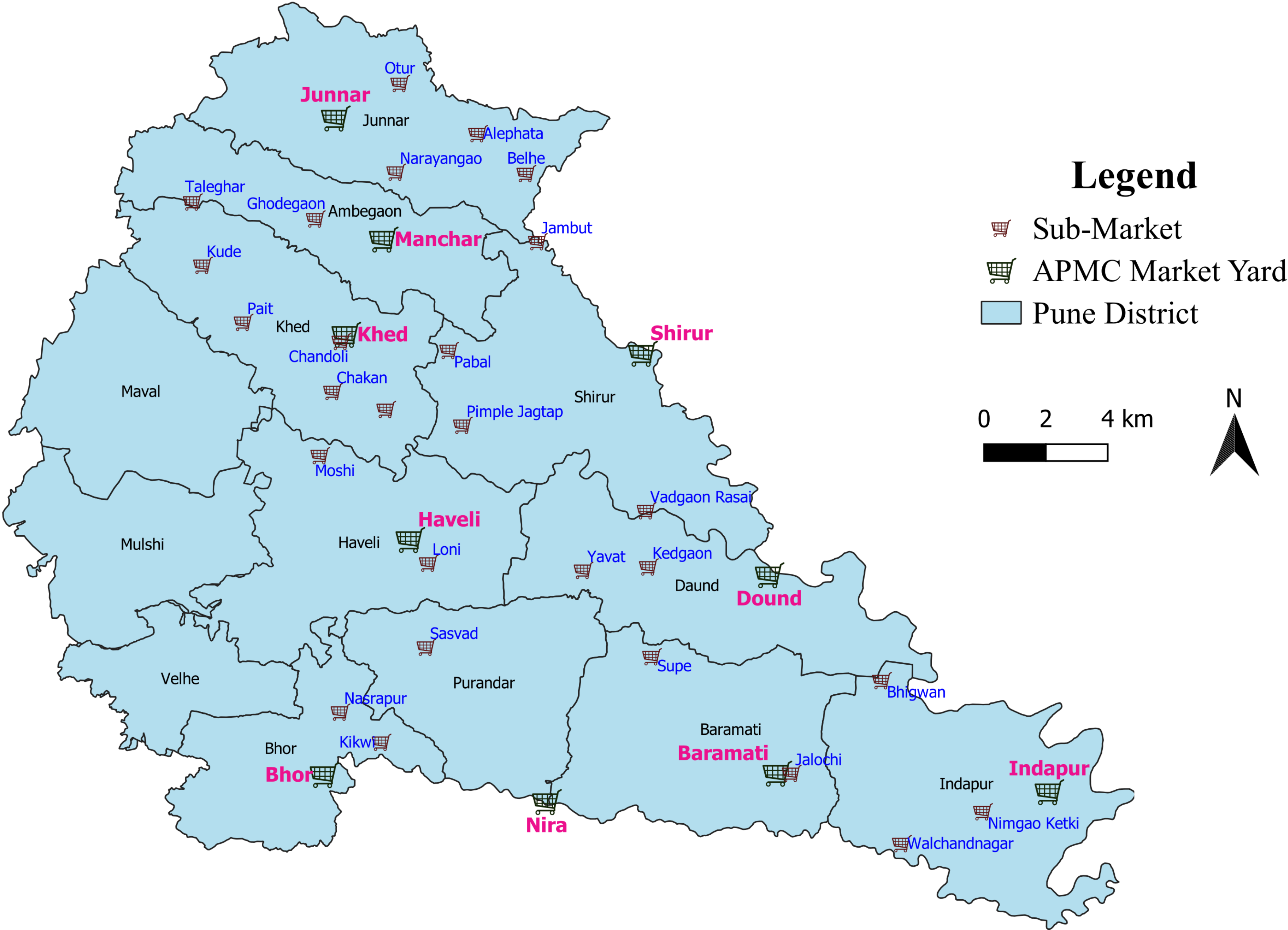
Introduction:
Along with agricultural activities the Pune District has made appreciable dent in the field of industrialization. Adequate transport facilities contribute in the development of industries. It has all types of transport facilities available like road, rail and airways.

- Pune MIDC has Auto, IT / ITES, Engineering, ESDM, Defense, Chemical, FMCG Industries.
- There are two MIDC regional offices in Pune. 15 industrial areas in Pune 1 and 12 in Pune 2.
- Talegaon has Floriculture park.
- **Automobile-** Baramati, Chakan, Pimpri, Ranjangaon
- **Food/Pharamceutical/chemical-** Baramati, Jejuri, Kurkumbh
- **Electronics/IT-** Pimpri, Ranjangaon, Khardi, Hinjwadi and Talawade
- **Textile/cotton-** Baramati, Pandare and Jejuri
- **Sugar Industries-** Indapur , Daund and Baramati

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| Team Name: उर्वीभुज (Urvibhuj) |
| Topic: Industries Map (Manmade Resources) |
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Title: APMC Markets of Pune District

Map description and analysis



Introduction:
For selling agricultural products it is necessary to have markets nearby location. APMC (Agriculture Produce Market Committee) market yards are 10 and submarkets are 28. Maval, Mulshi, Velhe doesn't have any APMC market.

Important Agro-Products

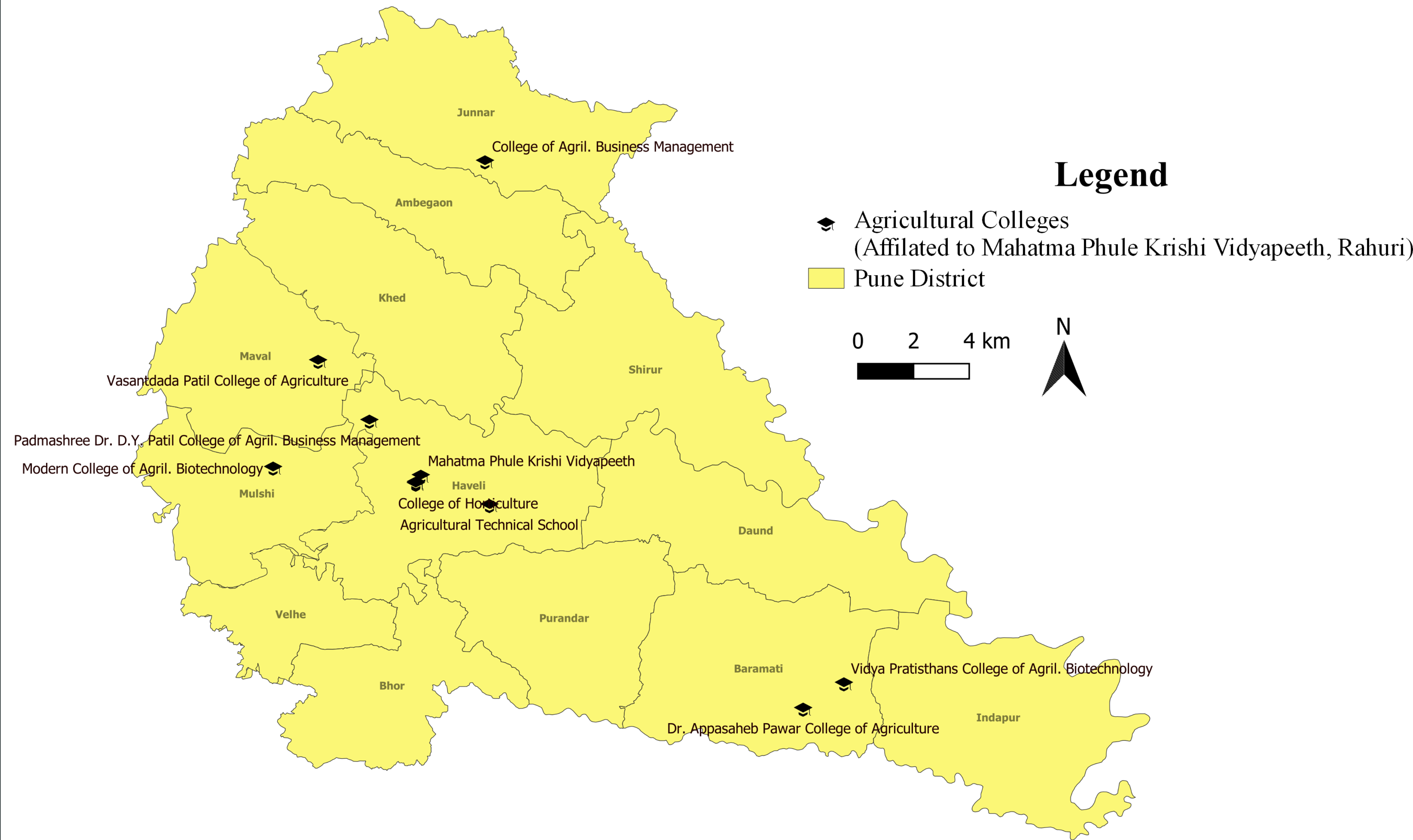
- Grains like Rice, Wheat, Jowar are available at Baramati, Bhor, Indapur, Dound, Nira markets.
- Vegetables & Fruits mainly sold in Nira, Manchar, Khed, Junnar, Indapur, Haveli, Baramati.
- Jaggery is mostly sold nearby markets of Baramati, Dound, Nira as sugar industries are there.
- Baramati, Haveil, Junnar, Khed, Manchar markets are prominents for Potato, Onion and Tomato.
- Animals like Buffalo, Cow, Bull, Goats are vended in Bhor, Baramati markets whereas fish markets are available in Indapur because there are many water bodies present.

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| Team Name: उर्वीभुज (Urvibhuj) |
| Topic: Market Map (Manmade Resources) |
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Data courtesy: The Maharashtra State Agricultural Marketing Board (MSAMB), Pune (<https://msamb.com/>)

Title: Agricultural Colleges in Pune District

Map description and analysis



Introduction:
There are approximately 11 agriculture colleges in Pune affiliated to Mahatma Phule Krishi Vidyapeeth (MPKV), Rahuri.

- Most of them provide graduation and post graduation in agricultural courses.
- College of Agriculture & Mahatma Phule Krishi Vidyapeeth provides research oriented courses.
- Most of the colleges are located near the heart of the district that is in Pune city.
- Agricultural Business management related colleges are there in Baramati, Mulshi and Junnar.
- Horticulture college is in Pune city.
- Diploma or Engineering in agriculture related colleges are available in Haveli and Mulshi.

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| Team Name: उर्वीभुज (Urvibhuj) |
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Data courtesy: Mahtma Phule Krishi Vidyapeeth, Rahuri (www.mpkv.ac.in)