

~VAYU JIVA~

- The Smart City

1. Basic details

State : Karnataka

District : Chamrajnagar

Taluk : Gundlupete

Area : 1500 sq km

Scale : 1 cm on chart = 2km [$x = 1.2\text{cm}$, $y = 1.4\text{cm}$]

PIN Code : 571419

STD Code : 0822

Time zone : IST (Indian Standard Time) UTC + 5:30

Nearby cities : Gundlupete (47km), Kollegal (112km),
Chamrajnagar (134km)

2. Population

Phase 1 (2025 - 2030) : 300000 residents [primarily government and industrial workers]

Phase 2 (2030 - 2035) : 600000 residents [expansion of residential zones]

Phase 3 (2035 - 2040) : 1 million residents [target population]

3. Budget

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4. Govt.
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- (i) Initial phase (2025 - 2030) - ₹ 33000 crores
 - Infrastructure development: ₹ 10000 crores (roads, utilities)
 - Public transportation: ₹ 6000 crores (Metro, EV buses)
 - Affordable Housing: ₹ 5000 crores (50000 units for lower income groups)
 - Smart Technology implementation: ₹ 4000 crores (IoT, AI for governance)
 - Green energy and water conservation: ₹ 3000 crores
 - Government services and administration: ₹ 2000 crores
 - Education and healthcare initiatives: ₹ 3000 crores

- (ii) Growth phase (2030 - 2035) - ₹ 40000 crores
 - Expansion of transport: ₹ 8000 crores (Metro extensions)
 - Residential expansion: ₹ 10000 crores
 - Green Energy development: ₹ 7000 crores (wind and solar farms)
 - Commercial & Industrial zone development: ₹ 5000 crores
 - Tourism & Cultural infrastructure: ₹ 4000 crores
 - Smart Public services integration: ₹ 4000 crores
 - Eco-friendly Waste management: ₹ 2000 crores

- (iii) Mature phase (2035 - 2040) - ₹ 18000 crores
 - Upgradation of Public infrastructure: ₹ 8000 crores
 - Sustainable water system: ₹ 4000 crores
 - Urban Development of green spaces: ₹ 1000 crores
 - Public Health and education services expansion: ₹ 3000 crores
 - Smart City innovations: ₹ 2000 crores

4. Government initiatives

- (i) Smart cities mission: for digital infrastructure, e-governance and city surveillance, receiving approximately ₹ 3000 crores in grants.
- (ii) Bhagya Laxmi scheme: to promote the birth of girl children in below poverty line (BPL) families and to raise the status of the girl child in the family in particular and society in general. Child gets health insurance cover up to a maximum of ₹ 25000 a year and an annual scholarship of ₹ 300 to ₹ 1000 upto tenth standard
- (iii) National solar mission: Targeting renewable energy production, funds amounting to ₹ 1000 crores will be received to develop solar farms and support sustainable energy
- (iv) Nali - Kali: Nali - Kali (joyous learning) programme for elementary schools, where children learn through playful activities will undergo a redesign after authorities realised children are not picking up the habit of writing, which seems to be affecting learning outcomes

City Layout Plan

Total Area: - 1500 Sq. km Zones: - 5 primary zones

1) Residential Zone

Population: - 1 million

Housing Density: - 1000-2000 people per sq. km

2) Commercial and Business zone

Area: - 225 km (square).

Businesses: - IT parks, R&D centers, co-working spaces

Target industries: - IT services, manufacturing, eco-friendly prod production

3) Education and Health care zone

Area: - 45 square kms

Education: - Schools, universities and research centers

Healthcare: - 3 multi-specialty hospitals, 10 clinics

4) Industrial zone

Area: - 300 square kms

Focus: - Renewable energy, electric vehicles

5) Recreation and cultural zone

Area: - 50 square kms

Facilities: - Museums, Monuments and Folk centres

5. Revenue Models:

- i. Property taxes and development fees: ₹7000 crores annually (based on high-income real estate projects).
- ii> Tourism Revenue: ₹1,000 crores annually (cultural tourism focused on temples and eco-parks).
- iii> Commercial leasing: ₹ 3,500 crores annually (leasing to tech companies in CBD and IT parks).
- iv> Public Transport and utility services: ₹1500 crores annually.
- v> Export of surplus Renewable Energy: ₹1,200 crore annually (solar and wind farms).

6. Sustainability and Smart elements:

- i> Renewable energy: 70% of city's energy needs will be met through solar and wind power.
- ii> Green Buildings: All buildings will be designed and constructed with green building materials and energy efficient systems.
- iii> Green spaces: The city will have a significant amount of green spaces to improve air quality and biodiversity.
- iv> Smart transportation: Integrated Public transportation system, smart traffic management, and cycling infrastructure.

- vii) Smart waste management: Waste segregation, recycling and composting facilities.
- viii) Smart governance: E-governance services, citizen engagement platforms, and data-driven decision making.
- ix) Efficient Public transport: Prioritizing electric buses and metros, reducing congestion and pollution.
- x) Digital Infrastructure: City-wide WiFi, e-governance apps, digital ID integration, and smart surveillance.
- xi) Data-driven Management: Sensors for pollution control, real-time traffic management, and waste collection systems. Central command center for monitoring city services.
- xii) Women self help center: Using technology to provide women support for jobs, safety, health and education, helping them become more independent and secure.
- xiii) Polo view high street: Shopping and leisure destination offering a mix of retail outlets, dining options, and cultural experiences in a lively, pedestrian-friendly environment.

8) Innovation and small initiatives:

i) Phool (Flower) Waste Management:

Waste processed: 6.5 - 7 tons of floral waste per day.

post-production : 4 tons/day used for landscaping, agriculture.

As Gundlupete taluk is also known as "The Flower pot of India" this project focuses on recycling floral waste, primarily, into eco-friendly products like incense sticks, bio-leather and compost, promoting sustainability and reducing environmental pollution.

i> Bird Sanctuary:

Area: 50 hectares.

Species protected: 200 bird species

Annual visitors: 3,00,000

iii> Smart waste management and collection:

- waste trucks: 100 smart trucks with GPS tracking.
- waste bins: 5,000 smart bins with sensors for real-time collection.
- waste segregation: Target 90% of all household waste by 2030.

iv> Solid waste management (door-to-door collection):

- waste collected daily: 850 tons/day.
- coverage: 100% of households.
- Recycling centers: 10 major centers.

v> Water treatment plants:

Capacity: 500 million liters/day.

Coverage: 100% water recycling and treatment for the city.

Storm water reuse: 20% of treated water reused

vii) Rainwater Harvesting and wastewater recycling:

- Rainwater harvesting units: 100,000 residential and commercial buildings.
- Annual water savings: 5 billion liters.
- Capacity: 300 million liters / day of water recycling.
- Reused for irrigation: 70% in parks and landscaping.

viii) No Engine zone.

- This zone can be used by bicyclists, pedestrians and cart owners (horse, bullock cart etc.)
- Area: 20 kms
- Improves Air quality, and reduces noise pollution.

ix) Solar Power Usage:

50,000 rooftop solar panel's lowering the energy level (billions).

- 20 Traffic signals reducing dependence on electricity (pedestrian control signals).
- 40 Solar pumps which can be used for agricultural irrigation reduces the need for fuel powered water pumps.

'D' Division

- Chinmayi K. B : 412
- Ananya B. P : 406
- Ria Javalagi : 408
- Sanjana R. Shetti : 407

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D' Division
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 - Ananya B. P
 - Ria J
 - Sanjana R
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