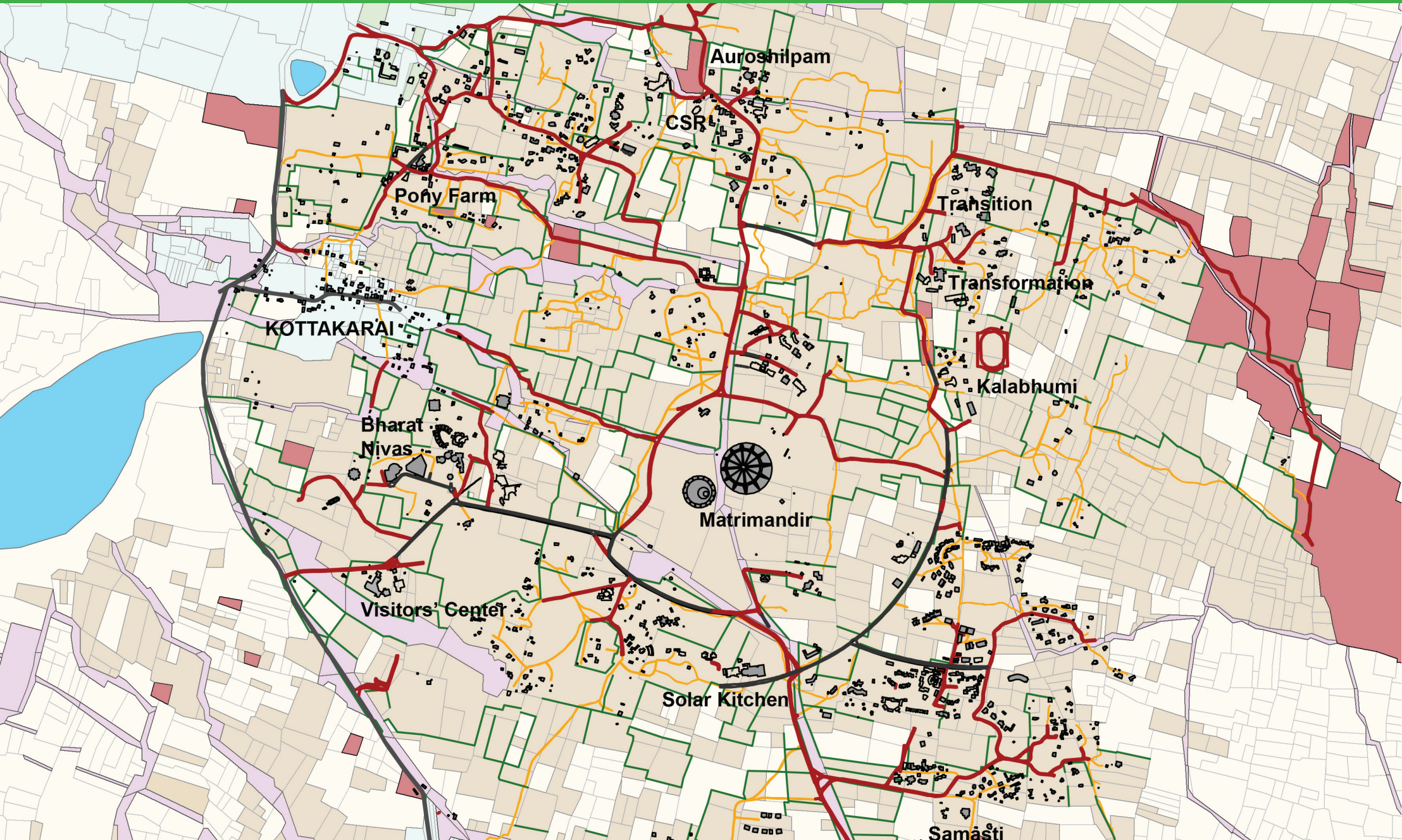


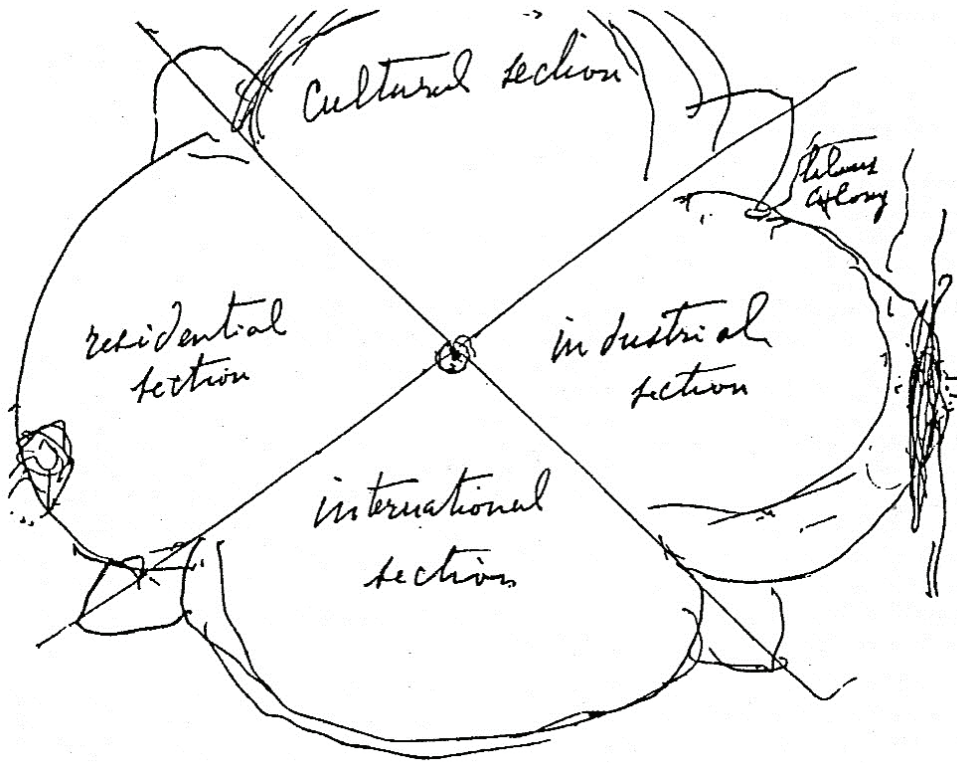
# Auroville city area - Land Suitability and Land Use Proposal

## April -May 2014



# PREFACE





Hand drawn sketch of the Mother of her city as a four petal flower - 1965

## INTRODUCTION TO THE CONCEPT OF 'AUROVILLE'

The 'Mother' in June 1965\* described in detail her idea for the city of Auroville, a sketch of the conceptual layout of the city was made by her (figure above) to accompany this verbal narrative.

For the full text please refer to-1965, June 23rd: Excerpt from a conversation with Satprem:  
Taped conversation- Original language: French- Sources: Mother's Agenda, pp. 139-147; MoA, p. 57, CWM, XIII, p. 257, AMW, p. 37

*Auroville wants to be a universal town where men and women of all countries are able to live in peace and progressive harmony, above all creeds, all politics and all nationalities.*

*The purpose of Auroville is to realise human unity.*

*8-9-65.*

Auroville wants to be a universal town where men and women of all countries are able to live in peace and progressive harmony. Above all creeds, all politics and all nationalities.

The purpose of Auroville is to realise human unity.

## Charter of Auroville

1. Auroville belongs to nobody in particular. Auroville belongs to humanity as a whole. But to live in Auroville, one must be a willing servitor of the Divine Consciousness.
2. Auroville will be the place of an unending education, of constant progress, and a youth that never ages.
3. Auroville wants to be the bridge between the past and the future. Taking advantage of all discoveries from without and from within, Auroville will boldly spring towards future realisations.
4. Auroville will be a site of material and spiritual researches for a living embodiment of an actual Human Unity.







## AUROVILLE LOCATION AND CONTEXT

Auroville International Township is located 12 km north of Puducherry and 160 km south of Chennai, in the Villupuram district, Tamil Nadu. The geographical centre of the city is 54 metres above mean sea level.

The climate is tropical, hot humid with two monsoons a year: the south-west monsoon from June – August and the north-east monsoon from October – December. The average number of rainy days/year varies from 50-70 days, with an average temperature range of 18° C to 42° C. The relative humidity varies from 50-80%, with average wind speeds of 3-5 m/sec. The area is prone to cyclonic storms with wind speeds of up to 55-60 m/sec. The predominant wind directions are the sea breeze from the east in the afternoon and evenings, and the land breeze from the west from midnight to midday.

The soil varies between the coastal watershed with ferrallitic soil with high percolation capacity and the inland watershed with clayey soils. All water requirements in this area are either met from groundwater (wells ranging from 20–300 m depth) or surface water collection ponds for washing, cattle and irrigation. In Auroville, the population is completely dependent on groundwater for all its potable and non-potable needs.

The local population in the five villages that are within, or in the proximity of the township area, are composed of several communities including Naidus, Idayars, Vanniars, Paraiyas and Minavars (refer to Dr. Vishwa's report, 10th May 1968). In the last 46 years, since Auroville's inception, these communities have shifted from subsistence/rainfed agriculture to cash crops, small-scale enterprises that serve the growing tourist market and employment within Auroville in the manufacturing/service/domestic sectors. The politics of the area tend to be segmented on community/caste levels, with loyalty towards one of the three state-level political parties linked with local party bases. The predominant crops grown in the area as per the progress report published on 1st Nov. 1968 were millets, peanuts and perennial grasses for cattle. Today there is a marked shift to cash crops as direct food needs are met from the market.

## AUROVILLE NOW....

Auroville was inaugurated on 28th Feb. 1968, and presently (Jan. 2014) there is a resident population of 2,500+ persons from approximately 45+ countries of the world with 20-22% under the age of 18. The land ownership is about 3,400+ acres with 2/3 within the township limits, including the green belt, and 1/3 held in fragmented parcels along the coast and inland.

From a barren plateau in 1968, one of the most successful projects implemented by Auroville is the surface water management to control erosion of soil and recharge the aquifer, and the planting of forests to improve soil fertility. Other areas of innovation and change initiated by Auroville are in the fields of appropriate building technologies (earth construction), renewable energy (solar/wind/biomass) and sustainable practices in natural resource and waste management.

As post-socialist India aspires to reach double digit economic growth, Auroville is impacted by land speculation from a growing upper middle class with disposable incomes, who are attracted by the quality of its natural environment. The growth rate of the tourism and manufacturing sectors in Puducherry has been one of the highest in the country. The energy demand in the region outstrips the capacity; the exploitation of the groundwater resources is unmonitored in spite of the saline intrusion in and around the coastline. The commercial strip development along both the East Coast Road and State Highway 66, with suburban developments north and south of Puducherry on agricultural lands with poor sanitation and waste disposal, is clogging the natural flow channels, silting up the surface water holding tanks and/or polluting them with toxins that seep into the groundwater sources.

The rural population in the area aspires to benefit from the development boom, but the opportunities to fulfil these aspirations are not equitable, leading to social tensions, sporadic violence and vulnerability to political exploitation causing power struggles between the elected and traditional leadership. The district and state initiated development programmes are not embedded in a regional plan with integrated developmental priorities. The panchayat and block level programmes are impacted and influenced by political lobbies and special interest groups.

Auroville is impacted by these conflicts and is vulnerable to collateral damage from the growing factionalism within the resident population in Auroville of local extraction, where impartiality is severely compromised. The socio-political situation that has developed in the last decade clearly indicates a need for an immediate strategy to secure the land in the city area, and a simultaneous drive to arrive at a consensus on the developmental methodology and priorities to ensure the long-term sustainability of the project. Establishing a policy of environmentally sensitive land use for Auroville and the region is imperative to overcome two main challenges: saline water intrusion and food security due to the loss of agricultural lands to development. The failure of either could prevent the development of Auroville into a township with a resident population of 50,000.





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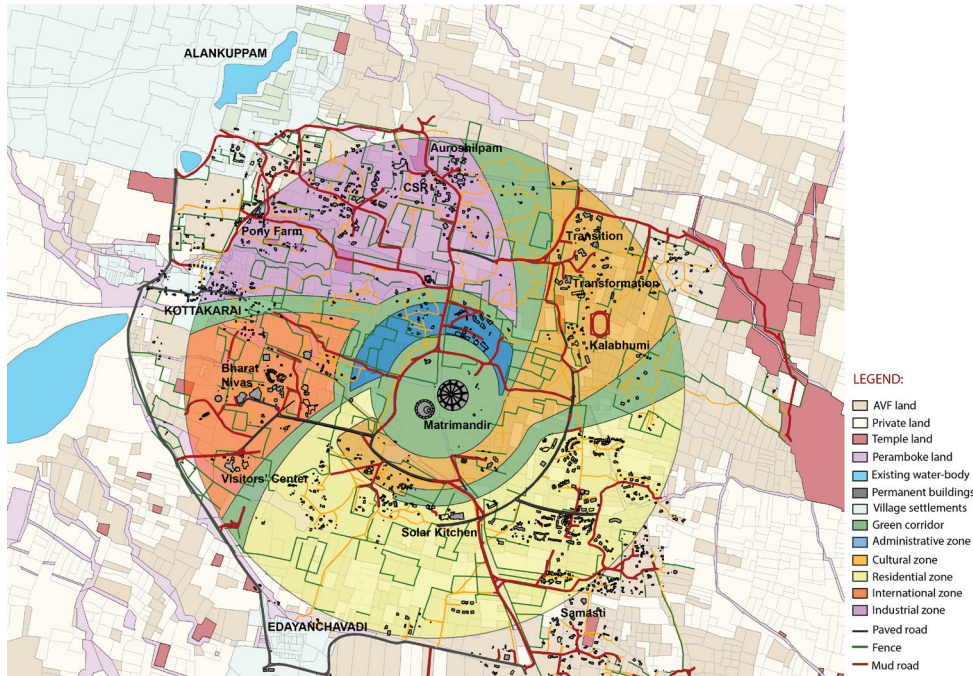
THE GALAXY MODEL AS PREPARED AND PRESENTED IN 1967 - 68

Between 1965 and 1967, the chief architect of the project of Auroville, Roger Anger, sequentially produced four concepts for the city that the Mother has envisioned; nebula, rectilinear, macro structures modelled on the 'Yin-Yang', and finally, what is known as 'the galaxy' among the resident population.

A model of this concept was presented to the Mother for her blessings. The galaxy proposal was built into a model that was to scale in terms of the horizontal plane or x-axis, but in order to create a visual/tactile experience, the built volumes were exaggerated on the y-axis; tweaked to 3-4 times the actual scale, providing a visual appeal that a real-scale model could not have captured. This animation, with visual enhancement, uses cultural-spiritual-mental imprinting to connect through association, in the minds of most people, the celestial imagery of the skies, stars and galaxies with vastness and movement, communicating a sense of the 'future' and 'spiritual' at the same time. Thus, this model as a concept for the city was a success in visual branding and promotion.

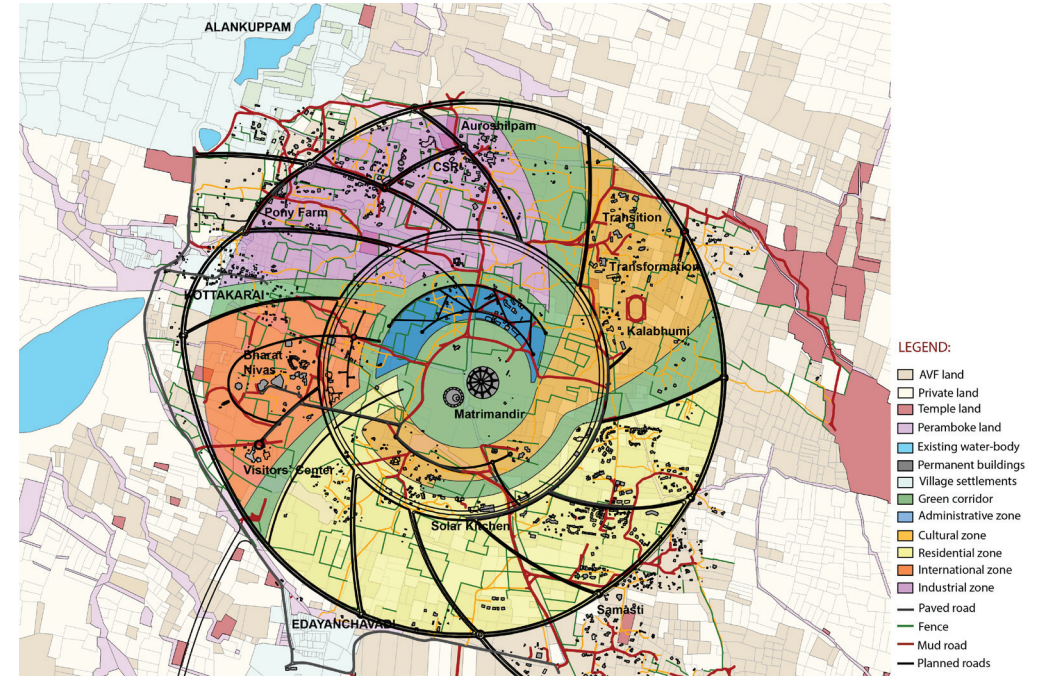
After the inception of the project in Feb. 1968, there were several attempts to derive a working master plan from the galaxy concept that would allow for the incremental development of the city as the population and activities grew. However, due to a combination of factors like lack of secure capital; inability to consolidate the land for the township; slow growth rate of the resident population; change in the world view of what embodies the essence of the 'future' from visually exciting to environmentally responsible; and finally, the change in the socio-political situation of India from socialism to a free market democracy, has changed the background scenario.





**Figure - Macro Zoning as per the Master Plan 2025**

In the years 1999-2000, Auroville produced a master plan document to invite the Government of India to recognize the project's uniqueness and value, 'Auroville Universal Township – master plan 2025'. This was presented to the Ministry of Urban Development. The land use plan proposed in this document as a table ('Auroville Universal Township – master plan 2025'; p. 17) and the proposed land use of the township ('Auroville Universal Township – master plan 2025'; DRG 6) follows the four zones as shown in the figure above, and the proposed road layout as shown in the figure to the right.



**Figure - Schematic Roads layout as per Master Plan 2025**

As such, there is no debate on the delineation of the zones, but the zoning, as indicated in these two maps, is on the macro level. Twelve years after the publication of these two maps in the master plan 2025, with the innovations in mapping and geophysical data analysis, it is time to undertake a more detailed land suitability analysis, and work towards more detailed land use specifications within each zone. The next chapters are a step towards this exercise.

## Chapter 2 - Auroville City Area; existing land morphology and land use

### Existing development and land use

After the inauguration of the project on 28th Feb. 1968, the development of the city did not commence as the land had not been acquired yet; access was via a couple of village paths criss-crossing the proposed city area, which connected the inland villages to the coastal villages. The development of the project was essentially confined to a mixed zoned settlement area near the coast, called the 'Auromodel' with housing for the pioneers, and schools and working areas. In the early 1970s 'Bharat Nivas – Pavilion of India Culture' was started, requiring a rotation of the city by 50+° anticlockwise to accommodate the project, while the Matrimandir was started in Feb. 1971. This rotation moved the location of the zones vis-à-vis the interrelation to the local geography by bringing the Industrial Zone inland, away from the coastal watershed. It also required rethinking the linkages to the local mobility network. From 1970-1985, the development was limited to isolated clusters of houses due to slow growth rate, poor land access and infrastructure, and no capital funding for public amenities. Hence, the impact of this rotation of the city plan was never evaluated in terms of linkages to the region from the proposed city.

From 1986-2000 the city developed in a piecemeal fashion, with some small-scale housing projects, the development of primary and middle schools, remodelling of the Bharat Nivas for cultural activities and a few public projects like the Visitors Centre and Solar Kitchen. The siting of most of the projects was done based on availability of land and access to it, costing and access to basic infrastructure like water and energy, coupled with funding potential. Most of the projects during this period proceeded incrementally. The population growth rate (<3%) did not allow for the structured development of public amenities to be cost effective.

From 2001-2013 there is a drive to establish the city. The first step was preparation of the master plan 2025 to help to initiate a dialogue with the local and state governments with the support of the central government.

The annual flow of plan grant funding was secured for infrastructure, focusing mainly on roads, water and energy systems. As a continuation of the same drive, mapping of the existing lands and development within the city perimeter was taken up. Most of these developments are clumped in isolated pockets.

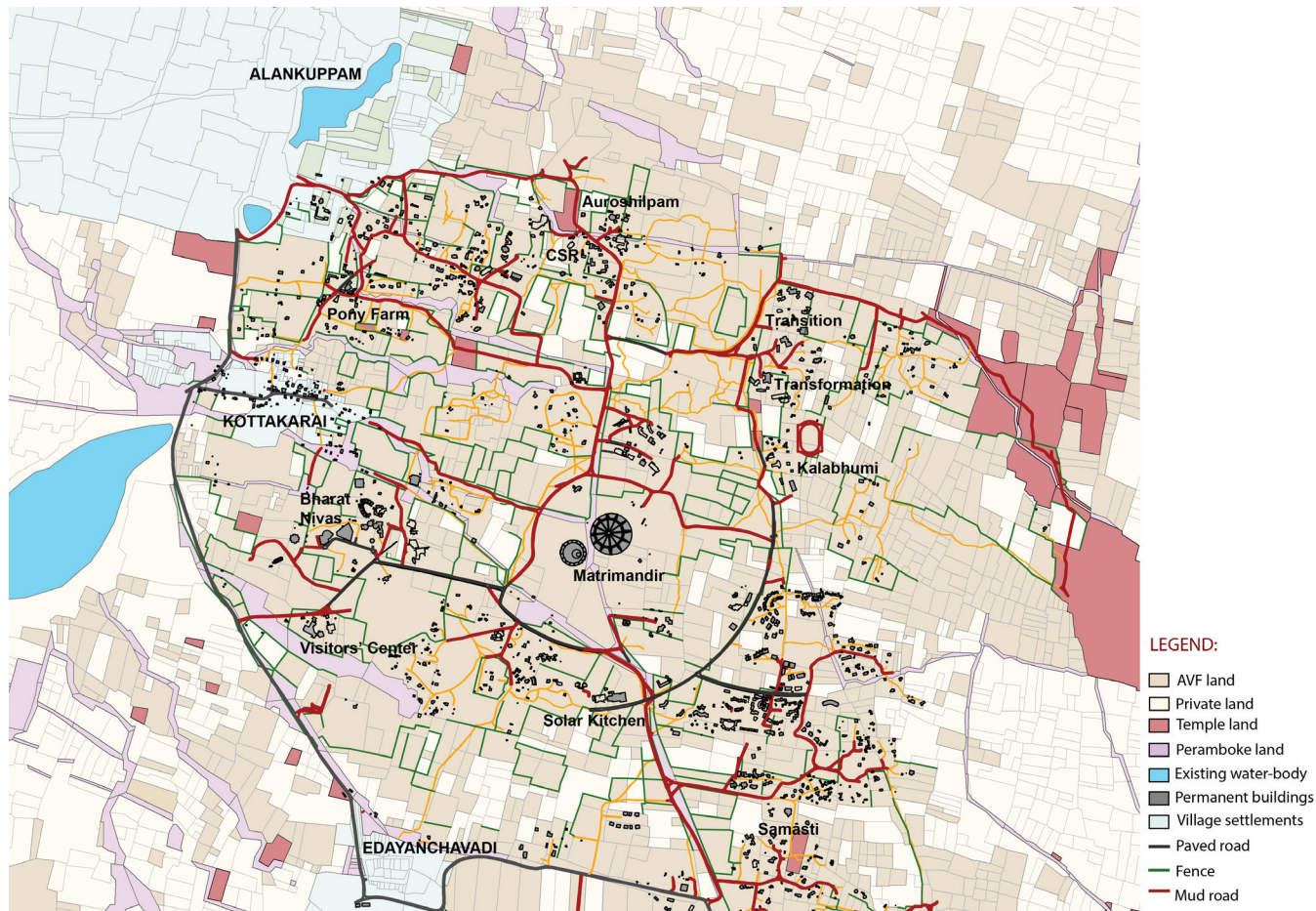
Mixed zoning in the Industrial Zone combines small-scale manufacturing, service and knowledge sector units interspersed with houses, farms and forested areas with a mobility network that has linkages via a pre-Auroville network of roads within and around the proposed city. In the Cultural Zone, there is a similar situation with the development of primary/middle and high school campuses with clusters of residential settlements, many of which predate the development of the schools. Extensive afforestation programmes have been implemented on pockets of land in and around this zone.

The Residential Zone, especially sectors 1 & 2, were largely undeveloped, except for settlements like Grace and two peripheral settlements bordering the edge of the city, namely Sharanga and Certitude. Most of the housing settlements have been developed in the last 20 years, again in a piecemeal manner due to the same background reasons described earlier.

The International Zone has the Visitors Centre that channels visitors daily, in numbers that exceed the resident population, and there are scattered buildings being developed that are to be the national pavilions, with financial support through the Auroville International members who work to secure an anchor in the zone for their country of origin.

The challenge of working on a consolidated urban plan for Auroville that would permit the development of a coherent urban structure, allowing for phased growth, while integrating the present land use whenever and wherever possible, would be the most effective way forward to maximize the human and monetary capital already invested. Moreover, the differential development rate of Auroville, compared to the local villages and the creeping urbanization from Puducherry, is such that without securing the lands, development would be counterproductive because it would overload the carrying capacity of the resident population.

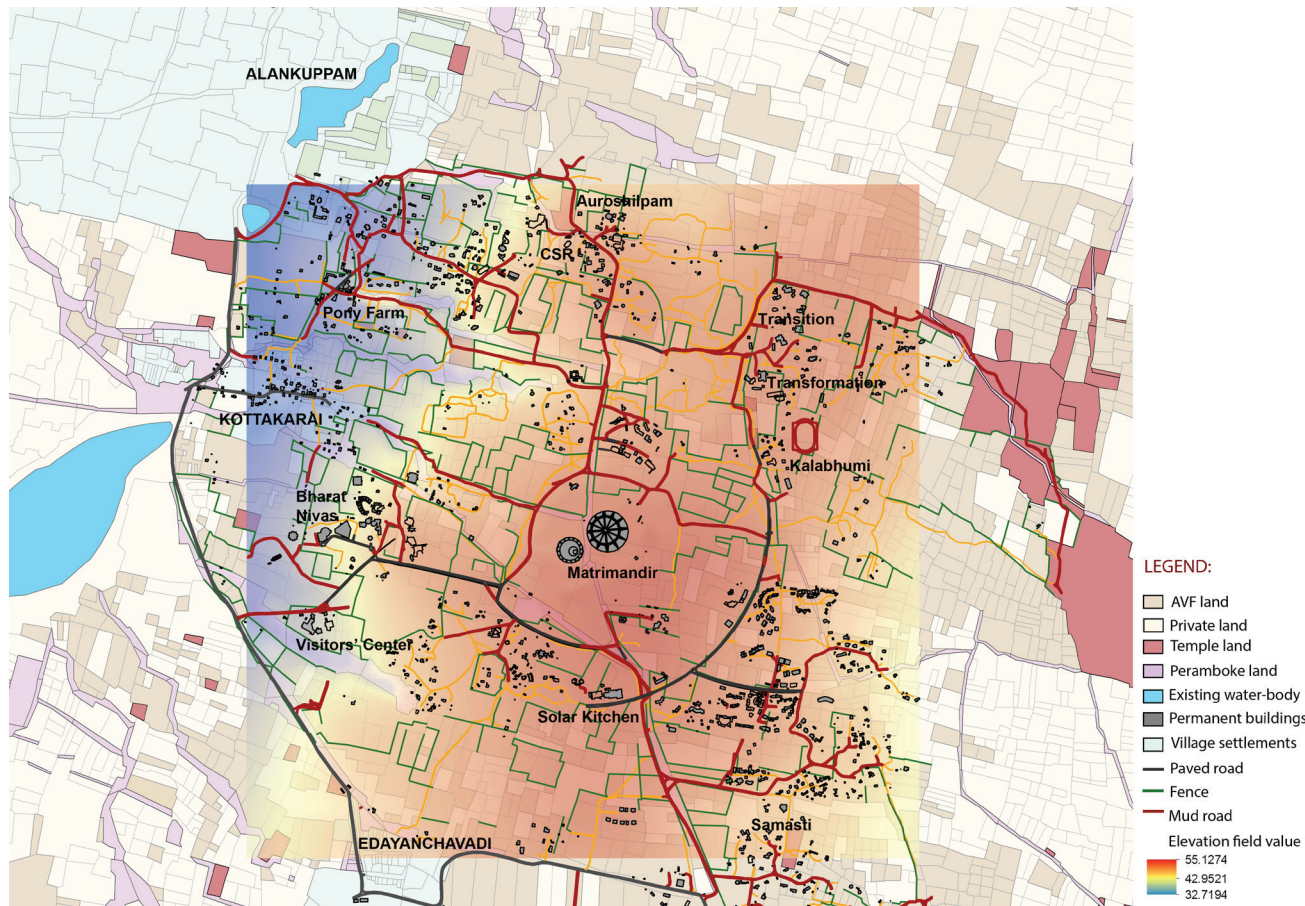




The spiritual mandate of the project invites voluntary participation to become a resident member, exercising a conscious choice to strive towards realizing the Auroville Charter.

This precondition excludes developing and implementing strategies to increase the resident population using the ‘conventional’ engines of growth to match a projected growth rate, combined with the lesson learned from the spate of new cities that were developed during the pre-2008 economic meltdown.

Moreover, the investment (natural and financial) over the last 45 years in the present land use with surface water management, plantations, development of infrastructure, settlements, public facilities and more, is valuable as a base for many of the innovative activities that have national and international recognition, besides being the basis of survival for the present population. Hence, integration and intensification of existing development would be the most effective way to manage a change from scattered semi-rural settlements to an urban project.



## 2.2. Elevations, Watersheds, Surface water management and bio-swales

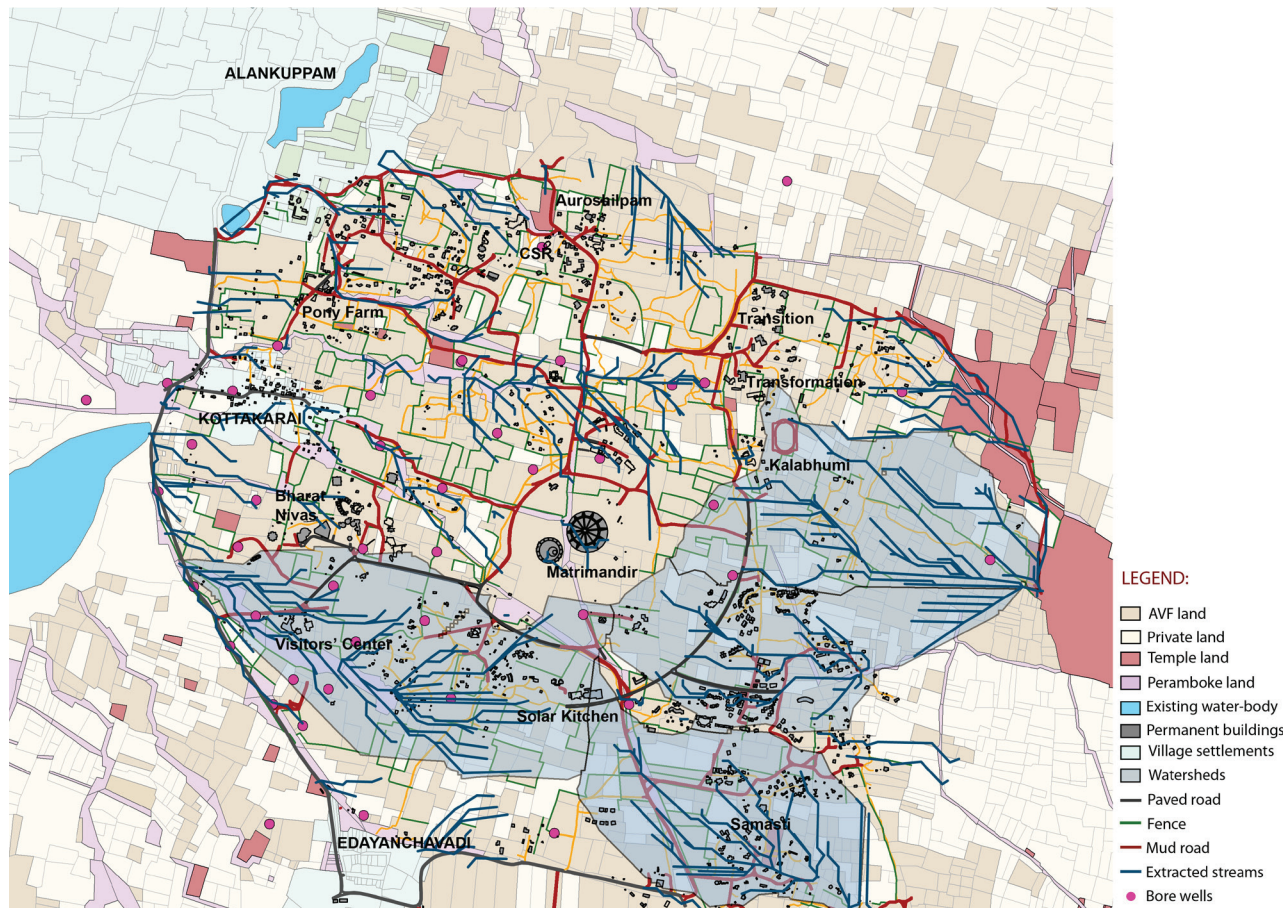
### 2.2.1. Elevations

The centre of Auroville is located on a plateau that is 50 metres above mean sea level, on remnants of the Eastern Ghats that run from West Bengal to Coastal Tamil Nadu, running parallel to the coast of the Bay of Bengal. The Eastern Ghats are older than the Western Ghats, and they have a complex geological history related to the assembly and break-up of the ancient supercontinent of Rodinia and the assembly of the Gondwana supercontinent.

The Eastern Ghats are made up of charnockites, granite gneiss, khondalites, metamorphic gneisses and quartzite rock formations. The structure of the Eastern Ghats includes thrusts and strike-slip faults along its range. Limestone, bauxite and iron ore are also found in the Eastern Ghats hill ranges. These geological formations not only impact the watershed of the Auroville area but also the underground aquifers, along with soil composition and percolation capacity.

The condition of the local environment when Auroville was inaugurated demonstrates the vulnerability of this plateau to rapid top soil erosion, resulting in loss of capacity to hold soil moisture and loss of biodiversity due to the denudation caused. Therefore, judicious management of the watershed is crucial to the growth of an urban centre. The long-term sustainability of the project is dependent on surface water management with bunding, swales, shelter belt plantation and waterbodies in the city area, in coordination with a regional plan to secure the groundwater sources from saline infiltration caused by over-exploitation, pollution and leakages. Auroville has two types of watershed with the coastal sheet flow being more undisturbed due to most of the traditional settlements being coastal, while the inland watershed is gully flow with settlements like Irumbai/Kottakarai/Ediyanchavadi at the bottom of the watershed.





### 2.2.2. Extracted Streams and Watersheds

The stream network, as shown in the corresponding map (see above), was derived using hydrological modelling tools in ArcGIS, from the Auroville topographical survey of 2001. The extrapolated contour interval from that survey was 25 cm.

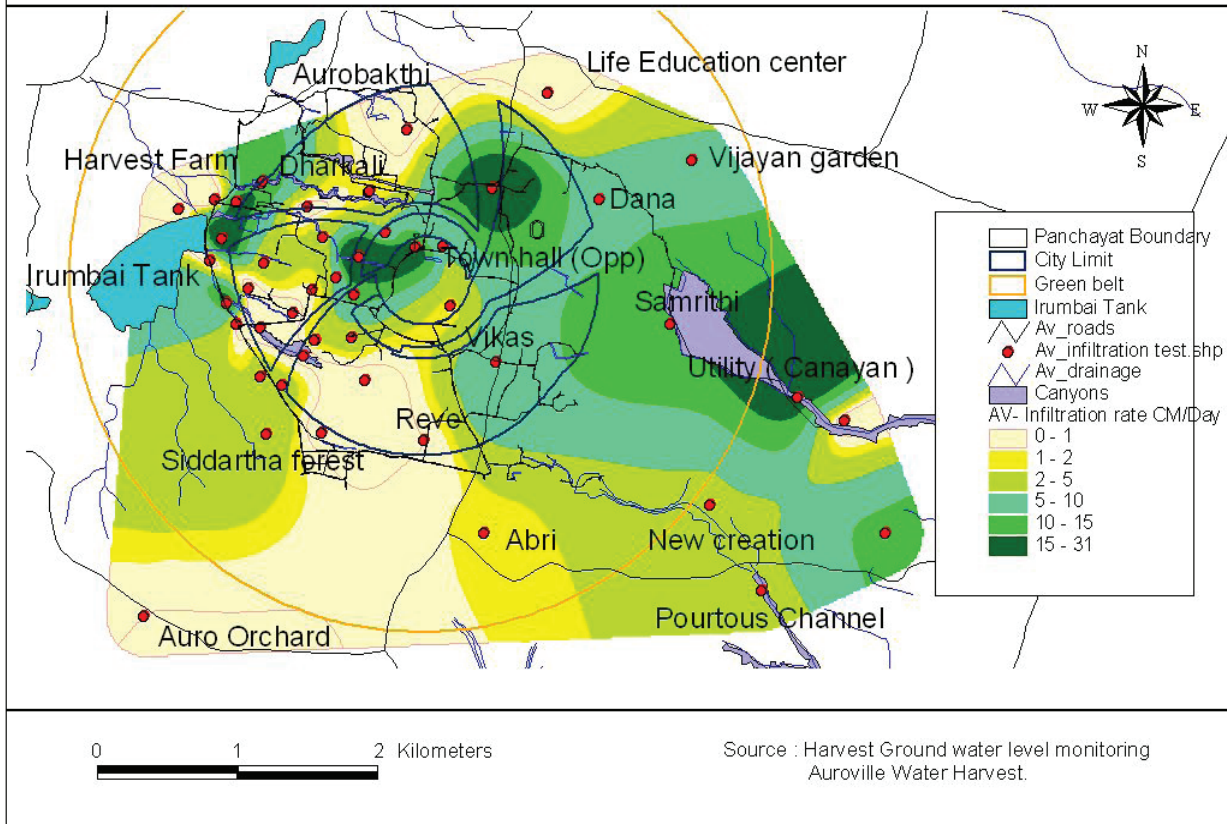
The watershed polygons were also extrapolated from the Auroville topographical survey of 2001, using hydrological modelling tools in ArcGIS. The precise polygons for the watersheds were extrapolated by using 'pour-points' as follows:

- a) For Residential Zone (north-east and east) – the pour-point was Utility canyon and Sukhavati canyon
- b) For Residential Zone (south-east) – the pour-point was Pitchandikulam pond
- c) For Residential Zone (west) – the pour-point was Aurodam outlet

These watershed boundaries indicate that all the water falling inside these polygons is going to collect and flow out of the 'pour-point' of that watershed. The streams imply that this is where the water flow concentration is going to be, flowing out of the 'pour-point' from that particular watershed polygon.

The land use plan should ensure that the water flow from all parts of the watershed polygon to the 'pour-point' is not obstructed, or it will result in water logging and, in the worst cases, flooding. Ideally, these streams should be buffered with native vegetation on both sides to slow down the flow, which will in turn avoid soil erosion and improve groundwater recharge. The buffer distance shall depend on the watershed size and quantity of flow. The streams could also be used to identify the locations of water retention ponds and to create green corridors, which could be used for passive, low-impact recreational activities.

## INFILTRATION TEST IN AUROVILLE IN JUNE - 2005



The value of this map is great in regard to land use, pollution risk and determining the proper location of buildings and infrastructure. A high infiltration rate may be a cause of concern for pollution transfer from the surface to the soil or to the aquifer. Suitable protection and design parameters could be necessary in such cases. Of course, a high water table with a high infiltration rate at the surface will be of greater concern, but it is known that the transfer of pollutants from the surface, even to rather deep aquifers, is an important risk factor in tropical conditions.

On the other hand, high infiltration rates may advocate for recharge structures, which then will help to address run-off control and stormwater control through on-site techniques.

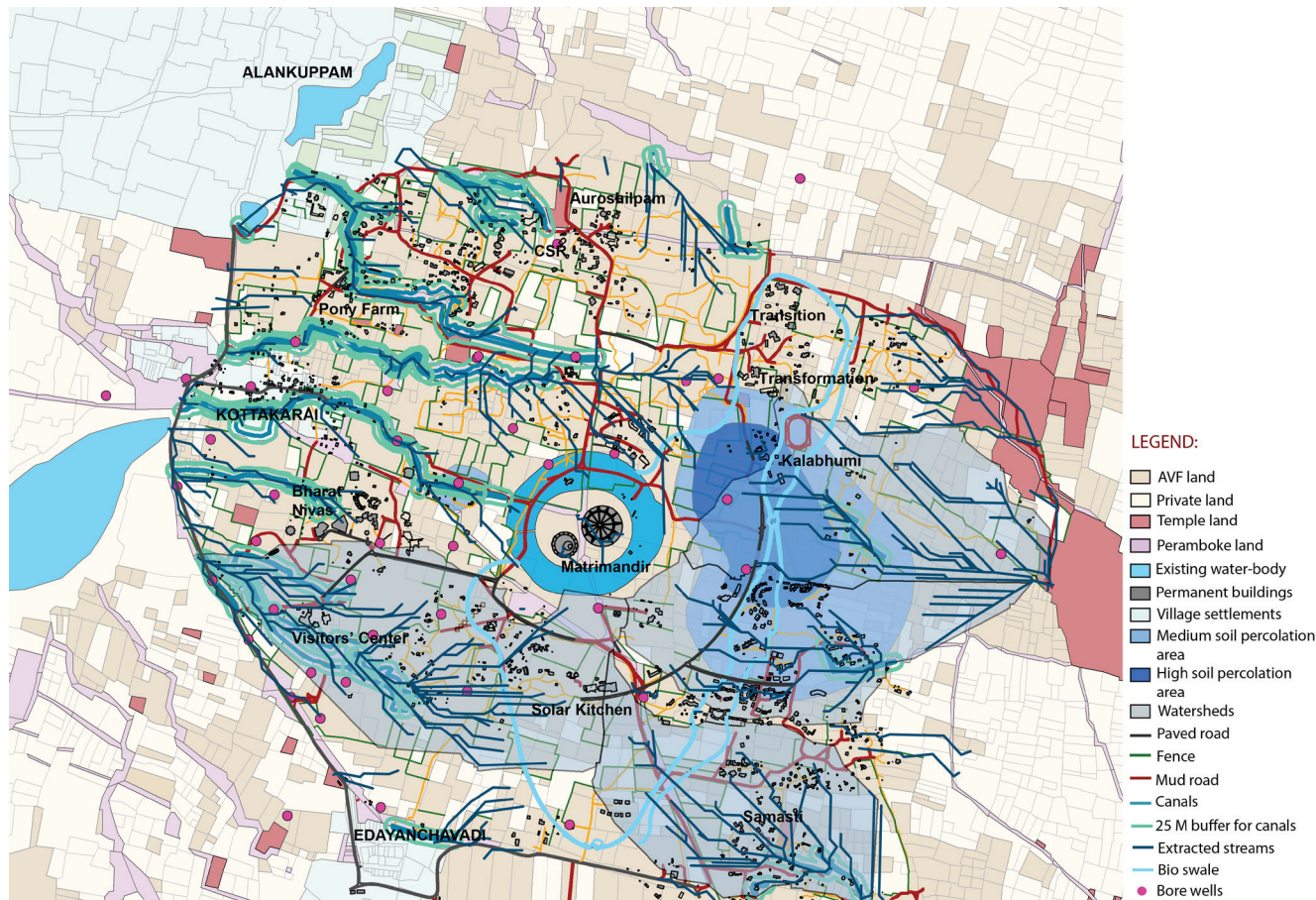
This should then be seen in regard to the context: does it make sense to recharge the aquifer systematically, or is it better to collect the run-off water? Accordingly, the location of buildings, parks, roads, etc. could be decided, and an impact assessment conducted.

In the context of Auroville, as long as the aquifer is protected, a high infiltration rate will naturally lead to integration of recharge structures, as can be seen in Vikas residential settlement in sector 2 of the Residential Zone.

### 2.2.3. Soil Infiltration rate

Infiltration is determined by using the appropriate tools and methodology. A double ring infiltrometer has been used in this case, by which the infiltration is measured by filling the rings with water. Once this equipment has been properly set up, the height of water entering into the soil needs to be checked at regular intervals. This exercise is continued until the value becomes constant or null. A curve is generated out of the results, and the stabilized rate of infiltration can be calculated. By repeating this test at various locations and integrating the values for each measured point, one can generate a thematic map by using GIS interpolation techniques.





An overlay of the extracted streams, watersheds and high percolation areas would provide the information for:

1- Open space planning, along with an urban landscaping plan for surface water management and environmental restoration.

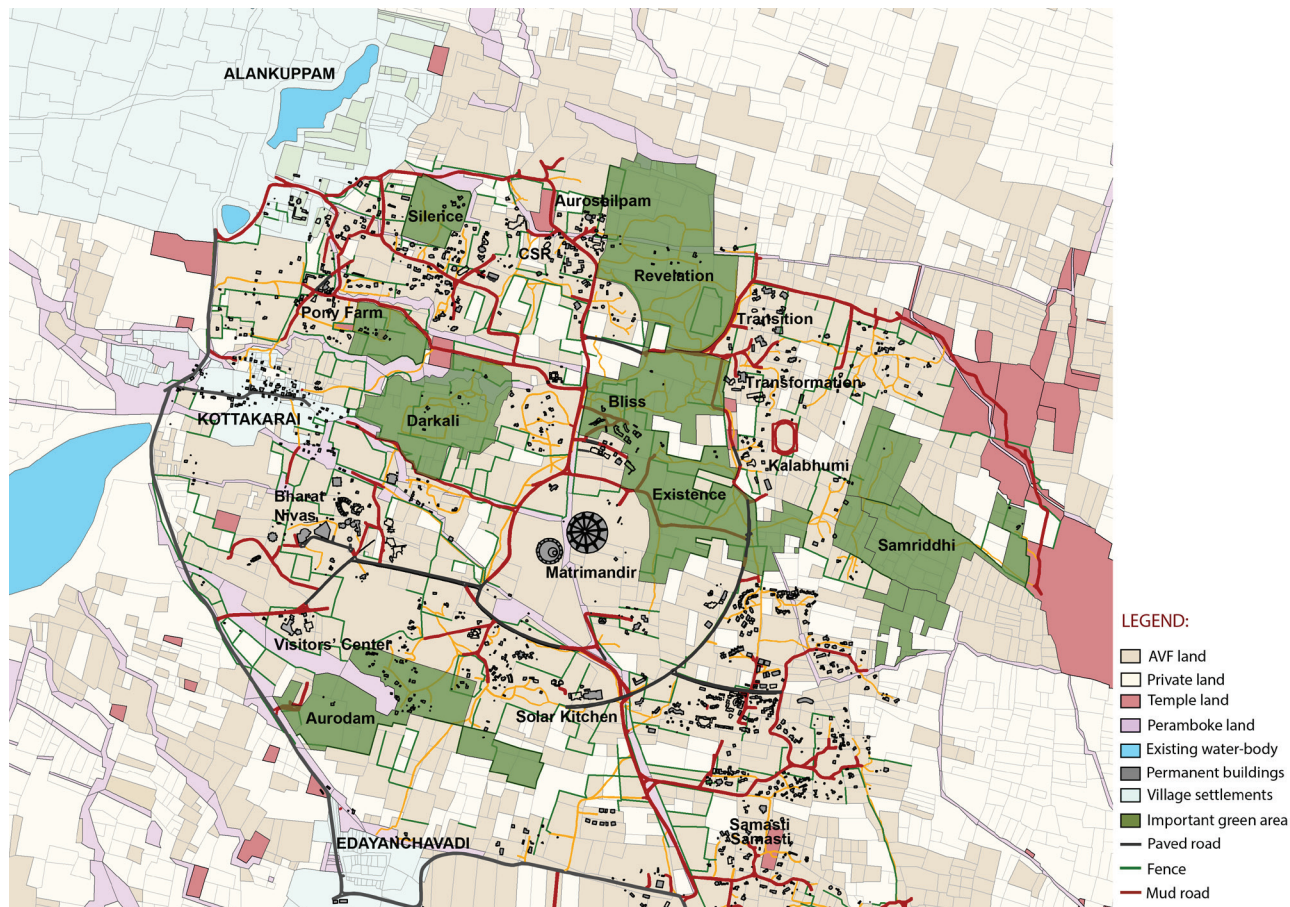
2- Land use as per suitability, including zoning for intermediate zones between built-up and non-built-up areas to ensure the least intrusive urban development with balanced use of resources and a quality of life that is in keeping with a project that aims for spiritual development.

3- Density of population, type of activities and mobility pattern required to move people, goods and services without damaging the environment or the quality of life of the resident population.

4- Macro level surface water management for storage, infiltration and recharge of the aquifer, coupled with a decentralized, user responsive urban waste management strategy.

But with increasing density, the pollution risk becomes more important, and because of the interdependency with the bioregion, the exploited aquifer, starting with the water table, is collapsing, with a serious risk of turning saline in the near future. Systematically recharging the aquifer on the scale of Auroville cannot counteract the ongoing degradation, as is proven now. Hence, it is better to collect the run-off and store it for further usage, along with infiltration measures.

A high infiltration area will potentially have less run-off than a low one, but this will depend on the density pattern since a built-up area will generate the same run-off, regardless of the nature of the soil below.



#### 2.2.4. Forested and / or important green areas within the city

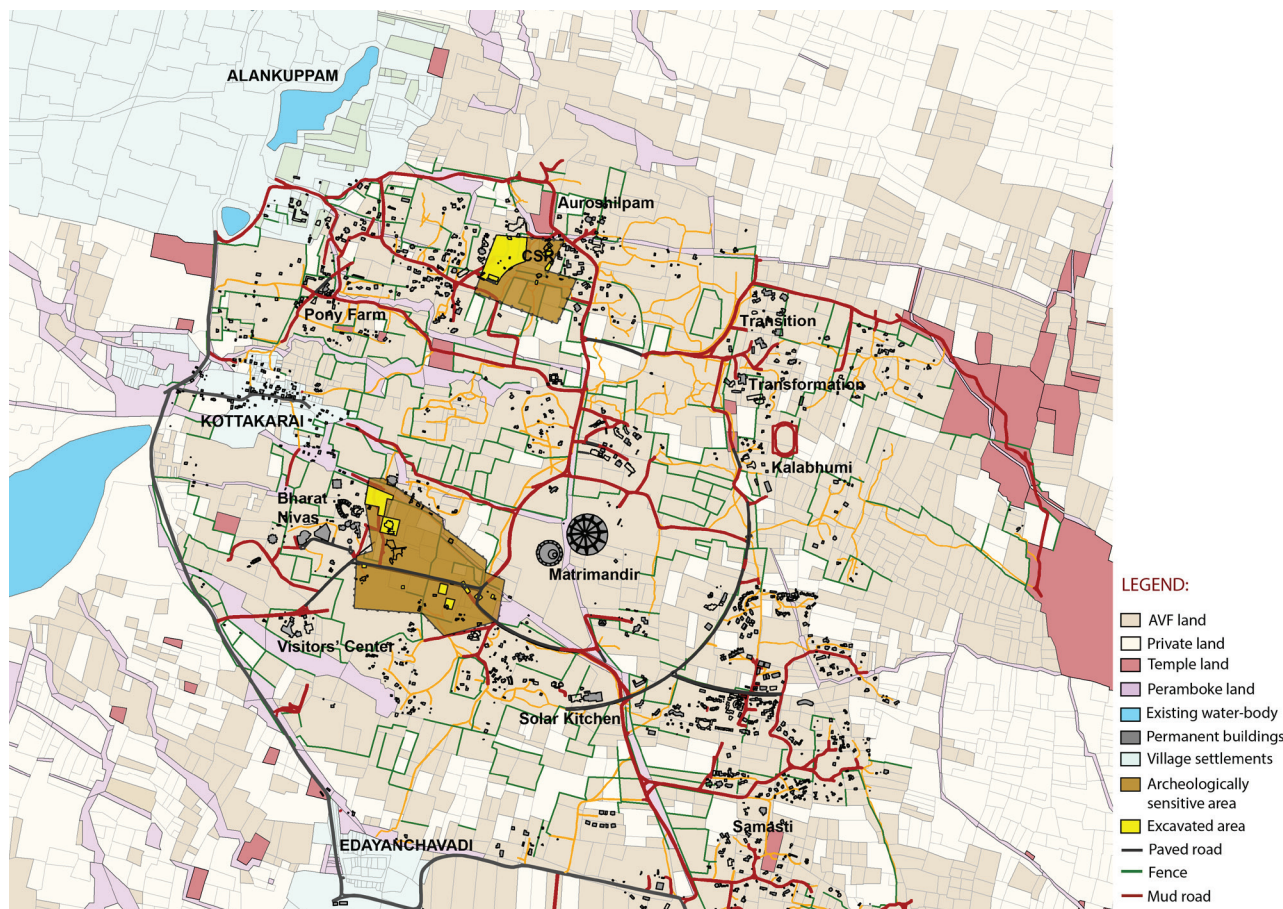
One of the first major collective activities that Auroville undertook after the project was inaugurated was the afforestation on the plateau. This was an effort to conserve the soil, prevent run-off and provide shade to allow the people to settle. What started as an anthropocentric need, has had a far-reaching impact regionally and locally in the last 45 years. The extensive afforestation in the township area has reduced the floods along the main drainage channel that drains to the west and south of Puducherry, decreased siltation in the local ponds on the inland side, and minimized the creeping growth of the canyons, while bringing change in the microclimate of the local area. The species diversity of the afforestation has changed from a preference for exotic plants in the 1970s and '80s to the systematic planting of indigenous species.

Seed collection from the local area, especially the sacred groves, establishment of nurseries, seed exchange programmes and monitoring of diversity has allowed the re-establishment of soil moisture and fertility, and the resultant microorganisms that generate top soil. Birds, pollinators, insects and small mammals have been returning to the area.

Within the city, there are pockets of afforested areas, planted and managed by the land stewards who are part of the forest group and green group. The location, extent and boundary conditions have developed based on land availability, the capacity (human + capital) of the land steward and the temporal situation when the programme was started. Many of these afforested areas are three to four decades old, allowing self-seeding, and storied forests are starting to emerge. Sensitive and judicious integration of these areas in the urban plan would require minimum intrusion of development, especially roads, and the creation of a shelter zone around them that will only have non-invasive land use. For example, in the forests and canyon of Aurodam, the urban plan and design should preserve and enhance this geophysical feature by integrating it within the high density residential development, like Central Park in New York City.

Any development that would physically isolate or visually exclude the green areas within the city should not be permissible by legislating appropriate land use, allowing this resource to be equitably accessible to present and future residents of Auroville.





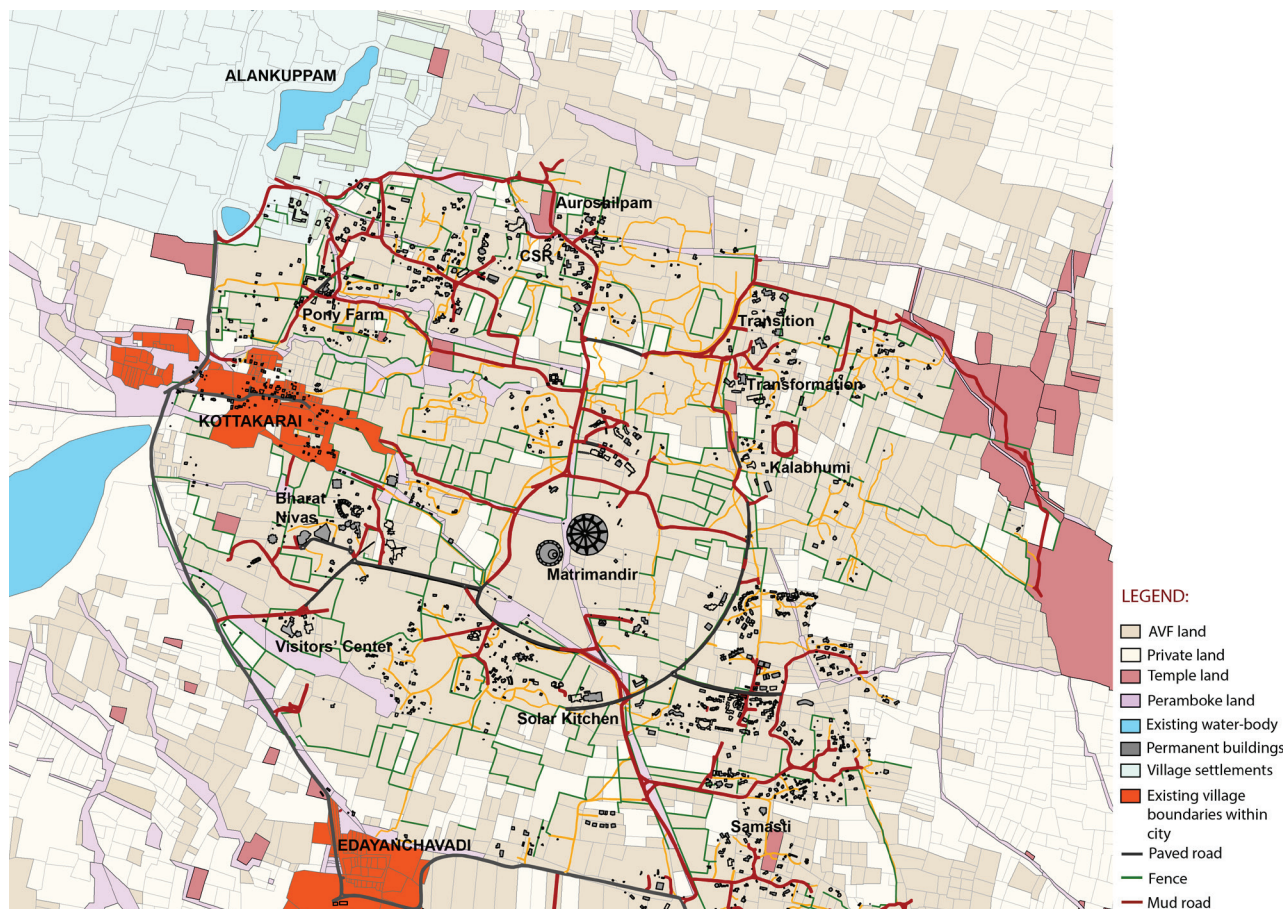
### 2.2.5. Archaeologically sensitive area within the city

Along with integration of the geophysical features that have been covered in the previous section, there are other important, existing man-made features that should be integrated, preserved and enhanced. From the mid-1980s, while digging for tree planting, foundations for structures and infrastructure laying, people have been unearthing evidence of settlements of archaeological importance. Mapping these points and correlating them has given us the rough extent of archaeological sites. These have also been indicated in the master plan document 2025. Two historical periods have been identified from the 25 rescue excavations carried out to date by the AMA (Archaeological Museum of Auroville) over the last 35 years.

In the International Zone, around Bharat Nivas and towards the Matrimandir, a massive burial ground of the megalithic period dating from 500 BCE - 500 CE has been identified. Among the artefacts found, there are exceptional ritual bronze and iron objects, semi-precious stones and glass beads, huge terracotta urns and pottery of all sizes and shapes. The second period dates from the Chola dynasty, 1000 CE (Raja Raja, Chola period), and relics have been discovered around the Shradhanjali and CSR area in the Industrial Zone. This is a settlement area with coins, pottery and some Roman-style bricks.

In principle, once the excavations have been carried out and documented, most of these places could be available for any landscaping and/or building activity. However, there are some sites that would need to be preserved; i.e. the proposed site of an in situ archaeological museum as part of the Tamil heritage centre, where the 'king's burials' have been found.

Wherever possible, the cairn circles should be included in the urban plan as public landscape features with appropriate signage. The excavations and findings thereof provide an excellent opportunity for learning, exchange programmes, educational and research activities for Auroville and village schools, as well as universities offering history and archaeology in their curriculum.



### 2.2.6. Villages adjacent and within the city

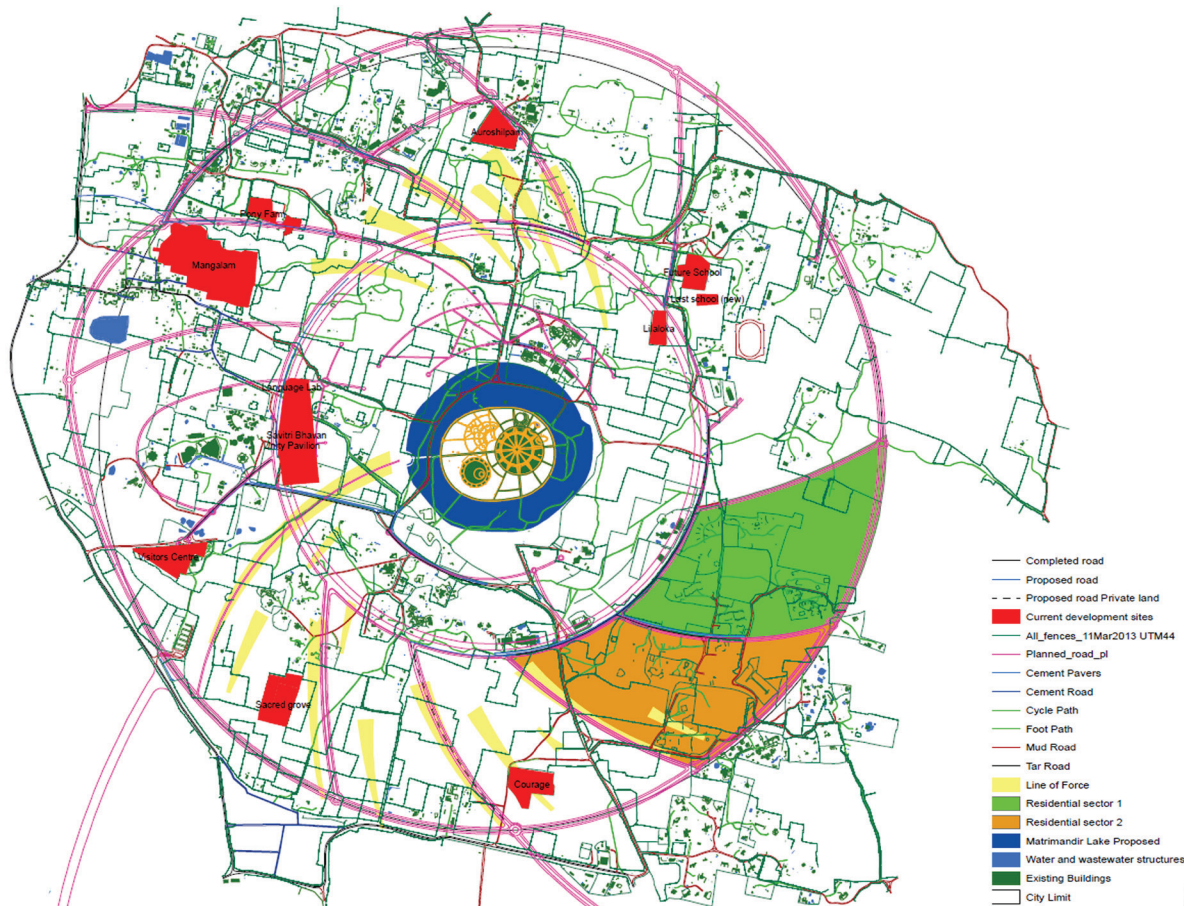
There are three villages (Ediyanchavadi, Kottakarai/Bharatipuram & Allankuppam) that lie within and overlapping the limits of the Auroville city area. These villages predate the project. The villages of Ediyanchavadi and Kottakarai/Bharatipuram fall within the Vanur block of Villupuram district in the state of Tamil Nadu, while the village of Allankuppam is part of the union territory of Puducherry. Comparative figures show that the decadal population growth in Villupuram district has jumped from 7.43% from 1991-2001 to 16.99% from 2001-11, which is a considerable increase. The village of Ediyanchavadi has a population of 2,760 persons with a settlement area of 52 acres (14.5 person/acre) and the village of Kottakarai/Bharatipuram has 1,400 persons on an area of 62.5 acres (2.24 persons/acre). The Puducherry village of Allankuppam has about 2,000 persons on 14.3 acres (139 persons/acre).

The villages within Tamil Nadu have had a lower density due to the nature of the geographic location compared to the village in Puducherry, but this is changing in Ediyanchavadi, which falls in the periphery of the high density sector of the Residential Zone, situated on the crossroads of a panchayat road that links the coastal highway to the inland highway. In the manner of the villages that are within the metropolitan area of New Delhi, this village could evolve from providing unskilled labour, to basic services, to becoming a high-end commercial zone as Auroville develops and attracts more visitors and tourists. The village of Kottakarai is situated on the cusp between the International and Industrial Zones, and has less commercial value today, but when the Industrial Zone develops, it will be able to piggyback on this to create small commercial services to serve the zone. While Bharatipuram, which is mainly developed on peramboke land, may not be able to grow beyond the peramboke boundaries, it would benefit the most in the long run from the development of Auroville. This settlement is well within the city area and is strategically placed due to a planned road (International Zone periphery radial) that cuts through it, bringing visitors along with economic and social opportunities. Moreover, as a squatter settlement on government lands, the development within the village will be an outcome of opportunity (siting), influence (social) and coercion (economic and political), making it difficult to have a long-term collaborative land use policy.

Allankuppam village is located in the state of Puducherry, and this could offer Auroville lands within its geographical boundaries unique economic opportunities. It borders the Industrial Zone of Auroville, which allows both entities to have a mutually beneficial relationship.







Another outcome of this model of development is dispersion of the amenities, activities and population leading to over-dependence on individualized motorized vehicles.

### **PROJECT IN THE PIPE LINE 2013-18 Institutional / educational / social / Industrial project**

1. Unity pavilion
2. Savitri Bhavan
3. Bharat Nivas
4. Visitors Centre
5. Pavilions of some countries
6. Mangalam
7. Auroshilpam
8. Kottakarai plaza
9. Health Clinic
10. Food distribution Center
11. Future / last / after schools and allied campus development

The last driver in the development programme is financially supported by the government of India. The TDC undertakes two types of activities with this grant-in-aid: funding studies in planning and infrastructure development like roads/water/energy/waste management/infrastructure, and cost-effective housing projects. The Sri Aurobindo International Institute of Educational Research (SAIIR) uses its grant in aid funding towards development of education-related projects like schools, studios and sports. While the Bharat Nivas Trust, as the Indian Pavilion, has direct funding for its activities, along with some grants for capital investment in buildings to house cultural/educational activities. A combination of low growth rate and fragmented development drivers, coupled with the imperative to invest in iconic architecture within the paradigm of zoning as interpreted by lobby groups, has led to case-by-case decision making by the planning bodies.

### **Housing projects as named below comprising mostly of Apartment type of Habitats**

1. Invocation
2. Kalpana
3. Sanjana
4. Maitreye
5. Green Casbah
6. Swayam
7. Sacred Groves



## Chapter 3 - Suitability Analysis and Proposed Land Use

### What would the purpose of a land use plan be?

1. To have a public policy encompassing various disciplines which seek to order and regulate land use in an efficient and ethical way, thus preventing land use conflict.
2. Manage the development of land within its jurisdiction.
3. Plan for the needs of the community while safeguarding natural resources.
4. Provide the base information to prepare the urban planning guidelines, including transportation networks, to guide and ensure the orderly development of settlements and communities.

What are the operating principles for this proposed land use plan for Auroville?

### Land resources and ecosystem services

1. Incorporate ecosystem services outputs for long-term sustainability of the project Geophysical features

- Surface water management- prevent sedimentation and pollution of waterbodies
  - Groundwater resources – conservation and prevention of pollution
  - Urban surface water harvesting systems with bio-swales and ponds
  - Avoid land use and development that will cause perturbation in ecosystem services
  - Conservation of productive areas and soil nutrients
- Biodiversity
- Identify and protect areas with remarkable trees and contiguous vegetation, especially existing forests and edge ecosystems
  - Protect productive soil areas with forest/farms and open spaces
  - Linking of contiguity of land use/green cover for movement of fauna

### Sustainable urban development strategies

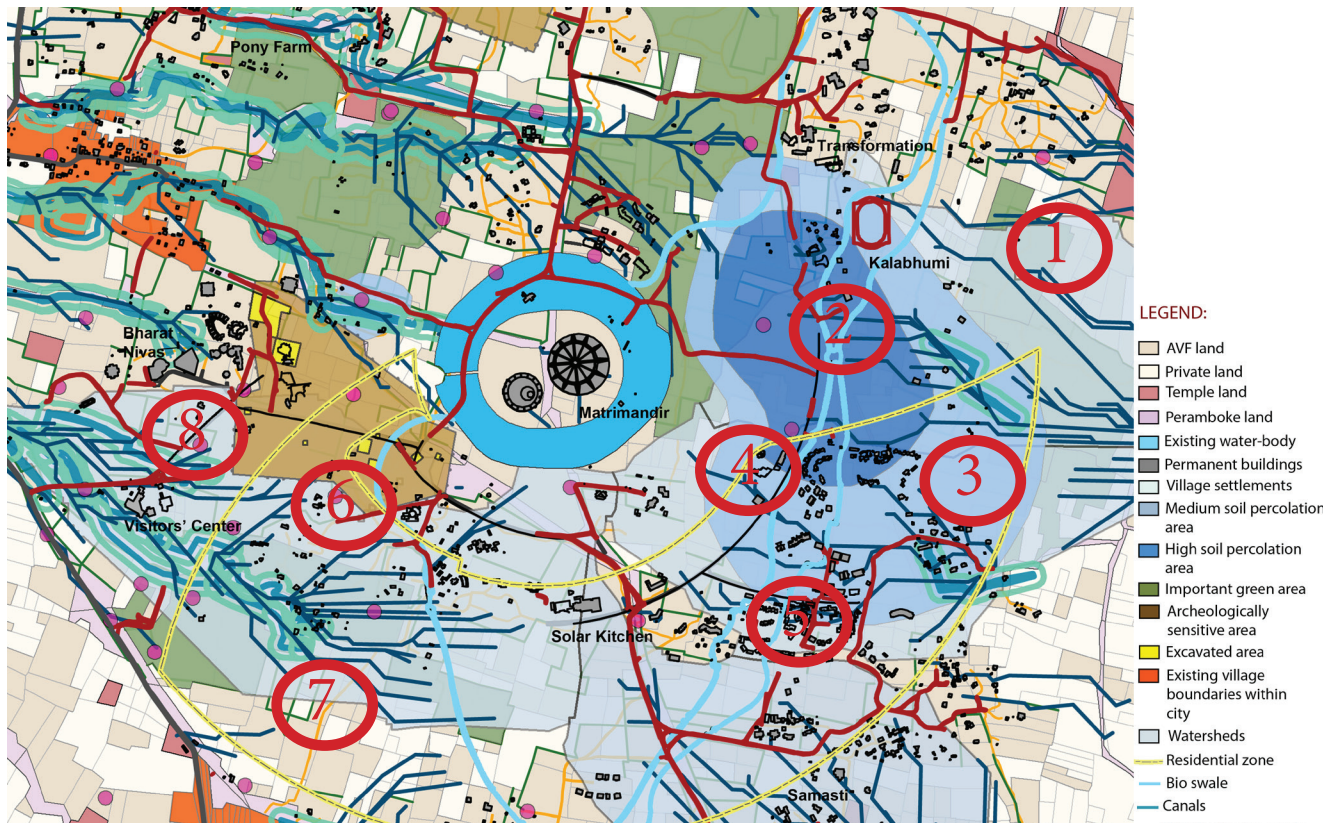
- Mobility as a function of services and densities
- Solar passive and active systems integrated into urban planning
- Activity networking with mixed zoning for optimum infrastructure development
- Cultural capacity (quality of life)
- Auroville Charter/international city dedicated to human unity, education, innovation and research
- Value existing land use by integrating existing networks and interdependency
- Provide for co-evolution with development in the region
- Socio-economic opportunity for sustainable growth

2. Informed by the proposed zones & roads (MP 2025/2001) based on the galaxy concept for the township

3. Provide for sustainable networks between –

developed and open spaces  
mobility and function  
services and densities

4. Integrate the cultural capacity (quality of life) and interdependency between Auroville and the region



## 3.2. Residential Zone

Of the 1,212 acres that constitute the city area of Auroville, the Residential Zone is about 533 acres or 44%, with 280 acres that are directly under residential development and about 253 as roads, green areas and civic amenities.

An overlay of the master plan 2025 land use and road layout on the geophysical features of the land brings out eight main issues besides several related ones (refer to the map).

**3.2.1. POINT 1** – The location and point of intersection between the radial on the periphery of sector 1 and the outer ring road is located in the forest of Samridhi – Anusuya; bringing a feeder/distributor node into this area is detrimental to the forest, besides providing an opportunistic penetration from the canyon path that links Kulapalayam village to the settlement of Sangha. Additionally, extending this outer ring road further, towards Revelation – Minati settlement, will plug into the network of the regional road development.

**3.2.2. POINT 2** – The radial between sector 1 and the Gaia park cuts off the residents from the green space, while working as a singly loaded road, thereby inviting bypass traffic from the outer ring road to the Industrial and Cultural Zones. This road is also placed over a high percolation area.

**3.2.3. POINT 3** – The location and point of intersection between the radial linking sectors 1 & 2 with the outer ring road is located on a fragile point of convergence of the extracted flow area; this road will increase erosion as it will act as a water flow collector channel. Due to the level drop from the node of the same radial at the crown to this point (+5 m drop), it is advisable to avoid extending the radial and discontinue the outer ring road as a vehicular road. The recommendation would be to shift the outer ring road in sectors 1 & 2 of the Residential Zone and make it into an internal distributor with development on both sides to mute the flow of traffic.

**3.2.4. POINT 4** – This radial needs to be buffered with a shelter belt plantation along the southern edge to manage surface and roof run-off, and it is advisable to create water catchment tanks by enhancing the natural depressions at the merging point of the extracted flows. These interventions will create unique urban landscaped spaces for the settlements in sectors 1 & 2.

**3.2.5. POINT 5** – The issues at this node are similar to the issues laid out in Point 3. With development there will be an increase in the impervious area, which will increase the surface run-off.

**3.2.6. POINT 6** – The radial between sectors 4 & 5, is wrongly placed in relation to the surface water flow, existing forests and the head of the canyon of Aurodam. This radial should be shifted or even





	area in m2	area in acres	% of the total
total area of the city	49,00,705.00	1,212.00	
total area of the residential zone	21,56,958.00	533.00	43.98%
sector areas			
Sector 1	2,39,992.96		
Sector 2	2,13,170.42		
Sector 3	2,37,682.42		
Sector 4	1,94,499.11		
Sector 5	2,49,549.47		
area available for habitat development	11,34,894.39	280.67	52.66%
green / roads / amemnites		252.33	47.34%

(refer to the map as an illustration to demonstrate an optional interpretation for the recommendations).

1- Allow the boundary between the urban areas and the green belt to integrate the natural features of the land and existing land use.

2- Reposition the radials at the edges of the Residential Zone so they become an internal distributor for sectors 1 and 5.

3- Move, truncate and/or limit the radials that are presently positioned on ecologically sensitive areas.

4- Re-evaluate the need for an outer ring road in sectors 1 & 2, and change its function from being a collector-feeder to a feeder-distributor road.

5- Accept the panchayat road as the outer ring road and work on the type of development that could be located along this road that would be mutually beneficial to the villages and Auroville, creating a co-development zone.

discontinued.

**3.2.7. POINT 7** – An outer ring road from sector 3 to 5 is superfluous given the existence of the panchayat road. Providing a private outer ring road to control the traffic and prevent penetration into the city when the gap between the two roads is no greater than a couple of metres to 15 metres is a statement of the failure of cooperative planning with the region. With this road, we are stating that Auroville is only able to exist in isolation as an experiment in human unity.

**3.2.8. POINT 8** – The radial between sector 5 and the park that buffers the International Zone is not only located over an ecologically sensitive area but also denies the residents of this urban area an opportunity to access a natural land feature that could enhance their quality of life. Furthermore, this radial, like the radial mentioned in Point 2, cuts off the development's access to the park while being singly loaded, inviting bypass traffic.

These points of conflict could be resolved without losing the overall layout of the sectors and their interrelation to the city by tweaking the following



If these adjustments are permitted, we can play out two scenarios. Scenario 1, as an extreme case, with the baseline parameters as:

- Most of the existing settlements in the Residential Zone are not inclined to accept more development unless it follows a participatory model
- Privately owned land is not for sale due to issues of ownership, sale value and/or sale to outside agencies who value the proximity to Auroville
- A population growth rate of 4% per annum (almost double the decadal growth rate)
- Lack of sufficient public capital investment in the socio-economic sector permitting individuals to finance their housing
- Accepting low-rise (walk-up buildings of ground + 3 floors with solar passive envelope design for low-impact development), low to medium density with pockets of high density

**We would be able to accommodate about 18,000 persons in the Residential Zone, along with all amenities and services from the neighbourhood level to the sector and zonal levels. With 4% growth rate we would be about 5,000 persons in 15 years, and this population could be accommodated in sectors 1 & 2 without having to negotiate the parameters outlined. (Refer to the map above and attached tables; next page.)**



		Area available for development (sq M)	FAR	Total Height from road level (M)	Ground cover in %	Ground coverage in sq M	Built up area (sq M)	populatio n@38m2 / per
Sector 1								
Park like	1	556.16	0.50	7.50	20.00	111.23	278.08	7.32
	2	2,323.98	0.50	7.50	20.00	464.80	1,161.99	30.58
	3	28,964.30	0.50	7.50	20.00	5,792.86	14,482.15	381.11
	4	829.15	0.50	7.50	20.00	165.83	414.58	10.91
	5	10,856.96	0.50	7.50	20.00	2,171.39	5,428.48	142.85
	6	4,757.04	0.50	7.50	20.00	951.41	2,378.52	62.59
		48,287.59	Total population				24,143.79	635.36
Row houses & clusters	1	8,781.51	1.00	10.00	30.00	2,634.45	8,781.51	231.09
	2	8,747.05	1.00	10.00	30.00	2,624.12	8,747.05	230.19
		17,528.56	Total population of Row houses & clusters				17,528.56	461.28
		65,816.15	Total population of sector 1				41,672.36	1,096.64
Sector 2								
Park like	7	10,312.49	0.50	7.50	20.00	2,062.50	5,156.24	135.69
	8	22,966.03	0.50	7.50	20.00	4,593.21	11,483.01	302.18
	9	8,903.36	0.50	7.50	20.00	1,780.67	4,451.68	117.15
		42,181.87	Total population				21,090.93	555.02
Row houses & clusters	3	4,264.04	1.00	10.00	30.00	1,279.21	4,264.04	112.21
	4	7,141.71	1.00	10.00	30.00	2,142.51	7,141.71	187.94
		11,405.75	Total population				11,405.75	300.15
Row houses &	1	15,148.49	1.50	11.25	40.00	6,059.40	22,722.74	597.97
		15,148.49	Total population				22,722.74	597.97
		68,736.11	Total population of sector 2				55,219.42	1,453.14
Sector 3								
Park like	10	15,637.81	0.50	7.50	20.00	3,127.56	7,818.90	205.76
	11	2,236.24	0.50	7.50	20.00	447.25	1,118.12	29.42
	12	1,097.29	0.50	7.50	20.00	219.46	548.65	14.44
	13	8,311.32	0.50	7.50	20.00	1,662.26	4,155.66	109.36
	14	15,161.03	0.50	7.50	20.00	3,032.21	7,580.51	199.49
		42,443.68	Total population				21,221.84	558.47
Row houses & clusters	5	2,137.61	1.00	10.00	30.00	641.28	2,137.61	56.25
	6	6,080.23	1.00	10.00	30.00	1,824.07	6,080.23	160.01
	7	3,106.20	1.00	10.00	30.00	931.86	3,106.20	81.74
	8	673.96	1.00	10.00	30.00	202.19	673.96	17.74
	9	15,321.89	1.00	10.00	30.00	4,596.57	15,321.89	403.21
		27,319.90	Total population				27,319.90	718.94

Row houses & appartment	2	10,984.23	1.50	11.25	40.00	4,393.69	16,476.35	433.59
	3	1,259.14	1.50	11.25	40.00	503.66	1,888.71	49.70
	4	2,519.34	1.50	11.25	40.00	1,007.74	3,779.02	99.45
	5	7,072.57	1.50	11.25	40.00	2,829.03	10,608.86	279.18
	6	531.24	1.50	11.25	40.00	212.50	796.86	20.97
	7	4,322.59	1.50	11.25	40.00	1,729.04	6,483.89	170.63
		26,689.13	Total population				40,033.70	1,053.52
Appartment	1	9,843.93	2.00	12.00	50.00	4,921.97	19,687.87	518.10
	2	7,080.32	2.00	12.00	50.00	3,540.16	14,160.65	372.65
	3	9,042.95	2.00	12.00	50.00	4,521.48	18,085.90	475.94
	4	9,586.47	2.00	12.00	50.00	4,793.23	19,172.94	504.55
		35,553.68	Total population				71,107.36	1,871.25
		1,32,006.39	Total population of sector 3				1,59,682.79	4,202.18
Sector 4								
Row houses & clusters	10	15,851.01	1.00	10.00	30.00	4,755.30	15,851.01	417.13
	11	2,085.08	1.00	10.00	30.00	625.52	2,085.08	54.87
	12	25,763.41	1.00	10.00	30.00	7,729.02	25,763.41	677.98
	13	2,015.18	1.00	10.00	30.00	604.55	2,015.18	53.03
		45,714.68	Total population				45,714.68	1,203.02
Row houses & appartment								
	8	29,961.32	1.50	11.25	40.00	11,984.53	44,941.98	1,182.68
		29,961.32	Total population				44,941.98	1,182.68
Appartment	5	35,979.02	2.00	12.00	50.00	17,989.51	71,958.04	1,893.63
		35,979.02	Total population				71,958.04	1,893.63
		1,11,655.01	Total population of sector 4				1,62,614.69	4,279.33
Sector 5								
Row houses &	9	79,911.05	1.50	11.25	40.00	31,964.42	1,19,866.58	3,154.38
		79,911.05	Total population				1,19,866.58	3,154.38
Appartment	6	27,764.58	2.00	12.00	50.00	13,882.29	55,529.17	1,461.29
	7	5,066.59	2.00	12.00	50.00	2,533.29	10,133.18	266.66
	8	12,616.03	2.00	12.00	50.00	6,308.02	25,232.07	664.00
	9	27,816.35	2.00	12.00	50.00	13,908.18	55,632.70	1,464.02
		73,263.56	Total population				1,46,527.11	3,855.98
		1,53,174.61	Total population of sector 5				2,66,393.69	7,010.36
		5,31,388.27	Total population of residential zone				6,85,582.95	18,041.66





LEGEND:

AVF land	Private land	Temple land	Peramboke land	Existing water-body	Permanent buildings	Village settlements	Park like (FAR-0.5)	Row houses & clusters (FAR-1.0)	Row houses & apartment (FAR-1.5)	Apartment (FAR-2.0)	Mixed use	Proposed water body	Proposed green area	Bio swale	Canals	25 M buffer for canals
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	Area available for development (sq M)	FAR	Total Height of Bld from road level (M)	Ground cover in %	Ground coverage in (sq M)	Built up area (sq M)	population@ 38 m2 / pers
Sector 1							
Park like	1,72,580.90	0.50	7.50	20.00	34,516.18	86,290.45	2,270.80
Row houses	67,412.08	1.00	10.00	30.00	20,223.63	67,412.08	1,774.00
	<b>2,39,992.98</b>					<b>1,53,702.53</b>	<b>4,044.80</b>
Sector 2							
Park like	1,01,592.54	0.50	7.50	20.00	20,318.51	50,796.27	1,336.74
Row houses							
Row houses & clusters	54,252.56	1.00	10.00	30.00	16,275.77	54,252.56	1,427.70
Row houses & apartment							
appartment	57,325.32	1.50	11.25	40.00	22,930.13	85,987.98	2,262.84
	<b>2,13,170.42</b>					<b>1,91,036.82</b>	<b>5,027.28</b>
Sector 3							
Park like	75,941.11	0.50	7.50	20.00	15,188.22	37,970.56	999.23
Row houses & clusters	48,194.67	1.00	10.00	30.00	14,458.48	48,194.67	1,268.28
Row houses & apartment							
appartment	60,776.50	1.50	11.25	40.00	24,310.60	91,164.75	2,399.07
Appartment	52,770.14	2.00	12.00		26,385.07	1,05,540.28	2,777.38
	<b>2,37,682.42</b>					<b>2,82,870.25</b>	<b>7,443.95</b>
Sector 4							
Row houses & clusters	99,763.46	1.00	10.00	30.00	29,929.04	99,763.46	2,625.35
Row houses & apartment							
appartment	54,769.78	1.50	11.25	40.00	21,907.91	82,154.67	2,161.96
Appartment	39,965.88	2.00	12.00	50.00	19,982.94	79,931.77	1,598.64
	<b>1,94,499.12</b>					<b>2,61,849.89</b>	<b>6,385.95</b>
Sector 5							
Row houses & apartment	1,23,317.16	1.50	11.25	40.00	49,326.86	1,84,975.73	4,867.78
Appartment	1,26,232.32	2.00	12.00	50.00	63,116.16	2,52,464.64	6,643.81
	<b>2,49,549.47</b>					<b>4,37,440.37</b>	<b>11,511.59</b>
	<b>11,34,894.42</b>					<b>13,26,899.86</b>	<b>34,413.59</b>
CROWN	69,165.00						

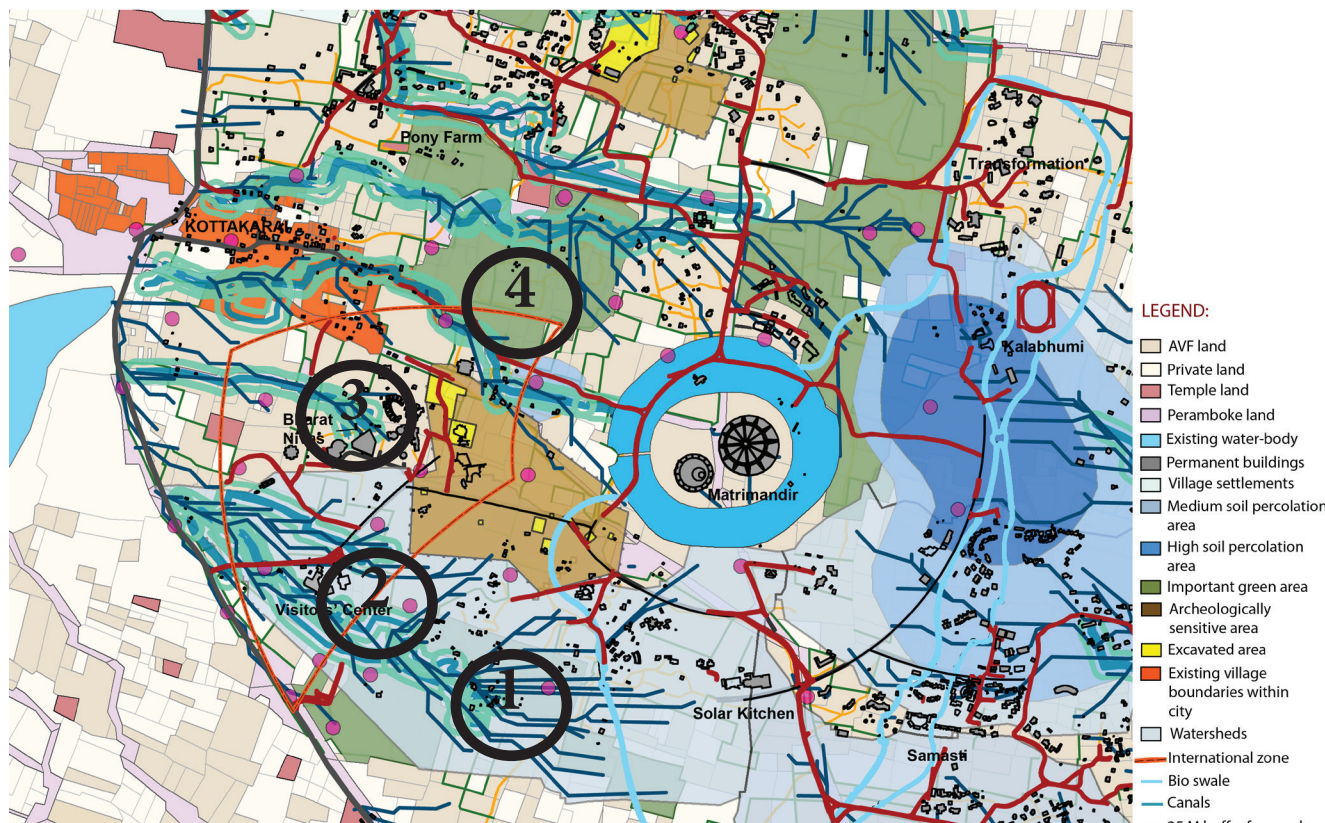
Scenario 2 as an alternative with the baseline parameters as:

- All the existing settlements in the Residential Zone are inviting more development within the settlement
- All the privately owned land has been bought before the end of 2015
- A population growth rate of 10% per annum (have faith and forget the decadal growth trend)
- Public capital is no issue and livelihood options create a socio-economic climate permitting public housing projects for free occupation by the residents as per their needs and personal situation
- Accepting low-rise (walk-up buildings of ground + 3 floors with solar passive envelope design for low-impact development) low to medium density with pockets of high density

**We would be able to accommodate about 35,000 persons in the Residential Zone, along with all amenities and services from the neighbourhood level to the sector and zonal levels. With 10% growth rate we would be about 13,000 persons (including the present population of 2,500) in 15 years and this population could be accommodated in sectors 1 to 3 within the outlined parameters. (Refer to the map and attached tables above.)**

**Both scenarios demonstrate that by tweaking the master plan 2025, the long-term environmental sustainability of the project does not contradict the potential growth in population or sabotage the habitat creation potential for 50,000 inhabitants, which is referred to as the ideal number indicated by the Mother.**





### 3.3 International Zone

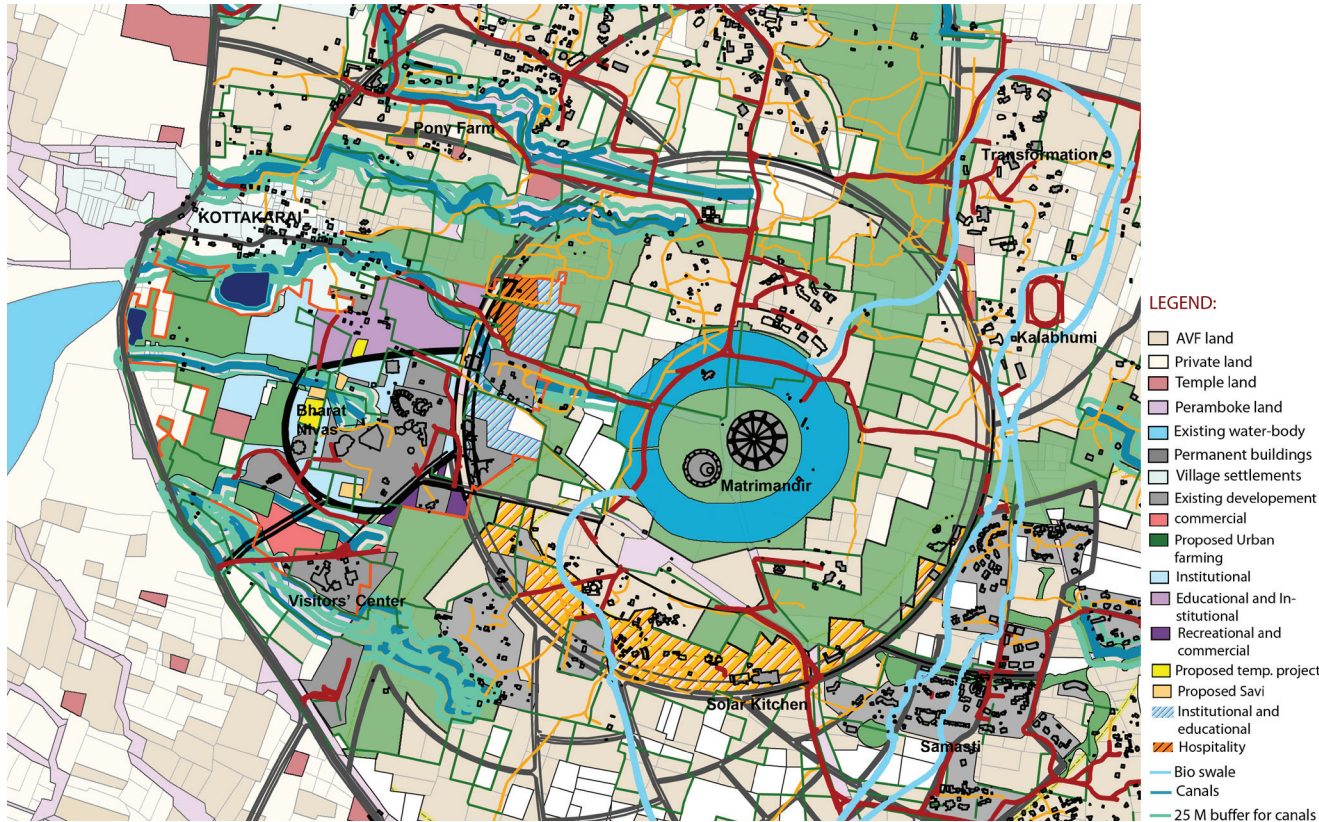
Of the 1,212 acres that constitute the city area of Auroville, the International Zone is about 150 acres or 12.3%, with 37.15 acres already settled, along with 4.25 acres that are in seasonal waterbodies as they are low-lying. An overlay of the master plan 2025 land use and road layout on the geophysical features of the land brings out four main issues besides several related ones (refer to the map).

**3.3.1. POINT 1** – The radial in sector 5 is supposed to have a link at this point over the canyon to provide the main entry point for the International Zone. Not only would this be detrimental to the green buffer that segregates the two zones, but it would require extensive barriers to prevent spillover of the external tourist/service traffic into the Residential Zone and the green area. Instead, this canyon and the green buffer should be integrated as a restricted access green area to increase the water holding capacity of the soil here.

**3.3.2. POINT 2** – This is the present vehicular link to the panchayat road with two cremation sites and a burial plot near the point of intersection. This point is also a low-lying area with water flowing to Irumbai tank. It is 950 m from Kottakarai and 800 m from Ediyanchavadi on the panchayat road, with an established right of use preventing any conflict with both the villages in terms of spillover of commercial development benefits.

**3.3.3. POINT 3** – The land along the periphery of the International Zone, including the lands between the master plan 2025 outer ring road and the panchayat road, is low-lying with a high water table. This area is ideal for food growing, water harvesting with ponds, and for access to potable water when saline intrusion occurs towards the eastern side of the city. As mentioned in 3.2.7. POINT 7 of the Residential Zone suitability analysis, creating a ring road parallel to the existing panchayat road is not desirable.

**3.3.4. POINT 4** – This is the edge of the International Zone with a radial marking it. The issue here is the existence of the village of Bharatipuram, populated by people squatting on peramboke lands without ownership documents. This radial will invite further squatting, even by people who have access to land ownership, for opportunistic reasons of commerce to serve the International and Industrial Zones, hope of compensatory resettlement by Auroville and access to the business opportunities provided by the tourists and employees of Auroville.



These points of conflict could be resolved without losing the overall layout of the sectors and their interrelation to the city by tweaking the following (refer to the map as an illustration to demonstrate an optional interpretation for the recommendations).

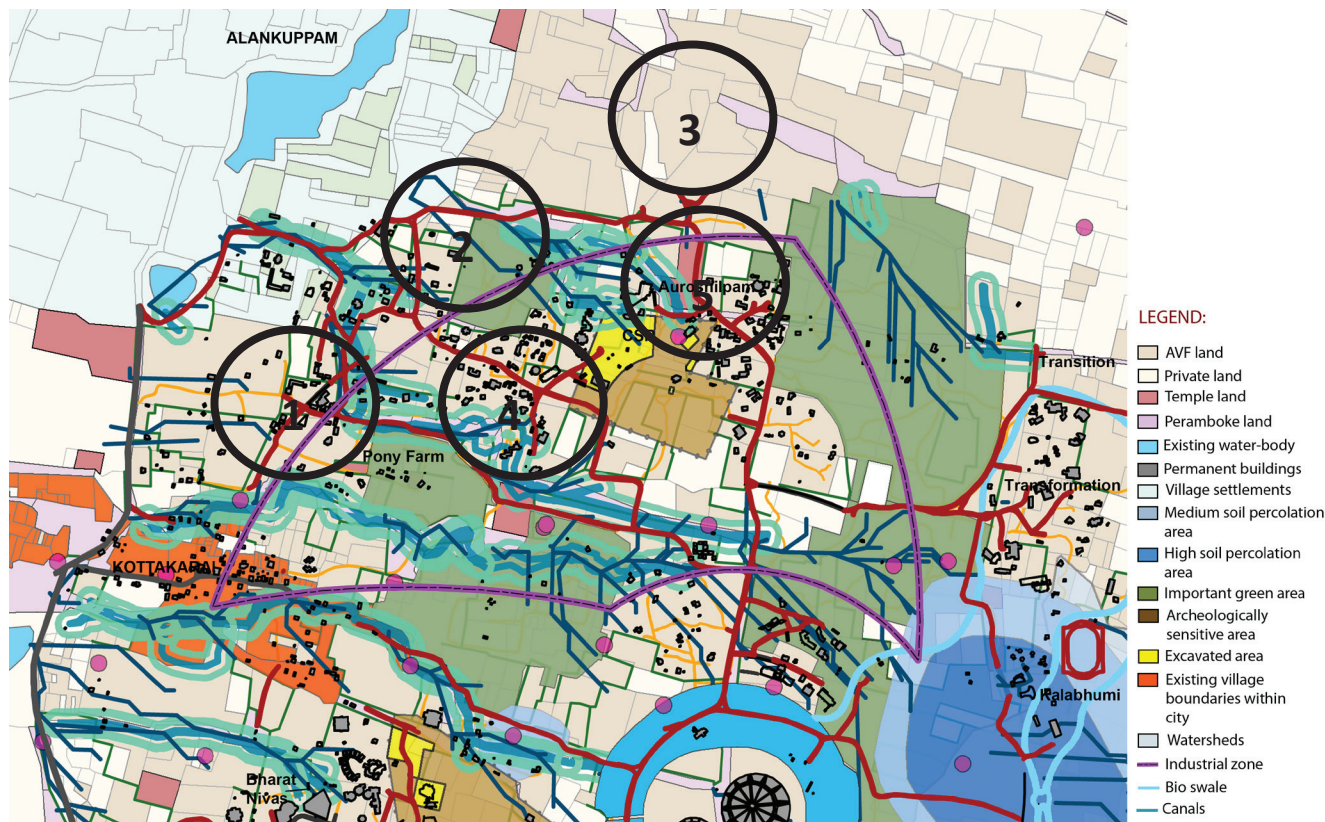
**1- Avoid having the entry to the International Zone via sector 5 of the Residential Zone and integrate the forested area of Aurodam, which can be developed as a protected urban forest without bypass traffic.**

**2- Use the present access from the panchayat road as the main access with a distribution ring that connects to the crown to limit the movement of the visitors within the zone, while providing access to the various projects from this ring via spokes that are dead ends.**

**3- Integrate the present panchayat road as the outer ring road and zone the lands that lie alongside as low-impact development with designated locations for waterbodies/mixed forests to improve water percolation and landscaping by urban agriculture, including pasturelands and cows to build up soil fertility. The three farms in this area, Buddha Garden, Solitude and Moorty's farm, are well located to help incubate the urban agriculture for the institutional project. The farming – educational – institutional linkage is the most sustainable model for reducing carbon miles for the food served in the restaurants and kitchens in this zone.**

**4- Finally, it is inadvisable, for socio-political reasons, to have any type of road planned, drawn or even indicated as passing through, near or over the village of Bharatipuram, now or in the future, until there is a change of legislation on land-ownership and squatters' rights in India. Ideally, the land use of the plots around the village should be mixed use with institutional/residential/educational, consisting of vocational training/student and volunteer housing and small-scale manufacturing to have higher population density that would build a symbiotic relationship with the village. Refer to chapter 2 - 2.2.6.**





### 3.4 Industrial Zone

Of the 1,212 acres that constitute the city area of Auroville, the Industrial Zone is about 251 acres or 20.70%, with 38.14 acres as canyons, forests and seasonal waterbodies as they are low-lying. An overlay of the master plan 2025 land use and road layout on the geophysical features of the land brings out five main issues besides several related ones (refer to the map).

**3.4.1. POINT 1** – The location of the outer ring road and its intersection with the radial is in a low-lying area, and it is too close to the village of Bharatipuram/Kottakarai. This is an ideal location for water catchment with ponds and shelter belt plantation. The Industrial Zone is situated on the top of the watershed to the villages of Kottakarai and Allankuppam; waterbodies as land use would prevent encroachment without creating hard barriers that would need policing, which would be the best way forward for conflict prevention. Waterbodies are natural barriers, and given the soil type and

the natural gradient, the waterbody could become perennial in time. Again, the outer ring road should be merged with the panchayat road as mentioned previously in point 3.2.7. POINT 7 and 3.3.3. POINT 3.

**3.4.2. POINT 2** – The access road for the Industrial Zone is indicated at this point in the master plan 2025. Of the three intersection points between the planned radials and the outer ring road, this would have the least collateral damage. The value of the land of Windarra as a natural farm should not be compromised, so the planning of this access road needs to be buffered with access control, security and a viable shelter belt that will create an edge situation between forest and farm to promote biodiversity of mammals, pollinators and birds. This will help buffer the entire strip along the panchayat road from the International Zone to Discipline farm.

**3.4.3. POINT 3** – The planned outer ring road, as per the master plan 2025, that would link the Kulapalayam – Allankuppam villages to the north of Auroville would be strategically detrimental on many levels. This road would provide an easy and convenient bypass access from the East Coast Road to these villages. It will open up the land to the north to speculative sales by developers who want to tap into the commercial advantage of being on a link road, while being close to Auroville with lands in Puducherry territory, with a good water table without being too close to the villages.

Auroville's planning bodies, from the township to regional, should explore all venues to avoid any linkages to the north of the city and the green belt. This road will also destroy the integrity of Revelation



forest, Discipline farm and Fertile forest.

**3.4.4. POINT 4** – As mentioned earlier, the Industrial Zone is on the top of the watershed of the village of Allankuppam, and the gully flow has created canyons over time that need to be buffered with shelter belt plantations with a minimum width of 25 metres to prevent further erosion and build up the percolation capacity and soil moisture. The development between the canyons should be non-intrusive by being zoned for functions that do not need extensive servicing, infrastructure, large building footprints and interference with the natural gradient of the surrounding land.

**3.4.5. POINT 5** – This is an archaeologically sensitive area – refer to chapter 2- 2.2.5.- Archaeologically sensitive areas within the city.

These points of conflict could be resolved without losing the overall layout of the sectors and their interrelation to the city by tweaking the following (refer to the map as an illustration to demonstrate an optional interpretation for the recommendations).

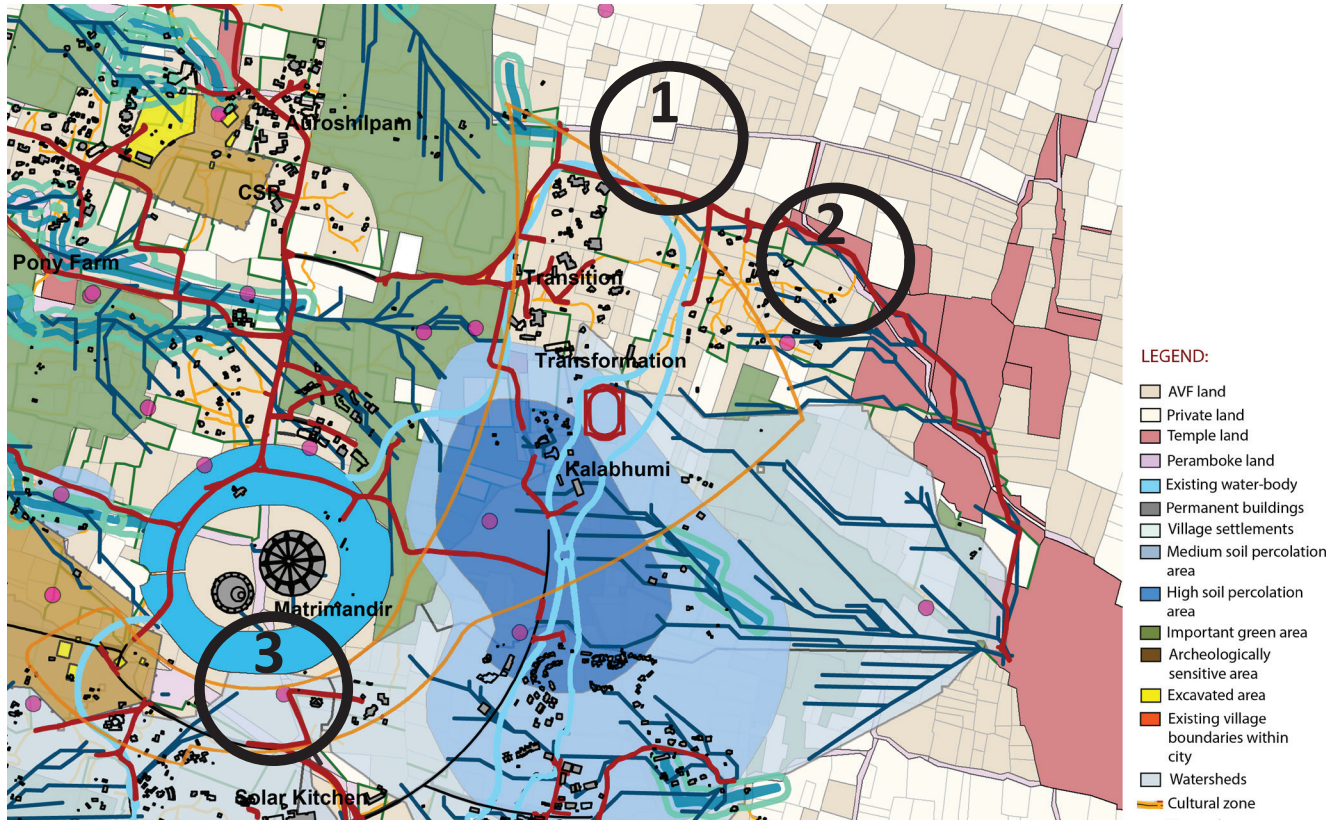
**1- As mentioned in 3.2.7. POINT 7, 3.3.3. POINT 3 and 3.4.1. POINT 1, the outer ring road should be merged with the panchayat road from the Residential Zone to the village of Allankuppam.**

**2- Zone the lands bordering the canyons as buffer zones with a minimum width of 25 metres, and undertake shelter belt plantation at the earliest, so that when the development of nearby land is undertaken, Auroville will not have to undertake post-development remedial action for erosion from the increased non-permeable surfaces created.**

**3 - Zone the lands between the canyons for minimum and non-intrusive development.**

**4 - The lands beside the village of Bharatipuram/ Kottakarai should be zoned as outlined in recommendation -4- of the International Zone.**





### 3.5 Cultural zone including educational belt

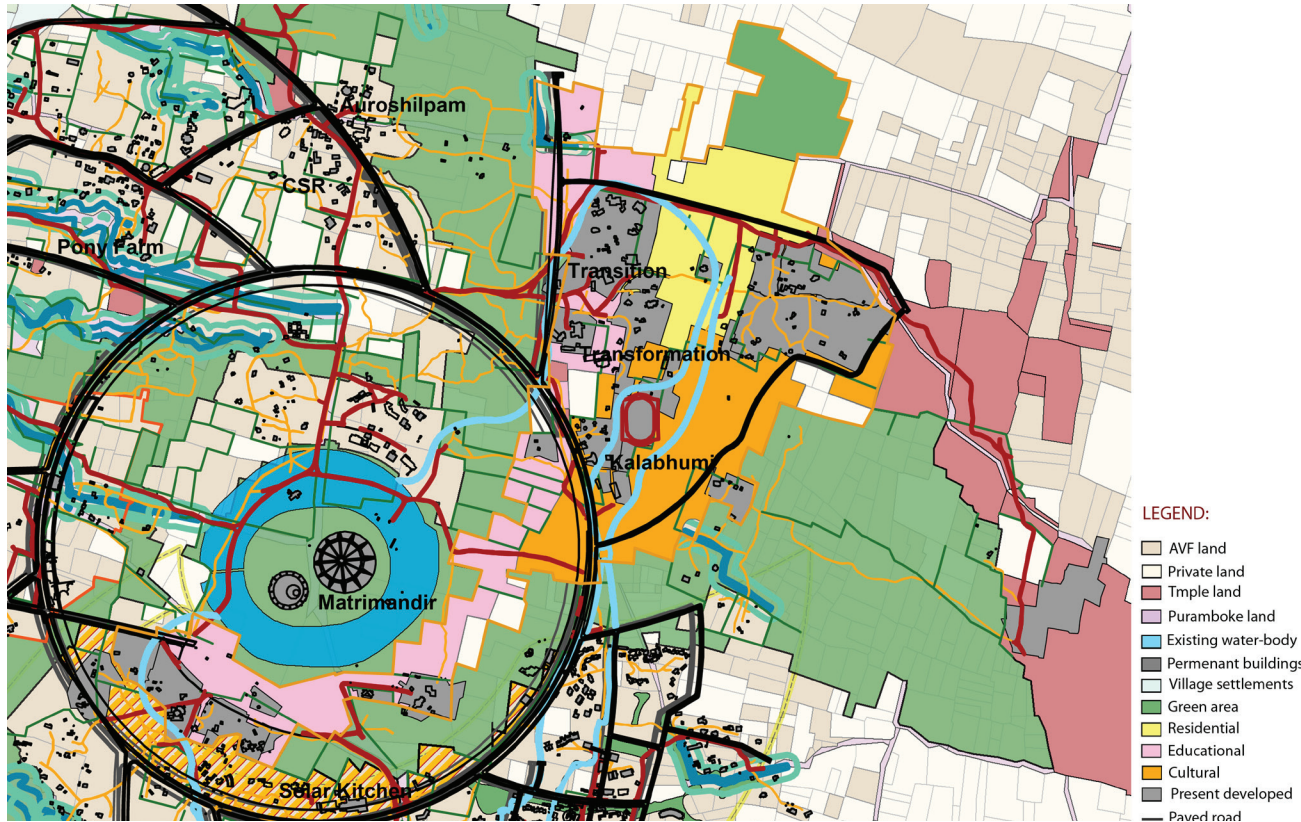
Of the 1,212 acres that constitute the city area of Auroville, the Cultural Zone, with its outshooting strip of the educational area, is about 246 acres or 20.29%, with 12.1 acres under forest cover, which is mostly connected to the forested areas of Fertile, Two Banyans and Samridhi. An overlay of the master plan 2025 land use and road layout on the geophysical features of the land brings out three main issues besides several related ones (refer to the map).

**3.5.1. POINT 1** – The location of the radial bordering the Cultural Zone cuts through the forests of Revelation – Minati, destroying the edges of the forests. Forest edges are the most productive in terms of biodiversity as they provide shelter for the mammals, birds and insects that would use the open park for feeding without compromising on the security of their nesting zones. Additionally, given that roads are meant for movement of people, goods and services, it is not economical to make them in locations where they would be unutilized, as they will only serve singly loaded development, thus making the

maintenance of this infrastructure expensive for the city services.

**3.5.2. POINT 2** – As previously stated in 3.2.7. POINT 7, 3.3.3. POINT 3 and 3.4.1. POINT 1, making a ring road that would allow for connectivity between the East Coast Road and Allankuppam village would be detrimental to the project of Auroville, especially a road that intersects with the paths coming from Bommayapalayam and the canyon road from Kulapalayam, creating a natural link for bypass traffic.

**3.5.3. POINT 3** – While the exact nature of development of the educational strip between the Matrimandir and the crown along sectors 1-4 of the Residential Zone is not worked out in detail, the archaeological sites that fall within it should be taken into consideration, as referred to in chapter 2- 2.2.5.- Archaeologically sensitive areas within the city. It would be interesting to look at the nature of the functions that would be located here in close proximity to the Matrimandir and its lake.



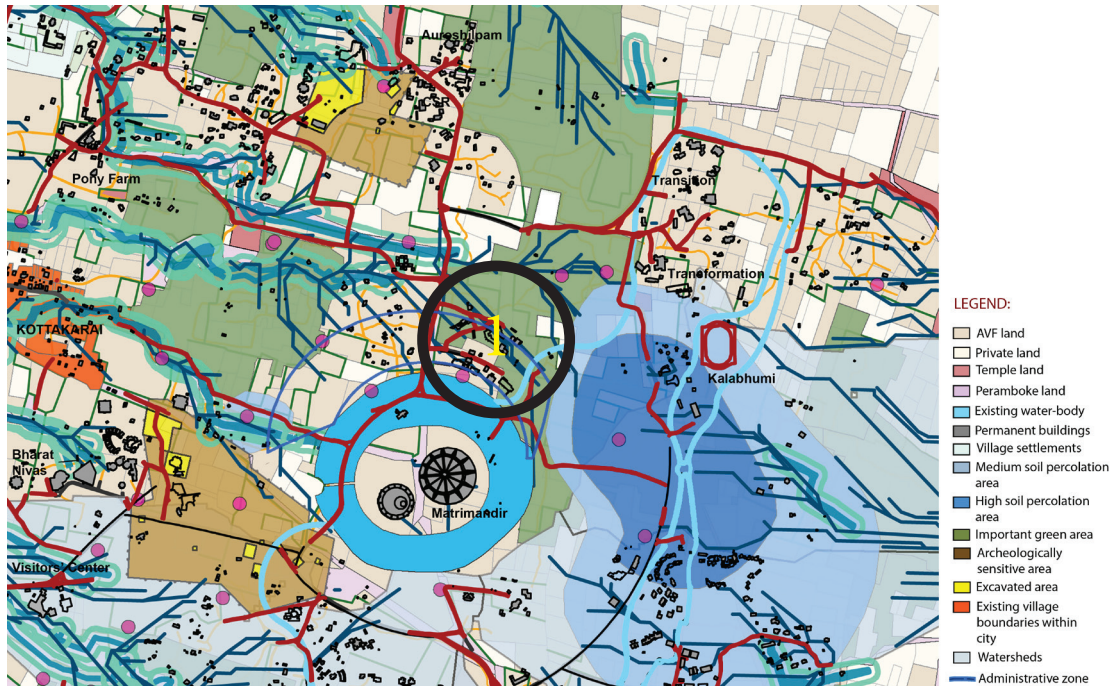
**2- Zone the area towards Fertile – Bommayapalayam as mixed educational – residential development with hostels, fraternity houses and boarding schools, with an internal distributor that connects to the Residential Zone with low-impact traffic, allowing cross-pollination between the two zones to promote intensive use of the facilities created like sports fields/libraries/ study halls/theatres.**

**3- As the educational zone is so close to the Matrimandir, plans should be detailed out to ensure that the projects in this proposed strip development have no activities that would create noise and light pollution or invite external traffic. The archaeological sites could be integrated with educational facilities, creating a unique opportunity of interaction between the residential-educational and International Zones.**

These points of conflict could be resolved without losing the overall layout of the sectors and their interrelation to the city by tweaking the following (refer to the map as an illustration to demonstrate an optional interpretation for the recommendations).

**1- Move the radial near the Revelation – Minati forest, and convert it into an internal distributor within the educational campus backing on to the Revelation forest, making this area a protected area with limited access. This will also allow for special environmental educational opportunities for the students and residents. Urban green areas like parks, shelter belts and the edges in between are excellent for influencing the microclimate, reducing the heat island effect that makes most modern cities in the tropics uninhabitable without air conditioning as the night temperatures remain high due to the lack of this mix of forest with open green areas.**





### 3.6 Administrative cum habitat zone

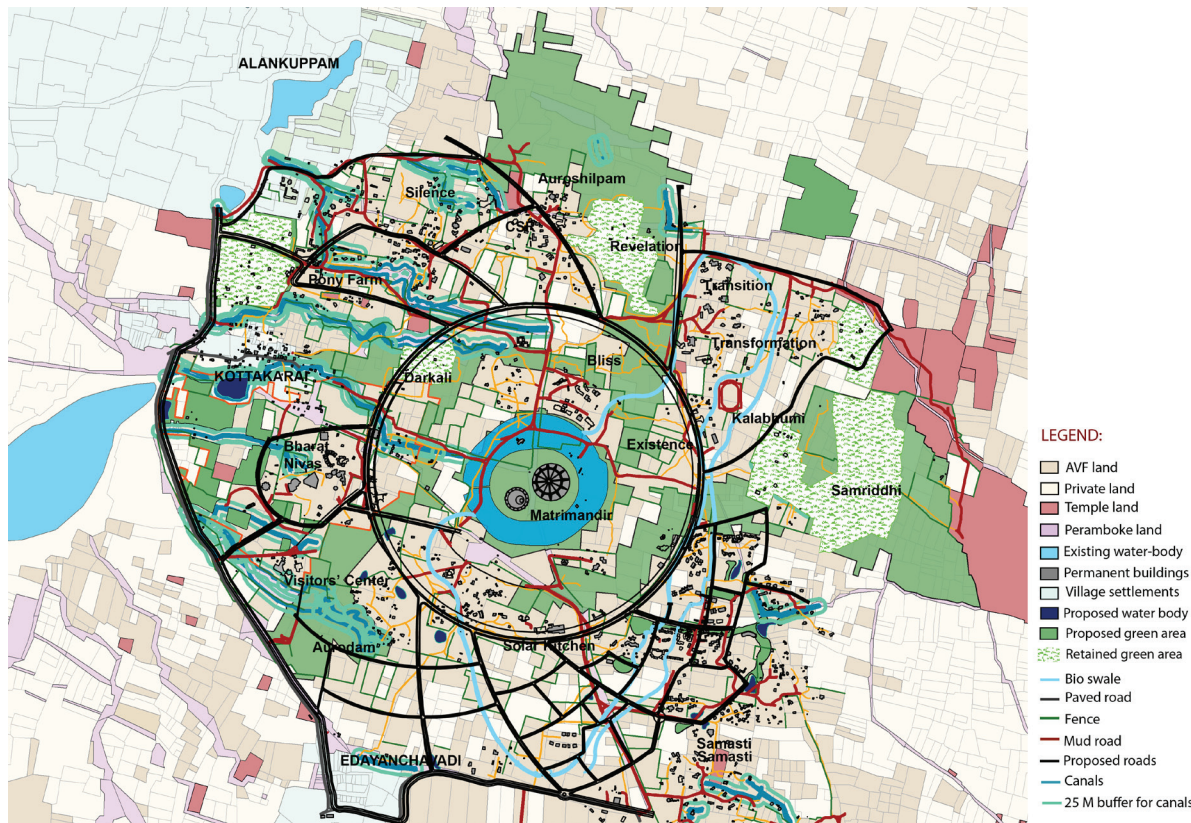
Of the 1,212 acres that constitute the city area of Auroville, the administrative cum habitat zone is about 45 acres or 0.03%, with 20+ acres already developed with four office buildings and the rest as habitat. A logical analysis of the zones and their functions as per the master plan 2025 land use coupled with the road layout including the access to this administrative area (refer to point 1 on the attached map) raises some questions:

1- What functions are going to be located in this administrative belt? If this is meant to house the city municipality and allied functions, why is it placed across from the Residential Zone? Inevitably, this would create more traffic as people have to circle the Matrimandir lake and garden via either the International Zone or the Cultural Zone to access these administrative services.

2- Is housing the bureaucracy in the prime location with a lake view over the Matrimandir the best use of this space?

3- If it is not possible to tweak the location of the administrative zone to a more appropriate location in the city (switch with the educational zone?), the urban plan for this zone needs to be re-evaluated, bearing in mind the building orientation, open space between the buildings and access to the zone from the Residential and Cultural Zones. At the best of times, public administrative buildings are not the most inviting and efficient due to the nature of the work that needs to be done, but to have them west and south-west facing with maximum solar gain, and facing the water (high humidity due to evapotranspiration) with reflected glare, is going to invite high energy use to offset the discomfort caused by poor zoning within the climatic context.





### 3.7 Open areas including Parks, forests and water bodies

As per the galaxy plan and master plan 2025, it is envisaged to provide parks between each zone as a buffer. These parks, when integrated with the existing forests within the city area, are about 315 acres, about 38% of the total city area including the Matrimandir Gardens. However, the depth of the parks is such that it would be difficult for the landscape within them to be self-sustaining. Nevertheless, if the land use and urban plan would integrate the following, then it is not only possible to make them effective as urban green spaces but also as stable ecosystems

1- Allow for 20-25 m buffer zones on either side of the park that blend into the parks as edges between open landscapes of urban development and the forested areas. Ensure that there are no roads that run parallel to the parks within this buffer so that there is no barrier for the movement of small mammals, reptiles, birds and insects.

2- Create swales that catch the roof and surface run-off from the buildings, roads and other impermeable surfaces that lie within 50 m of the parks' boundaries. Due to the trees/grasses (no lawns) and the mycelium underground, the water percolation capacity of the soil will increase over time.

3- Landscaping within these buffers should be, as much as possible, urban agriculture and pasture lands.

4- Decentralized sewage treatment plants could also be located within these buffers, and the final polishing ponds would add the water element to the landscapes.

5-Cycle and pedestrian paths could criss-cross them, but the density of these paths should be minimal.

6- The crown road that rings all four zones, when passing through the parks, should have a shelter belt plantation to buffer the dust, noise and intrusion. There should be no buildings on the crown when it passes through the park.

7- Sweeping/harvesting/burning of the leaf litter, branches and other plant products should be permitted in the parks and within a 10 metre strip of the buffer zone to allow for the natural recycling of the dead plant matter to enrich the soil.



**Note** - If you note any errors in language / information and / or maps, please email me at [suhasini@auroville.org.in](mailto:suhasini@auroville.org.in) with the following

- chapter / page number where the error is
- the details of the error
- the revised version in your opinion

thanks- Suhasini