

# **Other Consideration In Planning A Building**

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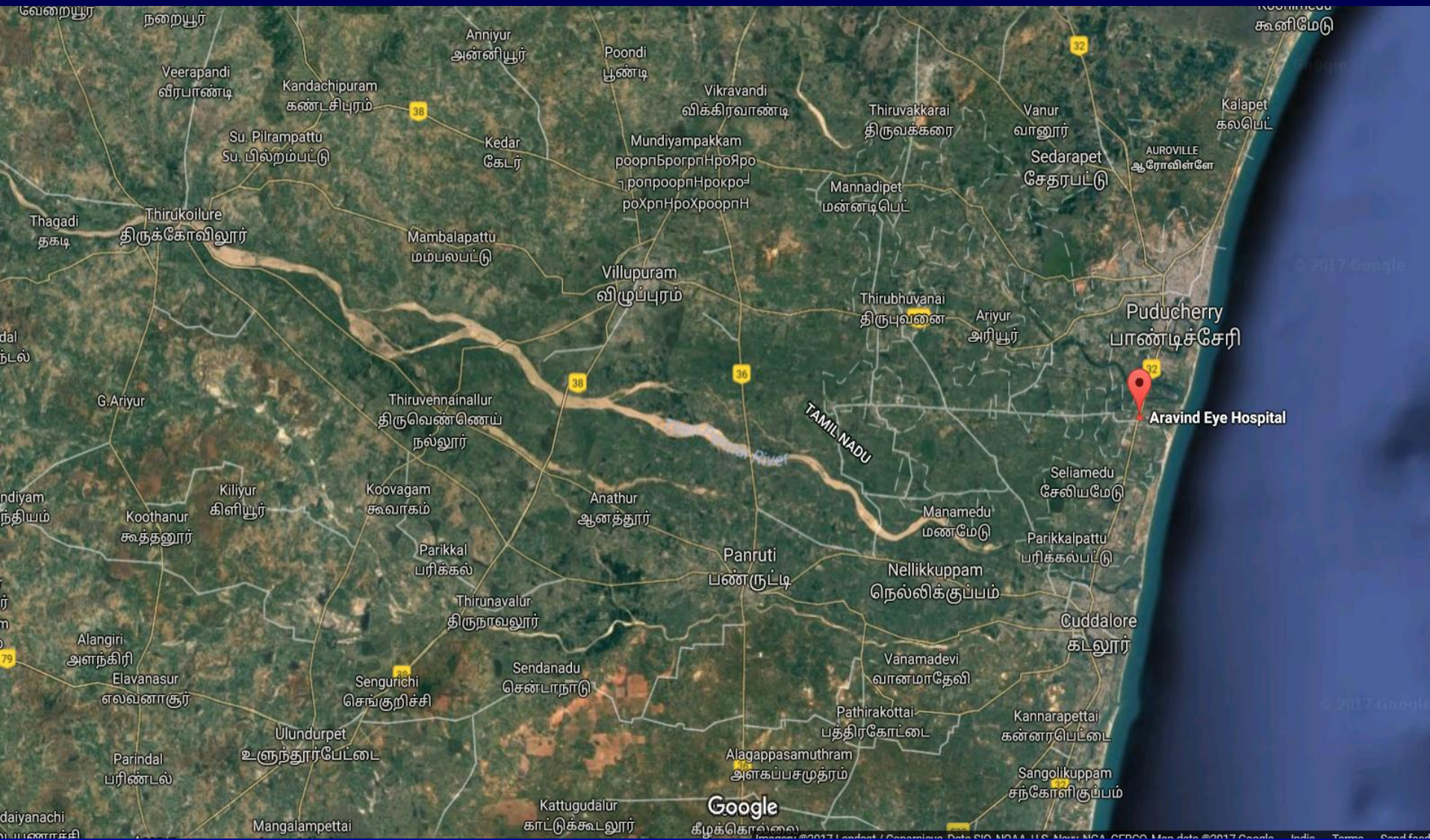
# **General Considerations in Building Planning**

- **Easy reach for the captive population**
- **Growth in patient volume**
- **Staff Accommodation**
- **Accessible to all**
- **Functional efficiency**
- **Flexibility for modification**

# **Easy Reach For the Target Population**

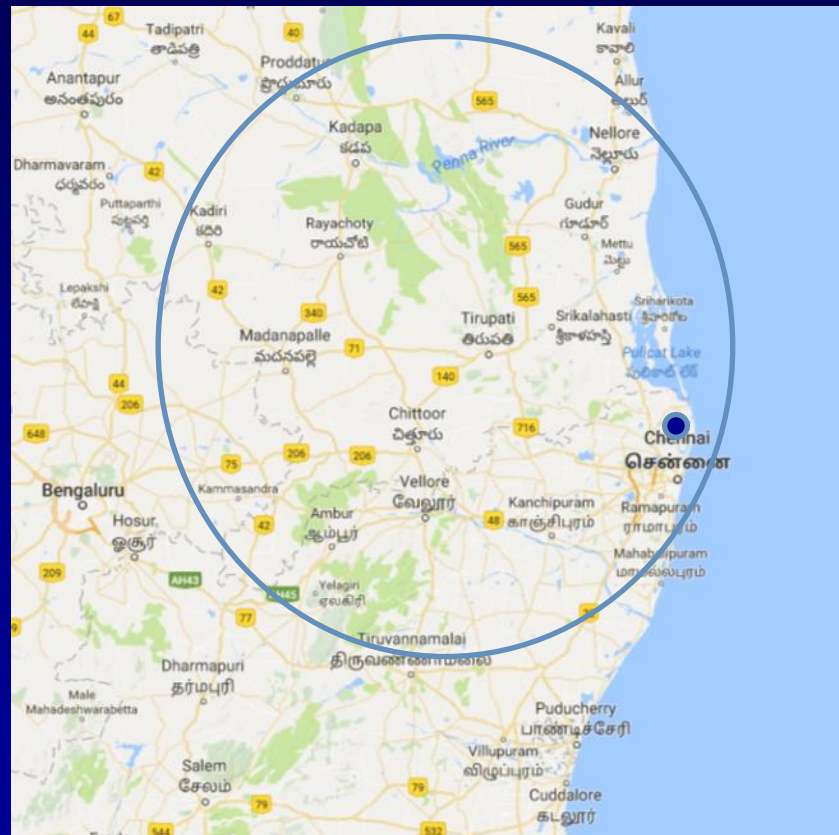
- **Locating the hospital**
- **Accessible to all in the target population**
- **Transport facilities**

# Aravind, Pondicherry



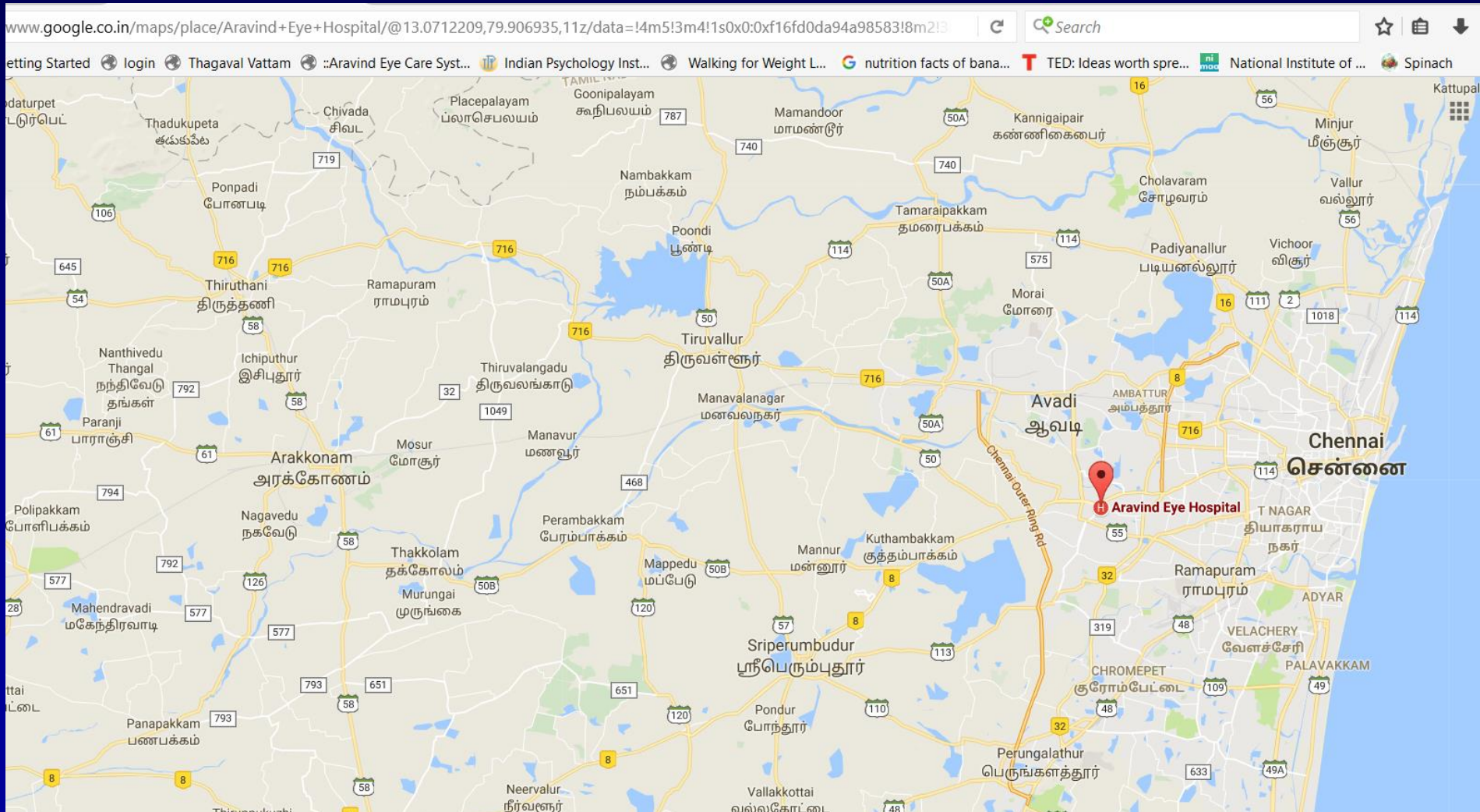
# Service Area- Chennai

Districts	Population
Chennai	46,81,087
Kancheepuram	39,90,897
Vellore	39,28,106
Thiruvallur	37,25,697
Total	1,63,25,787



Also patients will be coming from nearby districts of AP – Chittoor, Nellore, Kadapa

# Aravind Chennai



# **PLANNING FOR GROWTH IN PATIENT VOLUME**

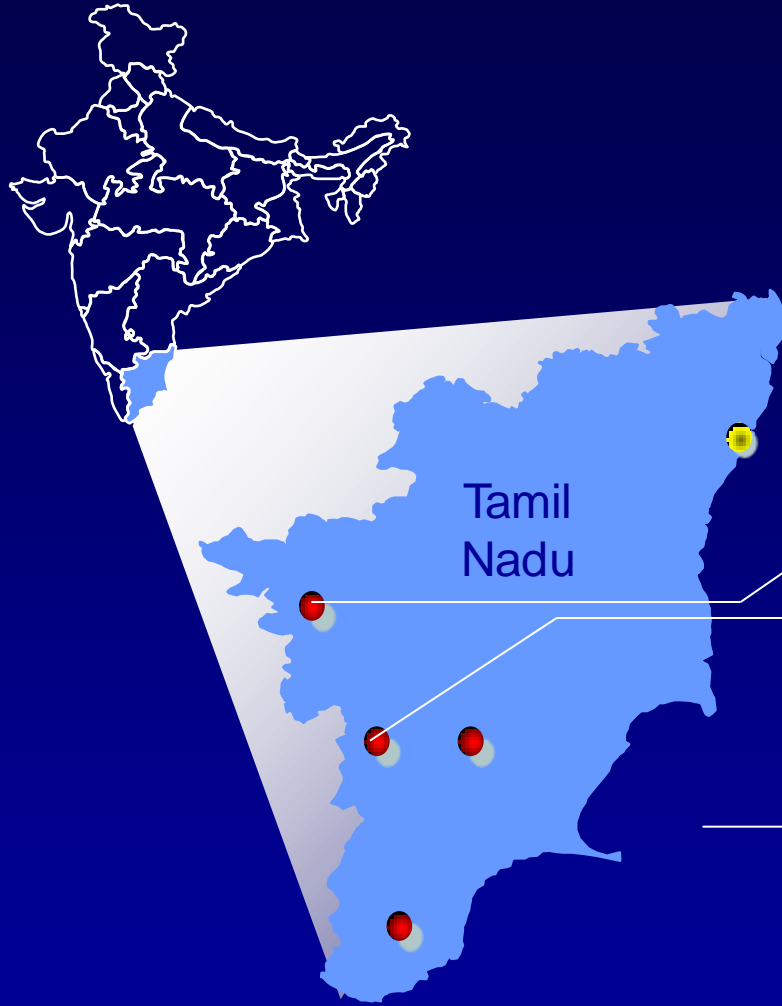
# Paying Patient Volume - Madurai

	1984	2016
Outpatients / Day	150	2000
Surgeries / Day	15	220
Investigations / Day	< 10	> 200

# **Comparison of Space in Madurai Paying 1984 Vs 2016**

<b>Service</b>	<b>1984</b>	<b>2016</b>
<b>General OP</b>	<b>7,000</b>	<b>72,000</b>
<b>OT Area</b>	<b>3,000</b>	<b>16,000</b>
<b>Ward Area</b>	<b>42,000</b>	<b>81,000</b>
<b>Support services</b>	<b>4,000</b>	<b>15,000</b>
<b>Total</b>	<b>60,000</b>	<b>1,85,000</b>

# *Aravind Eye Hospitals*



**Coimbatore (1997)**



**Theni (1984)**



**Tirunelveli (1988)**

# Aravind Pondicherry



# **Paying Patient Volume - Pondicherry**

	<b>2003</b>	<b>2016</b>
<b>Outpatients / Day</b>	<b>270</b>	<b>1200</b>
<b>Surgeries / Day</b>	<b>30</b>	<b>100</b>

# **Comparison of Space in Pondicherry Paying 2003 Vs 2016**

<b>Service</b>	<b>2003</b>	<b>2016</b>
<b>General OP</b>	<b>50,000</b>	<b>50,000</b>
<b>OT Area</b>	<b>25,000</b>	<b>25,000</b>
<b>Ward Area</b>	<b>35,000</b>	<b>35,000</b>
<b>Support services</b>	<b>10,000</b>	<b>10,000</b>
<b>Total</b>	<b>120,000</b>	<b>120,000</b>

# Paying Patient Volume - Pondicherry

	2003	2016
Outpatients / Day	270	1200
Surgeries / Day	30	100

- Volume has increased nearly 4 folds.
- Vacant space of about 20,000 sq ft

# Aravind Eye Hospital, Chennai





# Hospital Building Details

Floors	Facilities
Ground Floor	Paying Registration, Enquiry, Free OPD, Admin Office, Restaurant, Bank, ATM and Security office, Conference Room 1, Meditation Room, Optical & Medicals
First Floor	Comprehensive OPD & Specialty Clinics, VIP OPD, LASIK OT, Insurance Department, Conference Room 2
<b>Second Floor</b>	<b>For Future OPD Expansion</b>
<b>Third Floor</b>	<b>For Future OPD Expansion</b>
Fourth Floor	OT Preparation Area, Day Care , Operation Theatre (Paying, Free & camp), CSSD, OT Store
Fifth Floor	Paying Ward, IT Room, EMR Training room, Auditorium
Six Floor	Ward Area (Pay & Free)
Seventh Floor	Ward Area (Pay & Free)
Eighth Floor	Ward Area (Pay & Free)
Basement Level 1 & 2	Car Parking, AC Plant, Stores

# Comparison of Space in Chennai Paying 2017

Service	Madurai	Chennai
General OP	72,000	120,000
OT Area	16,000	25,000
Ward Area	81,000	80,000
Support services	15,000	25,000
Total	1,85,000	250,000
Car Parking	40,000	120,000

# Staff Accommodation



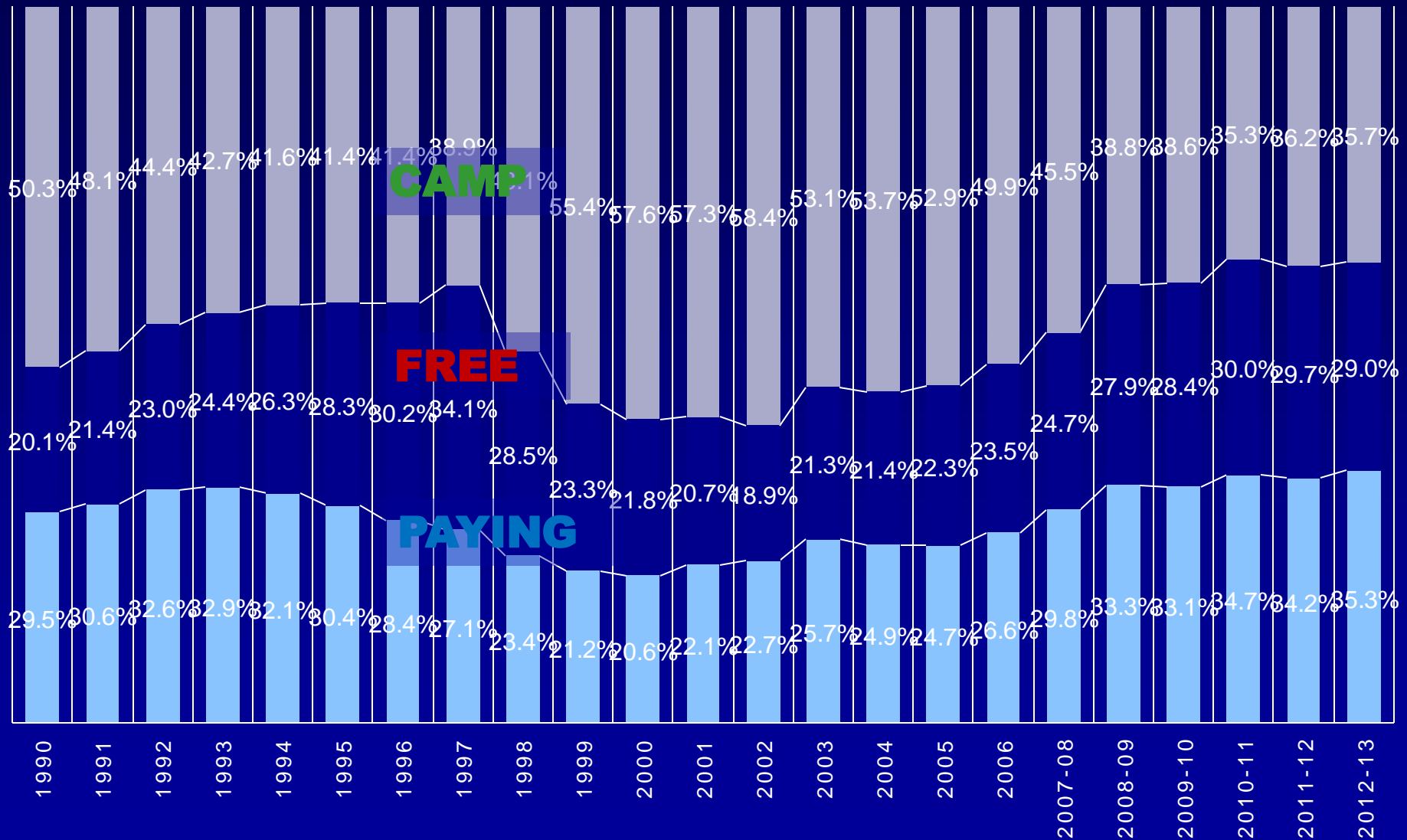
Hospital - 5 Lakhs Sq.ft

**Residential - 2 Lakhs Sq.ft**

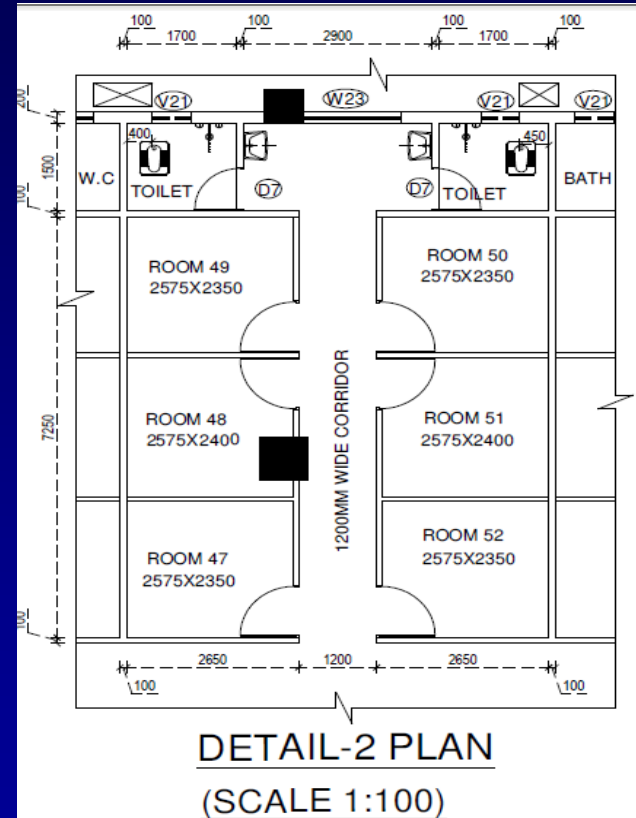
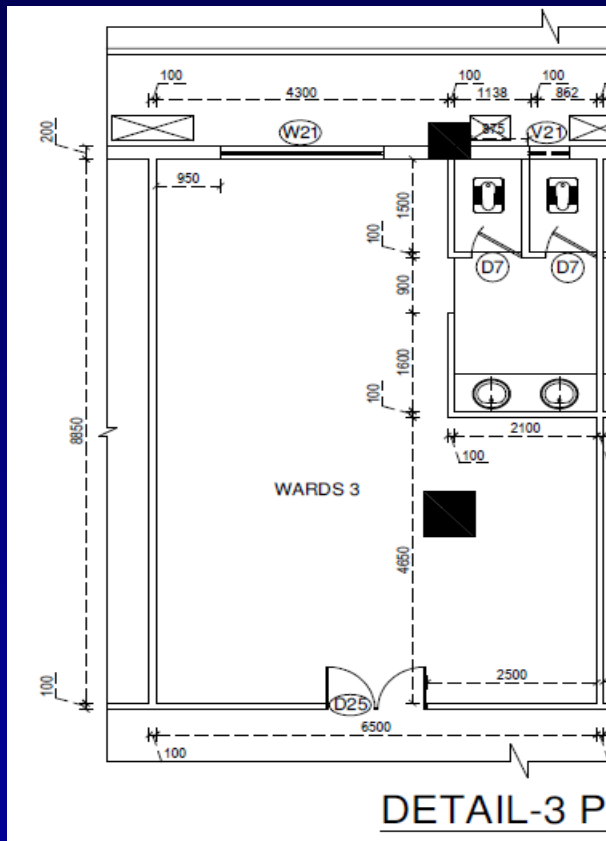
# **Flexibility and Expandability**

- **Medical needs and modes of treatment will continue to change.**
- **Therefore, hospitals should follow modular concepts of space planning and layout;**
- **use generic room sizes and plans as much as possible;**
- **use modular, easily accessed, and easily modified mechanical and electrical systems; and be open-ended, with well-planned directions for future expansion.**

# Proportion of Cataract Surgeries – Trend



# Design for flexibility



# **Impact Of Health Policy Decisions**

- **Universal health coverage**
- **Health insurance**

# Accessibility

- All areas, both inside and out, should comply with all standards and minimum requirements of Disability Act,
- Ensure grades are flat enough to allow easy movement and sidewalks
- corridors are wide enough for two wheelchairs to pass easily.

# Promoting Efficiency

- Hospital layout should promote staff efficiency by minimizing distance between frequently used spaces
- Segregation of waiting areas
- Allow visual supervision of patients;

# Promoting Efficiency

- **Make efficient use of multi-purpose spaces and consolidate spaces when possible.**
- **Duplicating services in different floors for better utility of services**

# **Safety Issues**

## **Flooding**

- **Location of critical facilities like generators**
- **Hospital stores, Medical record departments**

## **If located close to sea shore**

- **Go by local regulations**

# **Security & Safety**

- **Hospitals have several particular security concerns, such as protection of patients and staff, hospital property and assets (including drugs).**
- **Security and safety must be built into the design with these things in mind.**

# **Sustainability**

- **Hospitals have a significant impact on the environment & economy of the surrounding community.**
- **Heavy users of energy, water & produce large amounts of waste.**
- **Because of this, sustainable design must be considered when designing and building hospitals.**

# **Sustainability**

- **Environment friendly**
- **Minimum energy expenditure for ambient light & climate control**

# Therapeutic Environment

- Patients and visitors should perceive a hospital as unthreatening, comfortable, and stress-free.
- The interior designer plays a major role in this effort to create a therapeutic environment.
- Cheerful and varied colors and textures, by allowing ample natural light wherever feasible, by providing views of the outdoors,
- and by designing a “way-finding” process into every environment.

**Thank you**