Aranya, 6 kilometres from Indore, was designed to house a total population of 60,000 in 6500 dwellings, on a net planning area of 85 hectares. The master plan, prepared by the Vastu-Shilpa Foundation in 1983, is designed around a central spine comprising the business district.

Six sectors, each with populations of 7000-12,000, lie to the east and west of the spine and are diagonally bisected by linear parks. Ten houses, each with a courtyard at the back, form a cluster that opens onto a street. Internal streets and squares are paved. Septic tanks are provided for each group of twenty houses, and electricity and water are available throughout.

The site plan accommodates and integrates a variety of income groups. The poorest are located in the middle of each of the six sectors, while the better off obtain plots along the peripheries of each sector and the central spine. Payment schemes, and a series of site and service options, reflect the financial resources of this mixed community.

Eighty demonstration houses, designed by architect Balkrishna V. Doshi, display a wide variety of possibilities, ranging from one room shelters to relatively spacious houses.

Brick, stone, and concrete are available locally, but owners are free to use any material they choose for house construction and decoration.

The project won the Aga Khan Award for Architecture, where the jury found Aranya to be an innovative sites-and-services project that is particularly noteworthy for its effort to integrate families within a range of poor-to-modest incomes.

**Location:** Indore, India

**Client:** Indore Development Authority

**Architect:** Vastu-Shilpa Foundation, Balkrishna V. Doshi

**Size:** 862'400 m²

**Completed:** 1989
OBJECTIVES OF THE COMMUNITY HOUSING

**VITALITY**
To support socio-physical aspirations of the community.

**IMAGEABILITY**
Marking identity and increasing sense of belonging amongst inhabitants.

**EQUITY**
Creating a community of equal qualities and opportunities for all.

**EFFICIENCY**
Optimizing natural materials as well as human resources to the advantage of the user group.

**FEASIBILITY**
To ensure development within given legal laws.

**FLEXIBILITY**
To absorb progressive growth and change as part of the natural development process.

GROWTH OF SETTLEMENT ON MACRO LEVEL
STAGES OF DEVELOPMENT

STAGE 1: Plan initially prepared by Indore Development Authority which shows a typical rubber stamping attitude without any concern for open space hierarchy, circulation system, climatic orientation or the built form.

STAGE 2: Initial stage of BV Doshi’s proposed plan with distributed open spaces and street hierarchies.

STAGE 3: Later stage of development with rectified orientation to minimize heat gain and increase natural shading.

STAGE 4: Proposed master plan with interlinked open spaces, built form variations, distributed amenities, road network hierarchies and climate friendly orientation.

FINAL MASTERPLAN: Essentially a low-rise, high-density development, the built form represents the traditional fabric with continuous built edges, shared walls, favorable micro climate, variable house forms, and culturally appropriate settings.
FLOOR PLANS

ANALYSIS OF PLANS

- The units are dense, and space is achieved through verticality and opening rooms to one another without separating them by doors.
- Though the units are attached, this is not designed as each dwelling has its own entrance and stairs, giving a sense of belonging and ownership to the dwellers.
- Majority of the spaces are used as private areas, and not all the units have living area/public place.
- The privacy in the units is minimum since in all units there is no lobby and one enters directly into the private area.
- No space has been wasted, and maximum use of space is achieved by providing optimum spacing for circulation. This has been done by minimising the partitions and doors between the rooms.
ARRANGEMENT OF SPACES

• A house plan included 2 rooms and a living area, followed by a kitchen and a lavatory which was constructed between the front extension, with a multi-use courtyard at the back.

• Most of the houses were provided with an additional access at the back, which also provided space for keeping animals, a vehicle or even renting out a certain part of the house.

• A group of 10 houses comprised of a cluster that opened into the street. The courtyard at the back opened into the open space of the cluster and was used as a play area and service area; trees and multi-use platforms were added further.
INCREMENTAL HOUSING: STAGES OF GROWTH

THIS SERIES OF PICTURES SHOWS THE INCREMENTAL GROWTH OF A HOUSE FROM THE PLINTH AND SERVICE CORE, TO A TWO-STOREYED STRUCTURE.
TYPOLOGY OF OPEN SPACES

A. GREENS/PATHWAYS
B. SERVICE SLOTS
C. NODAL POINTS
D. PUBLIC SQUARES
MATERIALS AND TECHNOLOGY

- Conventional and locally available building materials and construction techniques were adopted.
- The CRC roof was always constructed at a later stage because it was a high investment item.
- The black cotton soil of the site necessitated pile foundation even for simple and 2-storeyed buildings.
- Low cost hand made CRC piles were built for the core house (latrine, wash room) and the residents were provided with ready built foundations.
- The doors, windows, and grills were made on site by all of the residents who made it their role.

- Railings, parapets and cornices were made to ornament the house.
- The structures were constructed with load bearing brick walls.
- Walls were plastered and painted.
- Floors were made of cement concrete.
The word ‘Aranya’ means ‘forest’ in Hindi. It is an apt name for this incremental mixed-income housing project by Balkrishna Doshi in Indore. It reveals the architect's intention that the project should grow slowly, from the bottom up- in terms of economy as well as architecture. ‘The indigenous character of built form provides a setting for the continuation of the fundamental values of society’. Twenty years after its inception, Aranya provides an ideal site for studying the effects of recent societal changes in India, as reflected in domestic architecture. The tightness of its spaces forces an extreme condensation and layering of the local and the remote.

Ironically, the physical infrastructure at Aranya is functioning poorly: residents have to collect water daily from taps in the street; storm drains frequently back up, and wild pigs are a main form of garbage disposal. Yet the healthy communications infrastructure (within the courtyards) that has developed in these difficult conditions demonstrates the power of bottom-up development to reveal rapidly changing societal values.

The Aranya project has yielded a rich harvest of affordable housing in habitats that continue to evolve and grow thirty years after its launch. It features some really attractive parts shaped by individual footprints of homes that people have invested in. These footprints are framed by the street layouts and boundaries originally conceived by Doshi. A small 32 x 12 square foot base has evolved into an impressive 900 square feet house that reaches into the third floor. The economically poorer parts reveal layers of economic activities all along the narrow streets.
Many of Doshi’s initial intentions and ingenious innovations have not survived the implementation of the project, yet Aranya has become a lively neighbourhood, where housing is integrated with economic activities. The population initially targeted by the project was a rather tightly audited, flat and abstract notion of the poor and needy. They were in many ways already pushed aside by the government agencies coordinating the project from its very inception and they participated intensely in speculating on the plots. Subsequently, many plots ended up in the hands of people different than those they were initially intended for, but still, the ease with which Aranya mixes typologies and demographics is striking.

Interestingly, the development was to be cross subsidized by the sale of larger plots, many of which were bought by investors who had no intention of building anything on them, seeing them instead as long-term speculative investments. The town’s centre was also left undeveloped as money ran short. Keeping these spaces empty has dragged down the development of the entire neighbourhood. In contrast smaller plots have been very intensively built on. A part of the neighbourhood where Doshi has built model houses has largely been taken over by government servants, who have often entirely rebuilt the original houses. Other parts have developed slowly over time, at the pace at which their owners could save and reinvest. Today, the low income population of Aranya is a minority, partly because they have been short-changed in the earlier phase when the plots were being attributed and partly because many have sold out since they were allocated the plot through a lottery process.

Aranya is in many ways an affirmation of the ideals of incremental growth in the area of urban development. It is an encouragement to all those involved in the business of affordable housing to work with the possibilities of self-development and infrastructural support rather than the conventions of state (or private sector provided) mass housing projects.
REFERENCES

• http://www.akdn.org/architecture/project/aranya-community-housing
• http://www.urbz.net/aranya/
THE APPROACH

• The principal aim in planning for Vidyadhar Nagar has been to create an environmentally responsive, vibrant and imageable city which would reflect flexibility and vigour of the old city of Jaipur as well as the contemporary socio-economic realities with respect to optimal use of resources-land and water.

• The project was aimed at integrating the traditional town planning principles which were based on hierarchical yet symbiotic relationship of man, community, society, the earth, the sky and the cosmos; with the prevalent socio-economic conditions and contemporary urban values and lifestyle.
The approach towards the conceptual masterplan was devised as a sequential and recursive decision making process taking cognizance of the planning principles of the old city of Jaipur, the emerging issues of energy and environmental planning and the contextual situation of Vidyadhar nagar in relation to Jaipur urban area.

The masterplan was aimed at achievement of certain goals:

**ENVIRONMENTAL QUALITY**: An attempt to achieve a basically safe, healthy, aesthetic, and socially pleasing environment. Resource and energy conservation.

**EFFICIENCY**: An efficient use of all available resources and the ease and convenience for activities of government, business and individuals.

**IMAGEABILITY**: The perception of the image of Vidyadhar nagar as a model town, a tribute to Vidyadhar (the architect) and a unique identity for both the residents and user visitors.

**EQUITY**: Increasing the equitability of access to resources generated by planning and ensuring a basic environmental quality for the disadvantaged groups in their working and living environments.

**FLEXIBILITY**: The ease and efficiency with which growth and change can be accommodated.

**FEASIBILITY**: The desired urban form to recognize the behavioural considerations of both, people and the public sector, and ensure that it is possible to achieve it within the regulations and financial and organizational situations in a reasonable timeframe.
• Denudation of forest cover on hill slopes had caused devastating floods along Amanisha Nallah at Jaipur. In order to ensure safety for the whole city and the site, afforestation on the hill slopes and fuel-wood plantation at the foot of the hill is proposed to be immediately undertaken. This would help to stabilize the topsoil as well as provide necessary firewood for local inhabitants.

• Vidyadhar nagar is visualised as an integral part of the city of Jaipur. A new link is proposed through extension of Nirwan Marg which would bring Jai Singh’s Jaipur within 3 kms. of Vidyadhar Nagar. With adequate urban design controls, this link would enable an extension of the old Jaipur street character along the Nirwan Marg from Chandpole gate to Vidyadhar Nagar.
• Vidyadhar Nagar is designed as a centrally oriented town with a pedestrian activity spine along which all the major commercial and public offices will be located. This activity spine provides accessibility to the residents as it is within walking distance from residential developments. This will save considerable time and energy in commutation for daily needs.

• Within each residential sector, the amenities and services like schools, health centres, playgrounds etc. will be located along the linear open spaces. With a view to generate intense civic and yet productive activities, it is proposed to locate craftsman and craft centres which Jaipur is so famous for, along this pedestrian spine. This could also include informal marketing activities. This would generate an integration of RESIDENCE - ACTIVITY NEEDS – LEISURE SPACES.
GROUP MEMBERS

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FOURTH YEAR - B