



Open Learning School	
No. of children:	1300
Cost:	£60,000
No. of classrooms:	8
Classroom size:	41 m <sup>2</sup>
Area of school:	approx. 900 m <sup>2</sup>
Area of site:	approx. 6500 m <sup>2</sup>
Construction time:	8 months



### Project Type

- Article 25 appointed to assist with the design and construction of a new school for 1300 children
- The school is a Non-Formal and National Open School
- Seismic resistant construction, environmentally sustainable concepts (e.g. rainwater harvesting, cross ventilation, orientation and shading), and passive solar design principles are incorporated in the design

### Project Partner

- El Shaddai Street Child Rescue
- Assisting over 13,000 children in Goa through night shelters, day care centres, counselling services, four large children's homes and the Shanti Niketon Open Learning School

### Project Location

- Assagao, near Mapusa, Goa
- Temperate climate, humid during monsoon season from June to Sept.

### Context

- Governmental Formal Schools are taught mostly in the local language and attended only by children who go to the day care centres/night shelters
- Most children come from slums in Goa with no access to basic education, health and sanitation

### Shelter Type

- Reinforced concrete structure
- Laterite stone walls
- Concrete foundation
- Steel truss gable roof





### Production Information

The Shanti Niketon School design developed from research into the following:

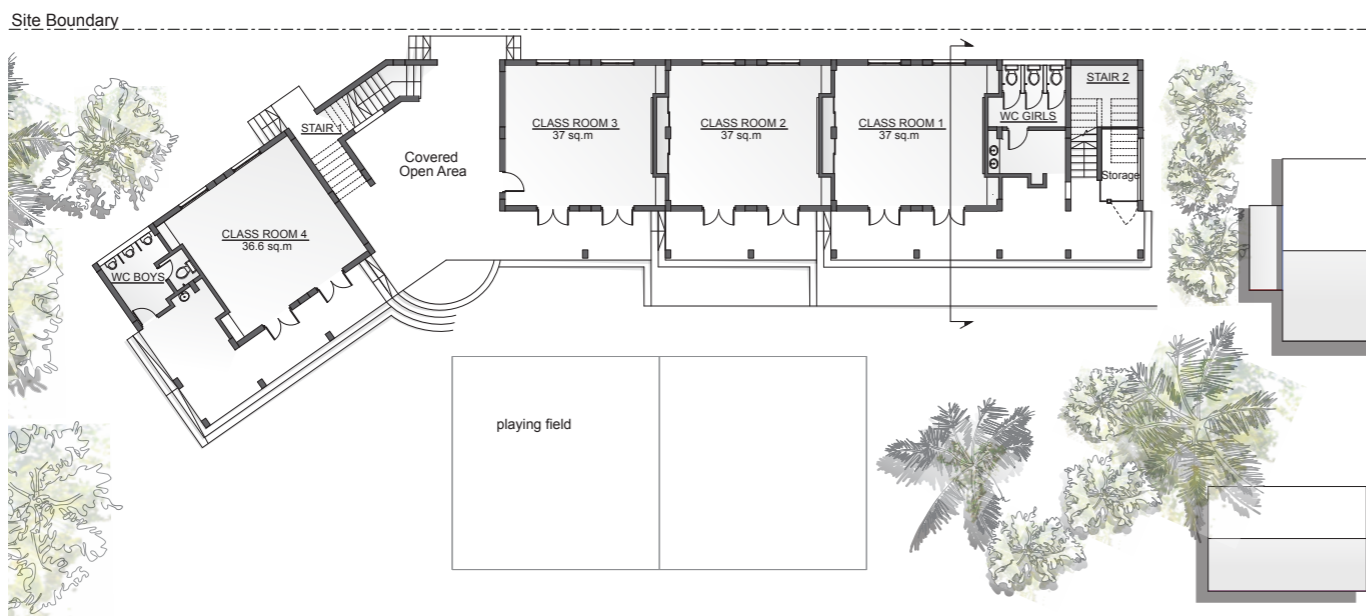
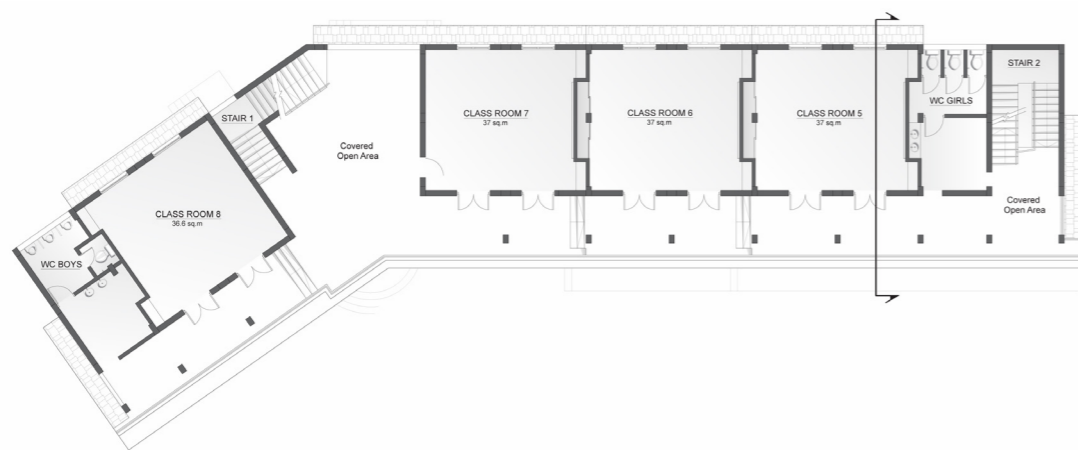
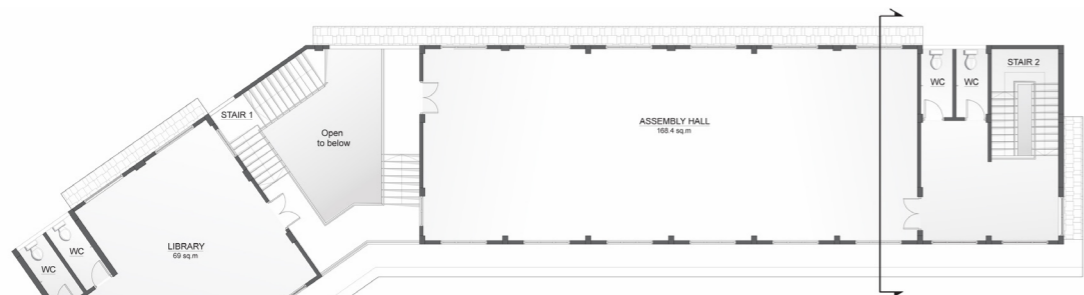
- Historical, cultural and political context
- Available construction materials
- Site context and basic geological survey
- Most cost-effective construction technique
- Requirements of building programme and number of uses
- Community capacity analysis

### Community Involvement

Workshops were conducted with beneficiaries to:

- Facilitate an understanding of local cultural issues
- Promote beneficiary input into design process
- Promote community acceptance and involvement in the project





### Drawing Package

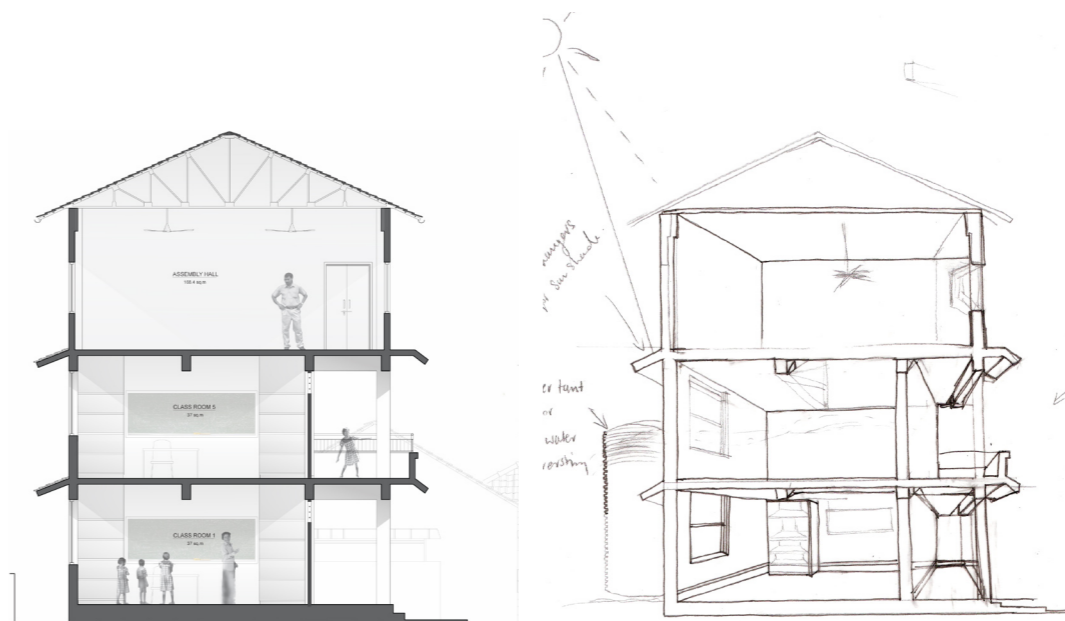
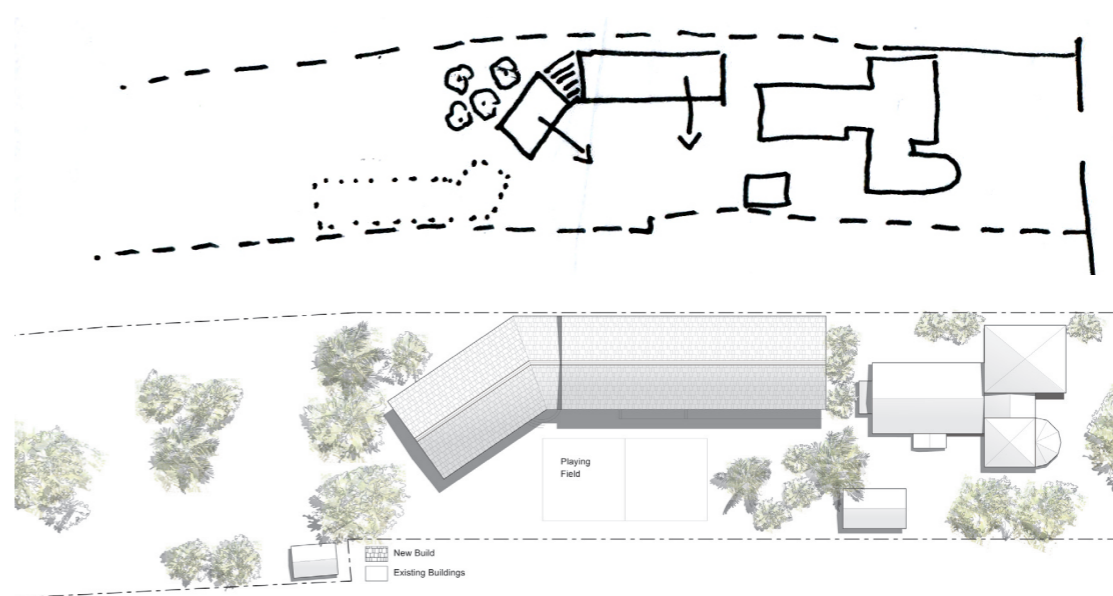
- Article 25 produced a package of drawings for the building
- Information consists of plans, sections, elevations, and details, along with three-dimensional CAD models
- Design complies to Goa Building Regulations

### Detail Design

- Article 25 consultancy service includes comprehensive detail design
- Appropriate detailing ensures value for money
- Various methods used to explain detail design e.g. three-dimensional CAD models, and sketches
- Detailing and construction often took place simultaneously

### Detail Drawings

- Developed as part of a coordinated package of production information





### Construction Management

- Use of local project coordinator resulted in cost effective construction and material procurement
- Two Article 25 project architects were present during construction to monitor work on site and coordinate with local partner organisations
- On site supervision mitigates risk of costly construction errors
- Construction undertaken by local labourers
- The local economy benefits from the construction

### Construction Process

- Foundation trenches excavated by hand using pick axes and shovels
- Foundations poured
- Reinforced concrete columns formed
- Laterite stone walls built
- Stairs constructed to first floor
- Concrete floor slabs poured
- Second and third floors constructed
- Steel trusses fixed to reinforced concrete walls to form gable
- Roof tiles connected
- First fix electrics and plumbing fitted
- Cement sand plaster put onto walls
- Concrete polished floor completed
- Windows and doors fitted
- Interior and exterior walls painted
- Landscaping of surrounding area

