CHAPTER 10: APPENDIX

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APPENDIX 1: TIMBER TYPES

The following table explores different local and regional woods.

As a conclusion, the structural wood chosen is the *Nanto* type - *fauchera spp*. Whereas, for carpentry and joinery, in the instances of the screens and terrace benches, *Merbau* is used.

TABLE 5: NOSY BE TIMBER TYPES (Adapted by Author, 2006).

NANTO *fauchera spp.*	- location: Antsohihy, Analalava & Mahajanga (least available) - usage: hardwood truss system - dense & hard wood - mean density: 12% - humidity: 1.03 - mean hardness: 9 - durability in forest: enough
MERBAU[1] *caesalpiniacea* *intsia bijuga, afzelia bijuga,* *intsia palembanica*	- diameter: 600 – 1200 mm - thickness of sapwood: 50 – 80 mm - floats: none - colour: brown - sapwood: clearly demarcated (the wood of a tree between the bark and heartwood, normally lighter in colour than the heartwood, equal in length to heartwood but usually not as decay-resistant) - heartwood: orangey brown becoming dark red brown or dark brown with light. Presence of yellow sulphur deposits - texture: coarse - grain: straight or interlocked - interlocked grain: interlocked - average density: 0.83 g/cm³ (standard deviation = 0.05) - Monnin hardness: 8.8 (standard deviation = 2.3) - coefficient of volumetric shrinkage: 0.39% (standard deviation = 0.06) - total tangential shrinkage: 4.4% (standard deviation = 0.9) - total radical shrinkage: 2.7% (standard deviation = 0.7) - fibre saturation point: 24% - stability: stable - crushing strength (at 12% moisture content): 74MPa (standard deviation = 6) - static bending strength (at 12% moisture content): 115MPa (standard deviation = 13) - modulus of elasticity (at 12% moisture content): 15440 MPa (standard deviation = 2269) - localities: Australia (Kwilau), China (Kalabau), Fiji (Vesi), Indonesia (Merbau), Madagascar (Hintsy), Malaysia Islands (Mirabow), Peninsular Malaysia (Merbau), New Caledonia (Kohu), Papua New Guinea (Kwila), Philippines (Ipil), Thailand (Lum-Paw), Vietnam (Gonuoc) - preservative treatment: not required against dry wood borer attacks, neither in case of temporary and permanent humidification risks - drying rate: slow - risk of distortion: slight risk - risk of casehardening: no - risk of checking: slight risk - risk of collapse: no

[1] http://tropix.cirad.fr/asia/merbau.pdf

APPENDIX 2: VISUAL DIARY AND DESIGN DEVELOPMENT

1. PRELIMINARY CONCEPTS - early interpretations of the January and March 2006 site visits

a. EXISTING - INTERPRETATIONS - URBANISM

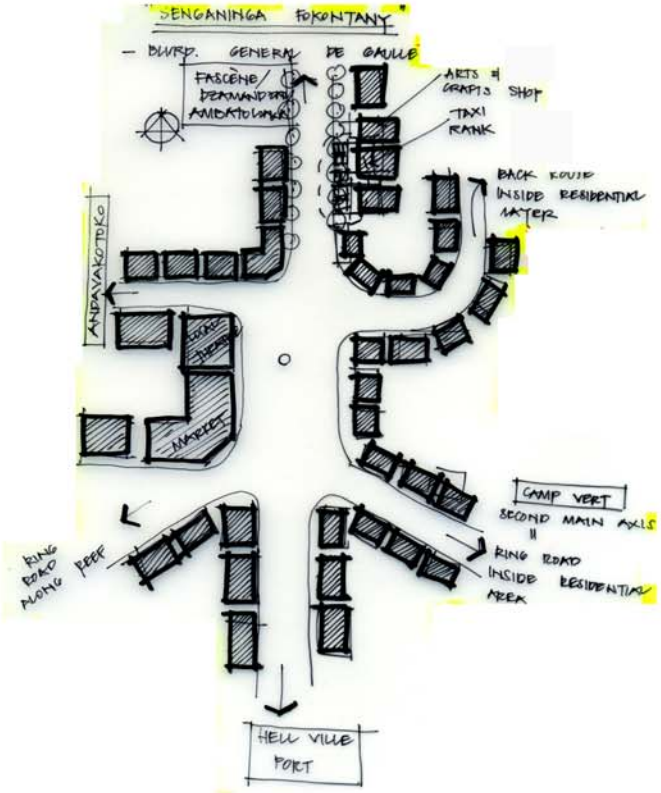


Fig. 193: Interpretative sketch 1 of Place d'Andoany (Author, 2006).

COURS DE HELL:
- CENTRE PLACE FOR HELL VILLE
- CROSS ROAD
- MAIN MOVEMENT ROUTE IN BAD STATE
- TRAFFIC ISSUES
- DRAINAGE ISSUES
- LOSS OF VALUE OF CITY & STRUCTURES
- NO PUBLIC SANITARY FACILITIES
- SMALL ROADS FOR HEAVY CAR MOVEMENT

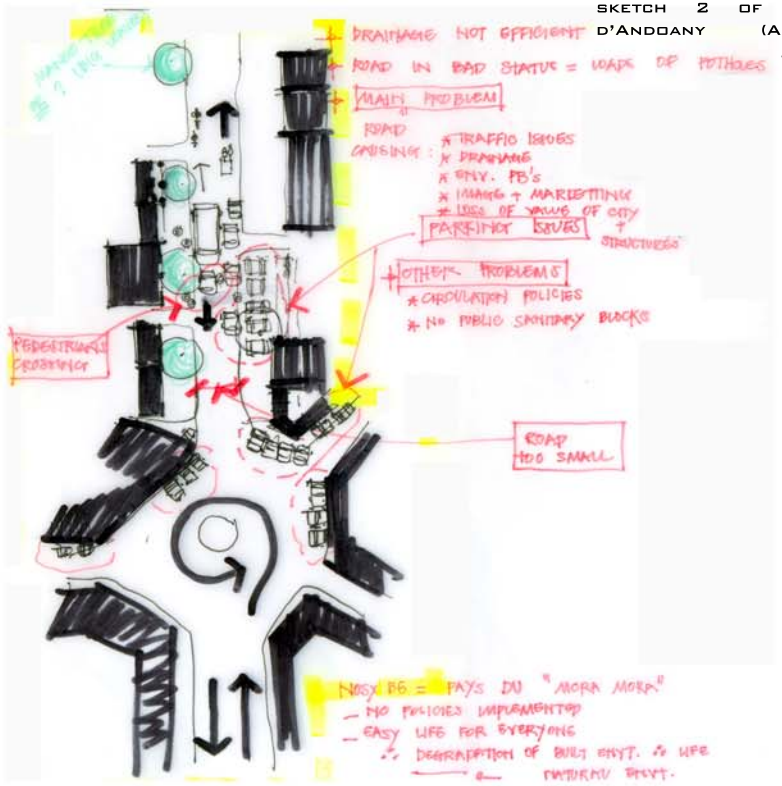


Fig. 194: Interpretative sketch 2 of Place d'Andoany (Author, 2006).

FACADE OF POTENTIAL SITE
VIEW FROM BOULEVARD DE L'INDEPENDANCE SHOWING ISSUES OF TAXI RANK + SURROUNDING BUILDINGS TO PROMOTE COMMUNITY EMPOWEREMENT WITH THE ACTIVITIES THEY WILL ACCOMMODATE

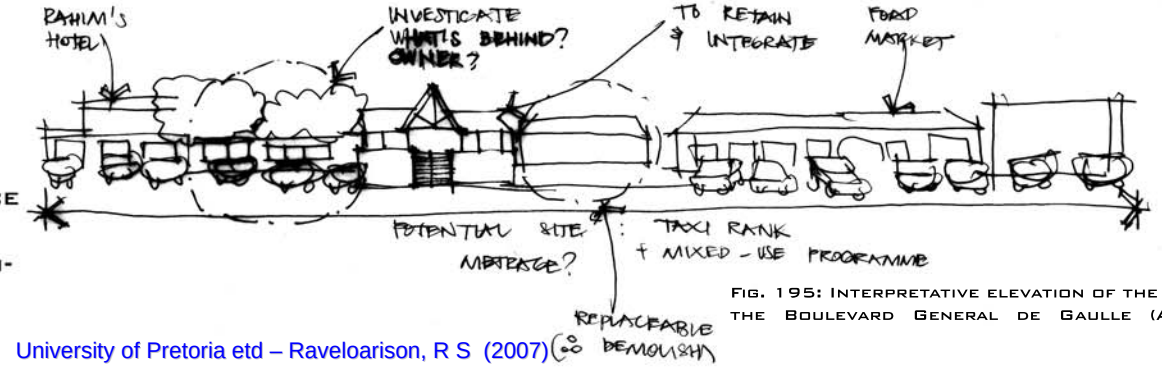


Fig. 195: Interpretative elevation of the site on the Boulevard General de Gaulle (Author, 2006).

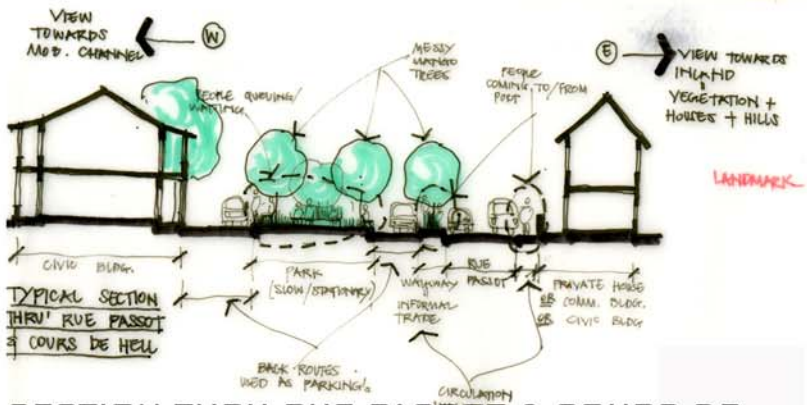


FIG. 196: SECTION THRU RUE PASSOT & COURS DE HELL SHOWING FABRIC + LAYERS + ACTIVITIES

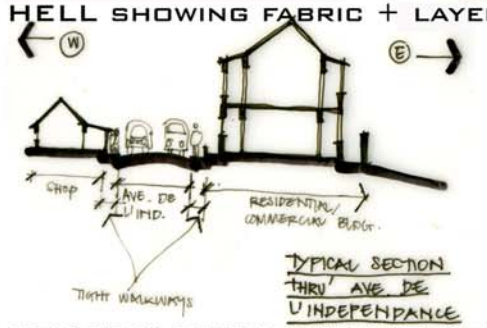


FIG. 197: SECTION THRU AVENUE DE L'INDEPENDANCE

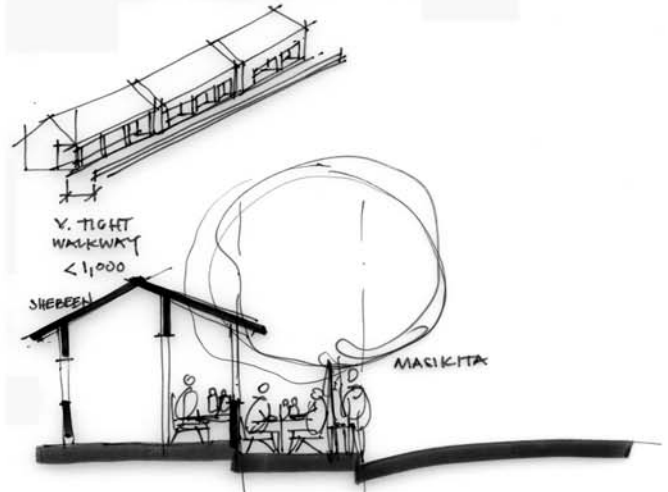


FIG. 198: EXAMPLE OF SPATIAL ORGANISATION OF SOCIAL ACTIVITY - BROCHETTES

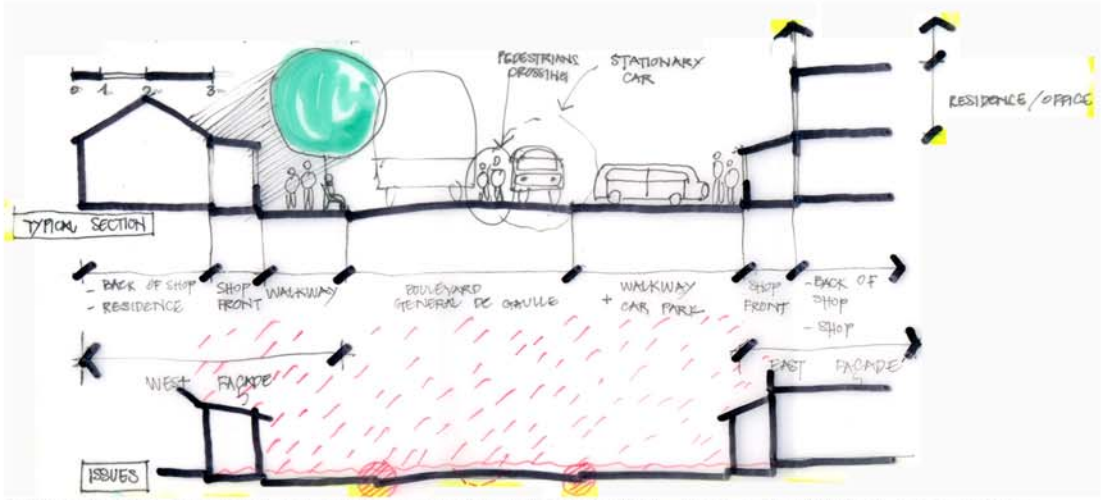


FIG. 199: SECTION THRU BOULEVARD GENERAL DE GAULLE SHOWING ISSUES OF PEDESTRIANS VS. TAXIS & VEHICLES + CLIMATE ISSUES

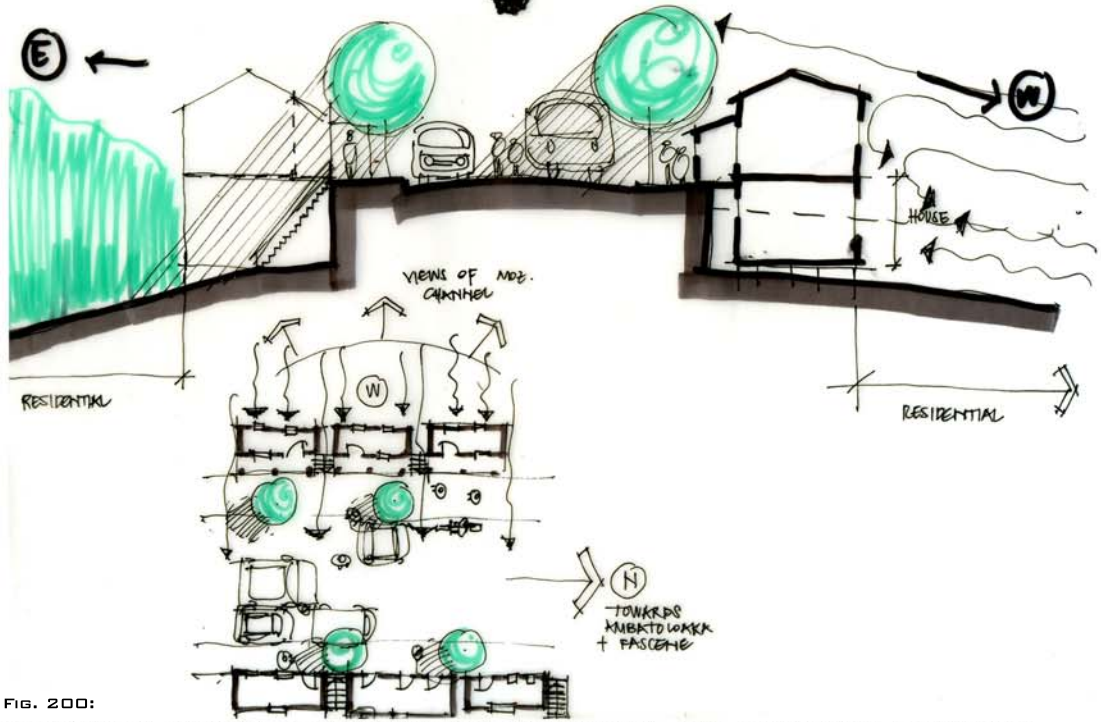
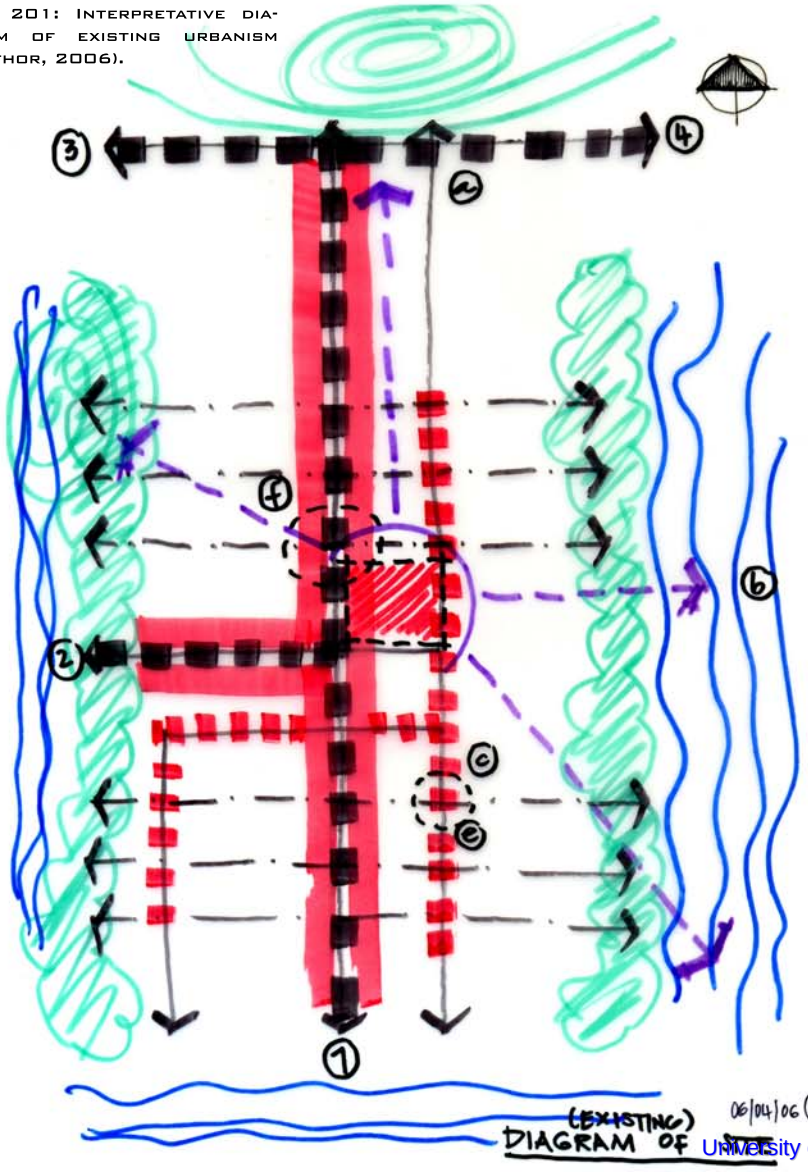


FIG. 200: SECTION THRU BOULEVARD GENERAL DE GAULLE SHOWING TRAFFIC MOVEMENT IN PARRALLEL WITH PEDESTRIAN MOVEMENT

b. EXISTING VS. PROPOSAL - STRUCTURES AND LINKAGES

Fig. 201: Interpretative diagram of existing urbanism (Author, 2006).



EXISTING:

- UNDERMINED & EXPLOIITED COMMUNITY
- PRIVATE EXPLOITATIVE BUSINESS ON MAIN AXIS
- MONO-AXIALITY OF ACTIVITIES & MOVEMENT
- SURROUNDINGS NOT OFFERING FULL POTENTIAL

PROPOSAL:

- EMPOWERED COMMUNITY
- PUBLIC BUILDINGS & COMMUNITY ACTIVITIES ON MAIN AXIS
- MULTI-AXIAL = OPTIONS + OPPORTUNITIES
- SURROUNDINGS GIVEN FULL POTENTIAL

Fig. 202: Interpretative diagram of proposed urbanism (Author, 2006).

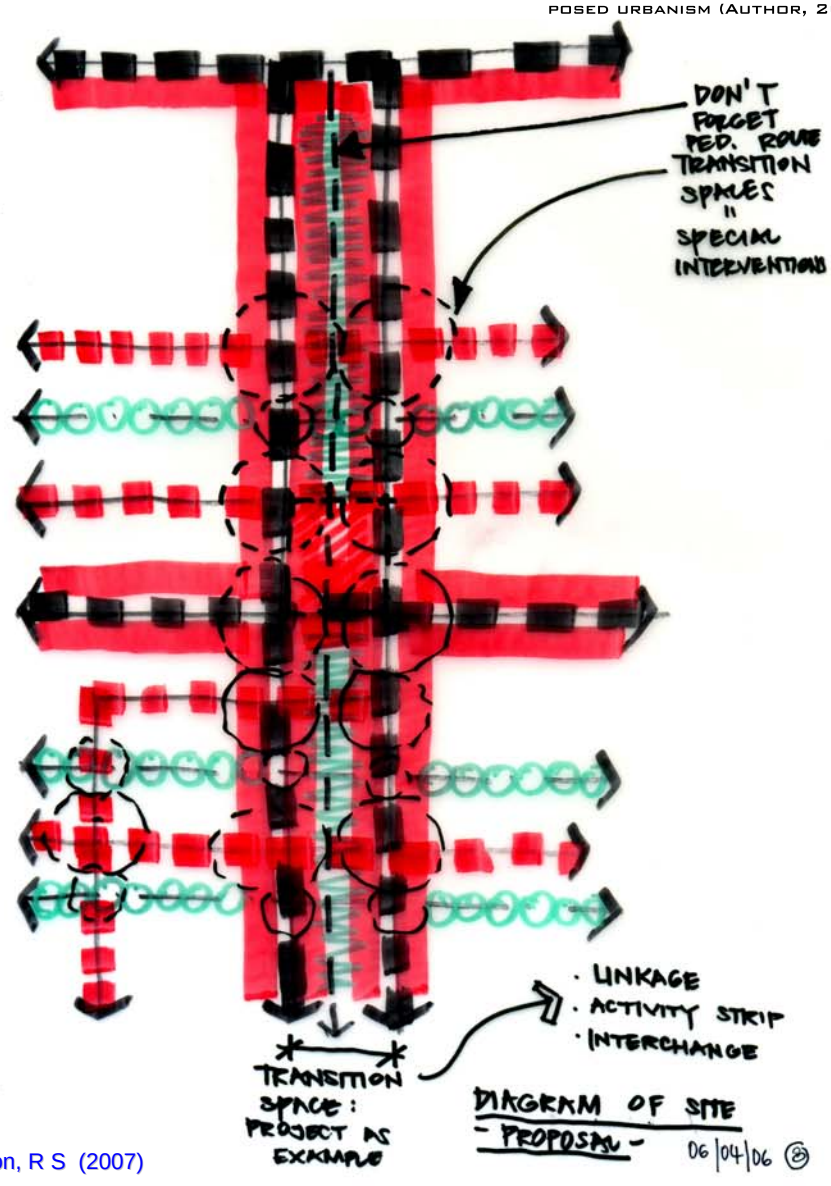
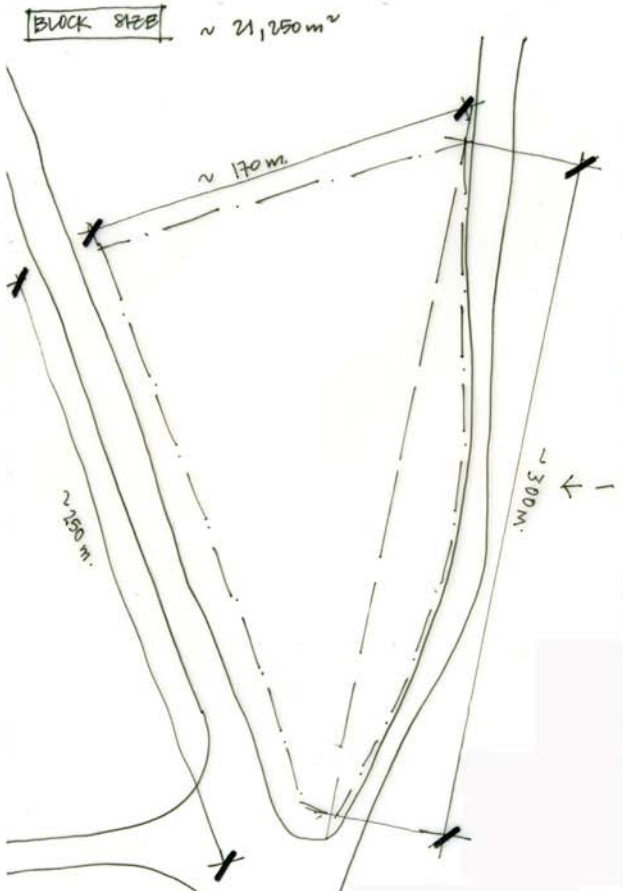


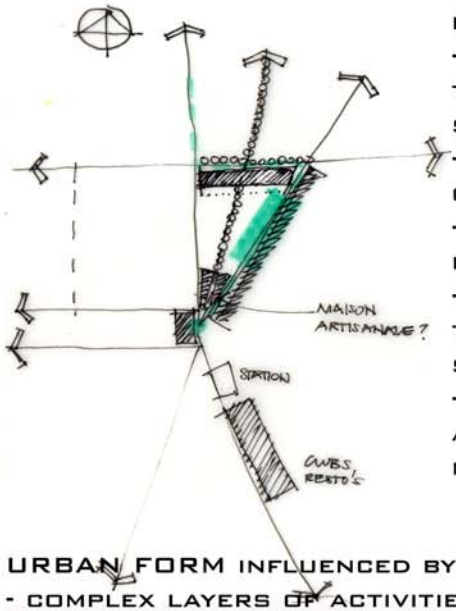
Fig. 203: Site diagram (Author, 2006).



SITE OPTION INFORMED BY ENERGIES AROUND IT & ITS POTENTIAL TO PROPOSE SOLUTIONS FOR FUTURE DEVELOPMENTS:

- CENTRAL AREA OF HELL VILLE
- MAGNET #1: THE BAZAR
- MAGNET #2: TAXI STOP
- MAGNET #3: INFORMAL TRADE + FORMAL BUSINESS

c. PROPOSED URBAN FORMS



URBAN FORM INFLUENCED BY:

- COMPLEX LAYERS OF ACTIVITIES
- HIERARCHY OF PRIVACY & PUBLICNESS
- DIFFERENT MOVEMENT TYPES - MAINLY PEDESTRIAN
- TOPOGRAPHY & CLIMATEAS WELL AS VIEWS

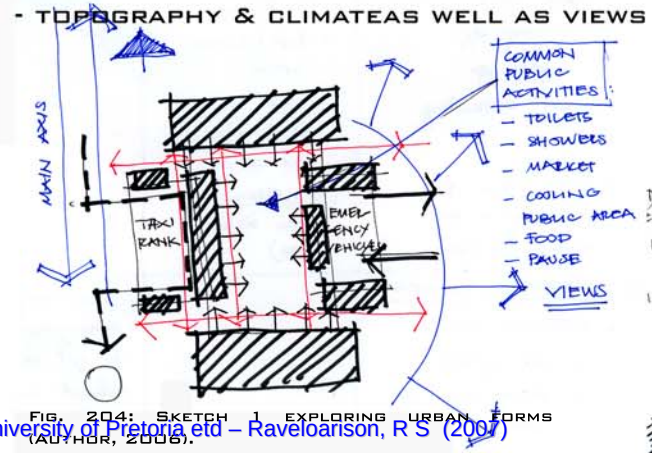


Fig. 204: Sketch 1 exploring urban forms (Author, 2006).

CHOICE & PLACEMENT OF ACTIVITIES INFORMED BY:

- SITE DYNAMICS CONCERNING THE PEOPLE AND THEIR DOING & GOING + NATURAL ASPECTS OF SITE
- IN RELATION TO COMMUNITY NEEDS & CAREFUL CHOOICE OF PRIORITY ACTIVITIES
- **SKILLS CENTRE** VERY IMPORTANT AS AN EMPOWEREMENT PROGRAMME TO THE COMMUNITY
- **EMERGENCY SERVICES** AS A PROPOSAL TO THE LACK OF GENERAL ACCESS TO PRIMARY SOCIAL SERVICES
- **TRANSPORT INTERCHANGE** TO CATER FOR ACCESSIBLE TRANSPORTATION FOR ALL WITH THE NECESSARY SERVICES

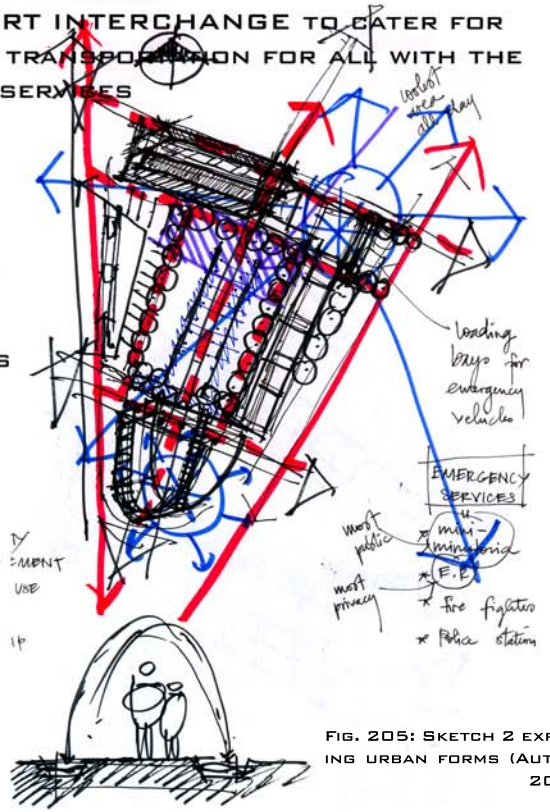


Fig. 205: Sketch 2 exploring urban forms (Author, 2006).

d. PROPOSAL FOR THE BOULEVARD GENERAL DE GAULLE

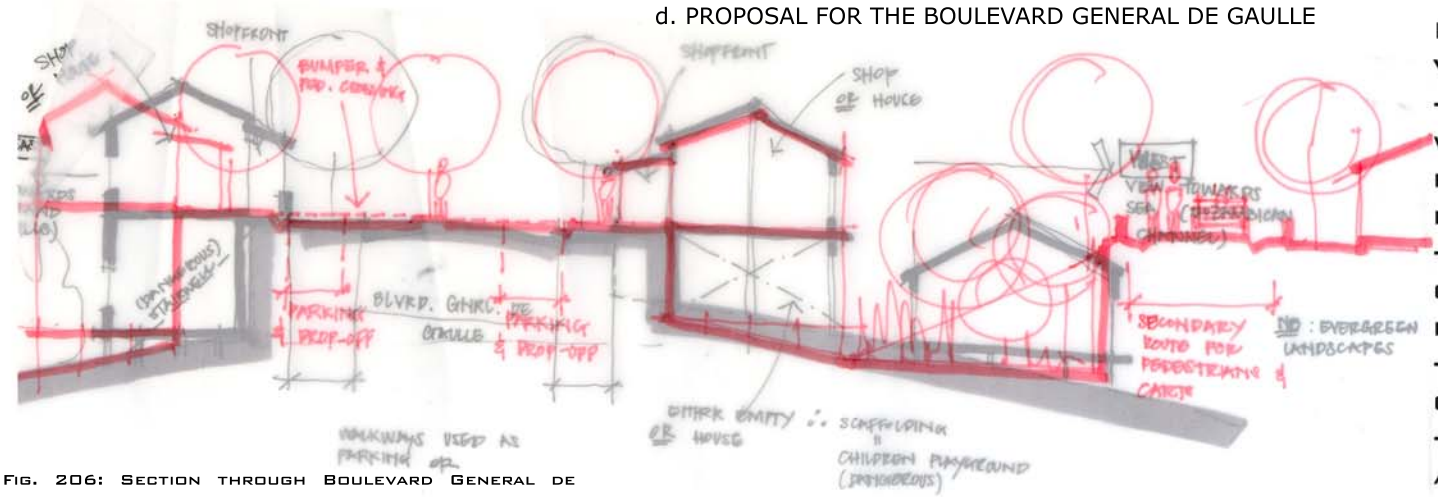


Fig. 206: Section through Boulevard General de Gaulle exploring issues of zoning and scales in relation to topography (Author, 2006).

PROPOSAL FOR THE BOULEVARD GENERAL DE GAULLE:

- INTRODUCTION OF CENTRE WALKWAY IN THE CENTRE OF THE ROAD FOR THE PEDESTRIANS TO PAUSE DURING THE CROSS
- INTRODUCTION OF PEDESTRIAN CROSSING ZONES - SPEED BUMPERS
- ENLARGE ROADS FOR DROP-OFF/PICK-UP LANES
- INTRODUCTION OF RING ROUTES AS THE BACK STREETS

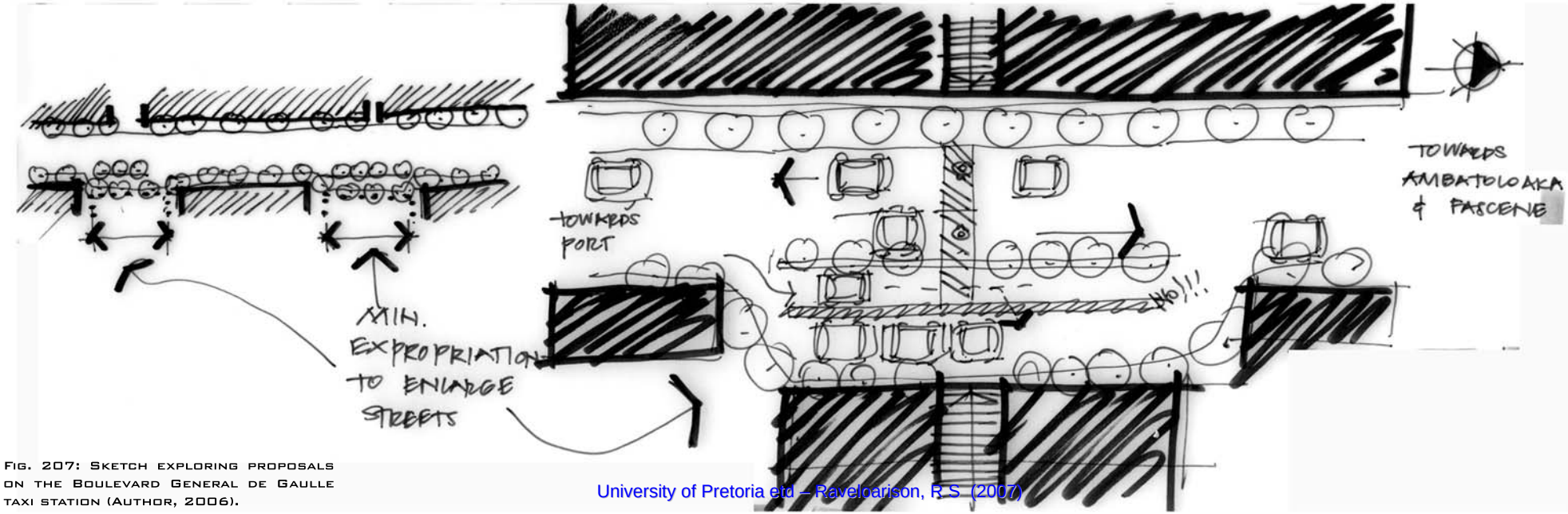
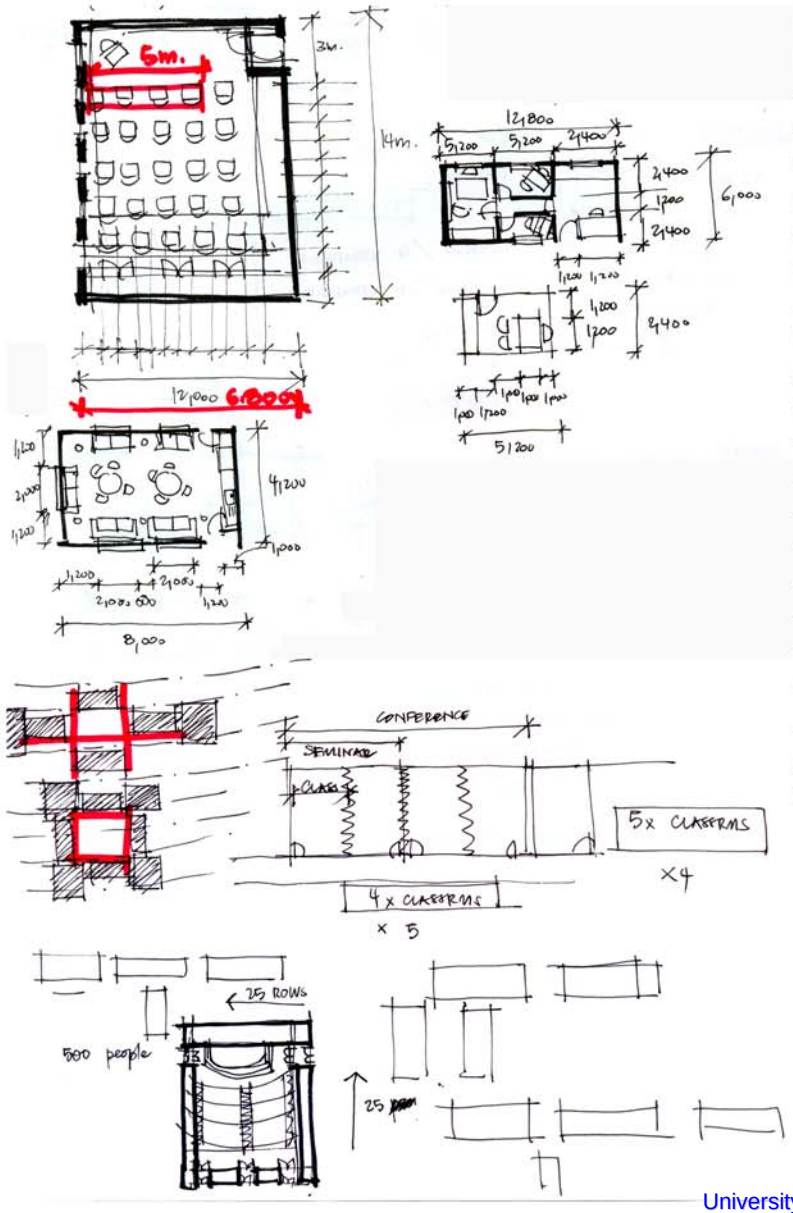


Fig. 207: Sketch exploring proposals on the Boulevard General de Gaulle taxi station (Author, 2006).

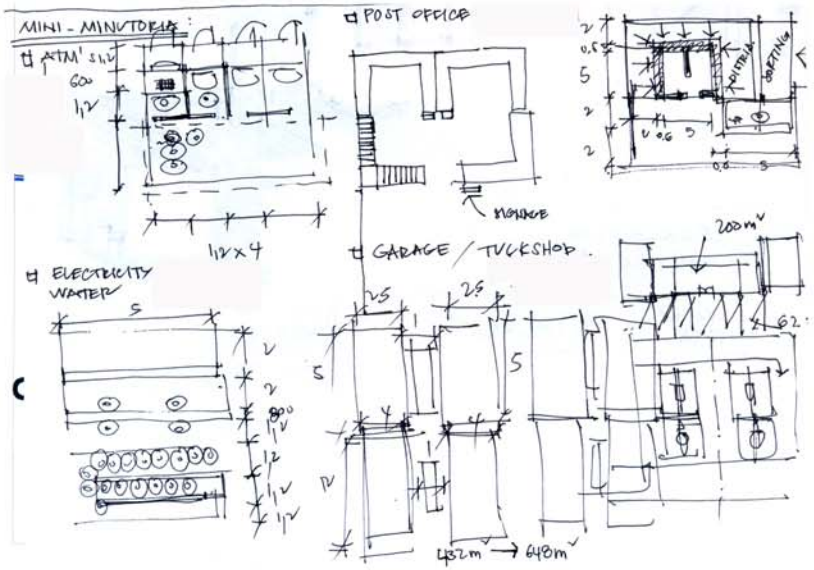
Fig. 208: Explorative sketches investigating spatial layouts for the skills centre in relation to user requirements (Author, 2006).



e. PROPOSED PROGRAMMES

SKILLS CENTRE:

- FLEXIBLE SPACES TO CATER FOR CLASSROOMS, SEMINARS AND CONFERENCES, AS WELL AS PUBLIC GATHERINGS OF DIFFERENT MATTERS
- AUDITORIUM
- ADMINISTRATION & STAFF AREA
- PUBLIC ZONES VERY IMPORTANT TO BE COMFORTABLE & PLEASANT TO THE SENSES



EMERGENCY SERVICES:

24 HR CIVIC BUILDING WITH ATM's + POST OFFICE + JIRAMA OFFICE

GARAGE & TUCKSHOP

FIRE FIGHTER & POLICE MINI-STATIONS

E.R. SERVICES WITH A 24 HR PHARMACY & DISPENSARY

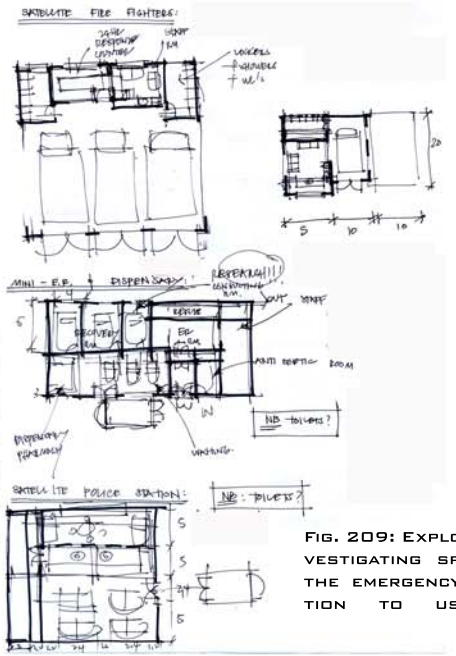


Fig. 209: Explorative sketches investigating spatial layouts for the emergency services in relation to user requirements (Author, 2006).

FIG. 212: CONCEPTUAL SKETCH OF A CORNER BUILDING
- MAYBE TO TAKE THE FUNCTION OF SKILLS CENTRE
- WITH SPECIAL ATTENTION TO ACCESSILITY FROM THE GROUND FLOOR + CIRCULATION ON UPPER LEVELS FAVOURISING SOCIAL INTERACTIONS WHILE ENJOYING THE SURROUNDINGS

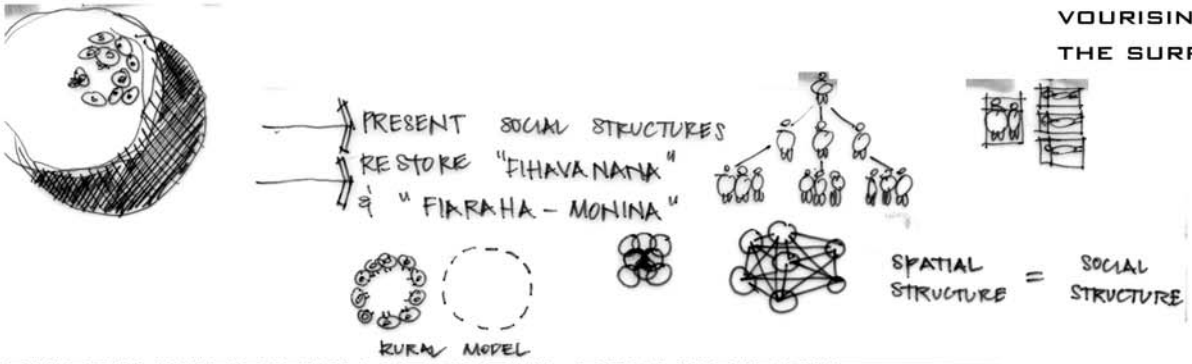
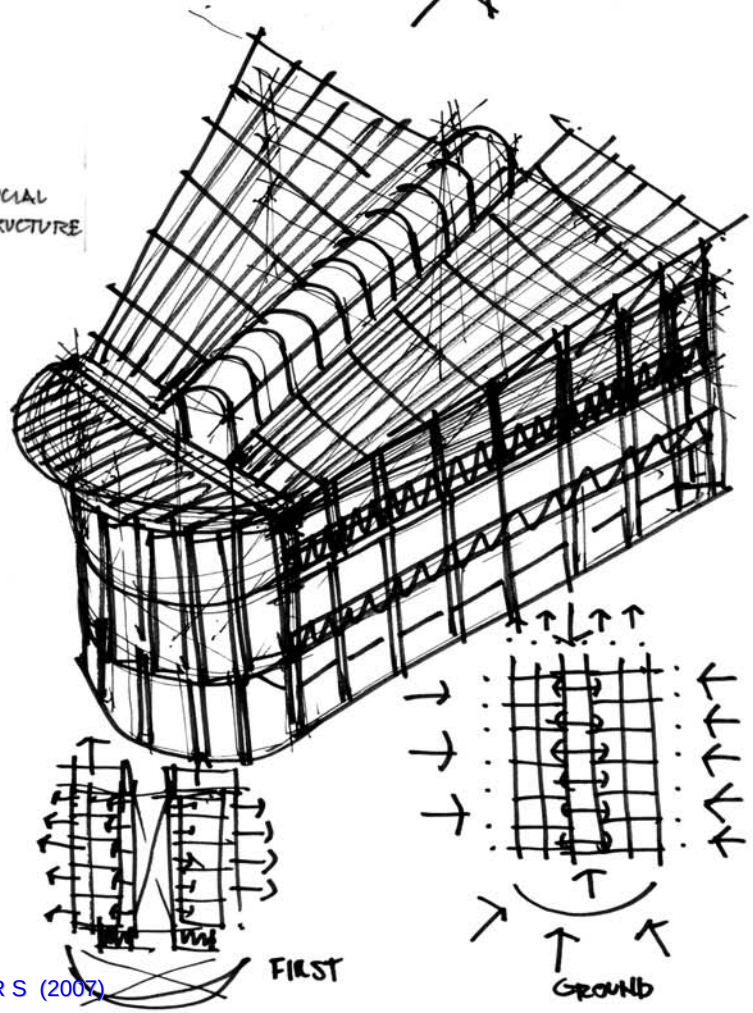


FIG. 210: DIAGRAMMATISATION OF SOCIAL ORGANISATION:
CONCEPT OF "FIARAHA-MONINA" = SOLIDARITY & NEIGHBOURHOOD AND HIGH RESPECT OF ELDERLY

FIG. 211: TERRAIN & NATURE FAVOURISE SOCIAL ORGANISATIONS & INTERACTIONS AS A GATHERING UNDER A TREE, A "FANORONA" GAME, A CONGREGATION ON THE STAIRS OUTSIDE



g. RESPONDING TO THE CLIMATE ON AN URBAN SCALE

FOR THE DESIGN OF PUBLIC SPACES & BUILDINGS SPECIAL CARE MUST BE GIVEN TO ISSUES RELATED TO CLIMATIC CONDITIONS CREATED BY THE CREATED ENVIRONMENT SUCH AS SHADING + EVAPORATIVE COOLING + CROSS VENTILATION

ELEMENTS SUCH AS TREES + PLANTING + WATER FEATURES BUILDING HEIGHTS + SHADING DEVICES + ETC BECOME CRUCIAL IN THE PART OF DESIGN

Fig. 213: Sketch investigating climatic affects - sun vs. shade - on the urban scale (Author, 2006).

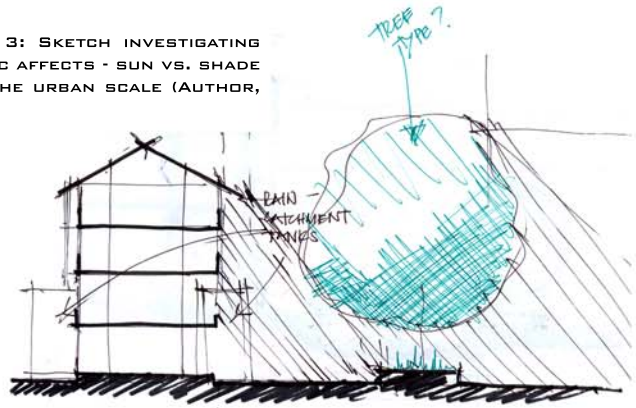


Fig. 214: Sketch investigating climatic affects - shade vs. prevailing breezes - on the urban scale (Author, 2006).

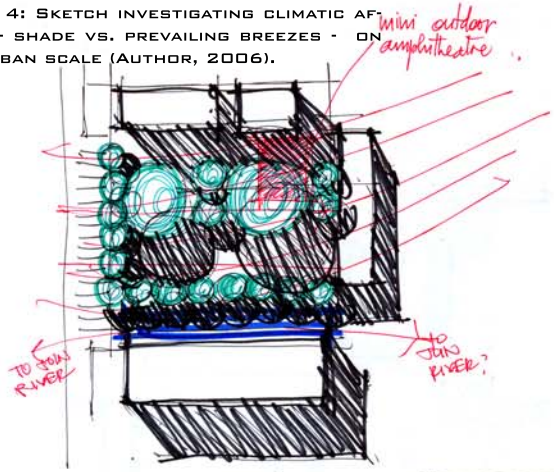


Fig. 215: Sketch exploring the affects of trees and the surrounding views (Author, 2006).

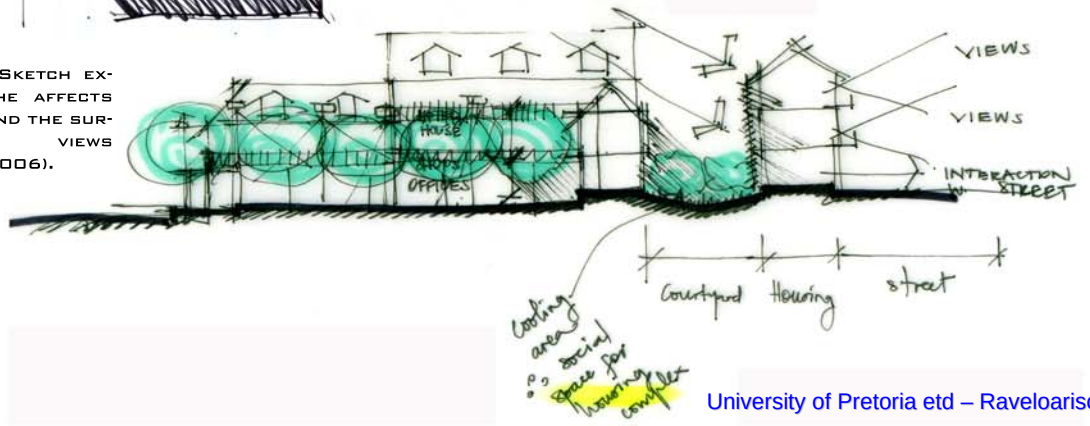


Fig. 216: Sketch exploring the affects of cross ventilation and the scale issue between a double-storey building vs. a single-storey one (Author, 2006).

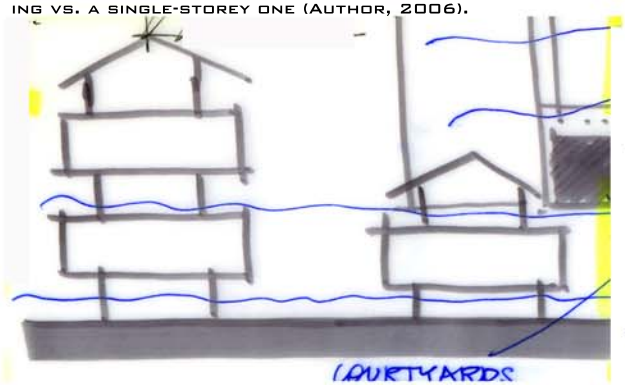


Fig. 217: Sketch exploring the affects of evaporativ cooling - not really appropriate in the hot and humid context of Hell Ville, Nosy Be (Author, 2006).

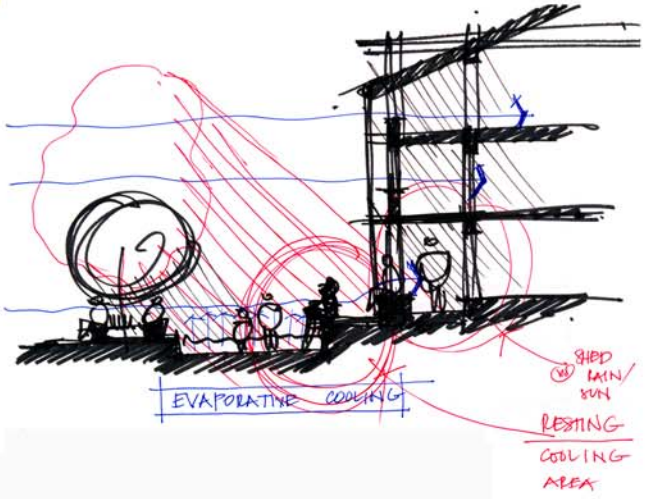
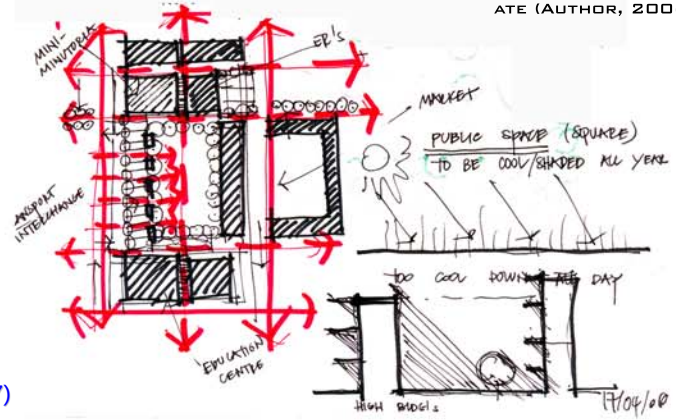


Fig. 218: Sketch exploring issues of heat and sun radiance in a hard surfaced public square - very inappropriate (Author, 2006).



2. EARLY CONCEPTS FOR THE EMPOWERMENT CENTRE

The following models and sketches show the early explorations of the proposed centre's spatial layout and volumes in relation to the site's surrounding buildings and topography.

The courtyard and 'wrapping' concepts are still applied, adjacent with the water feature as open channels to catch rain water.

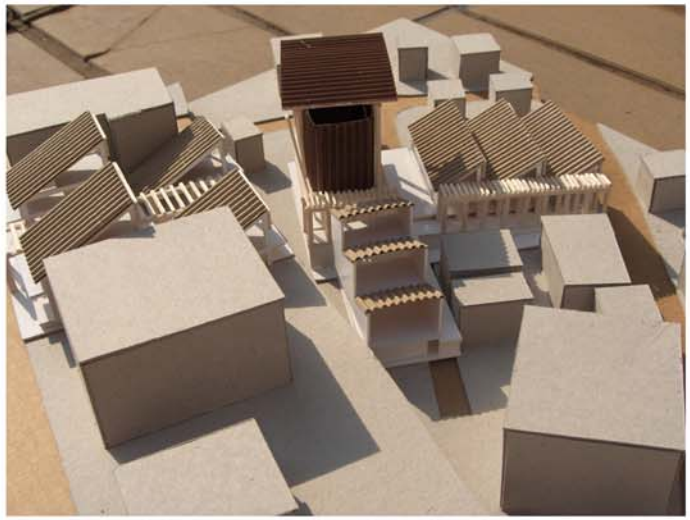
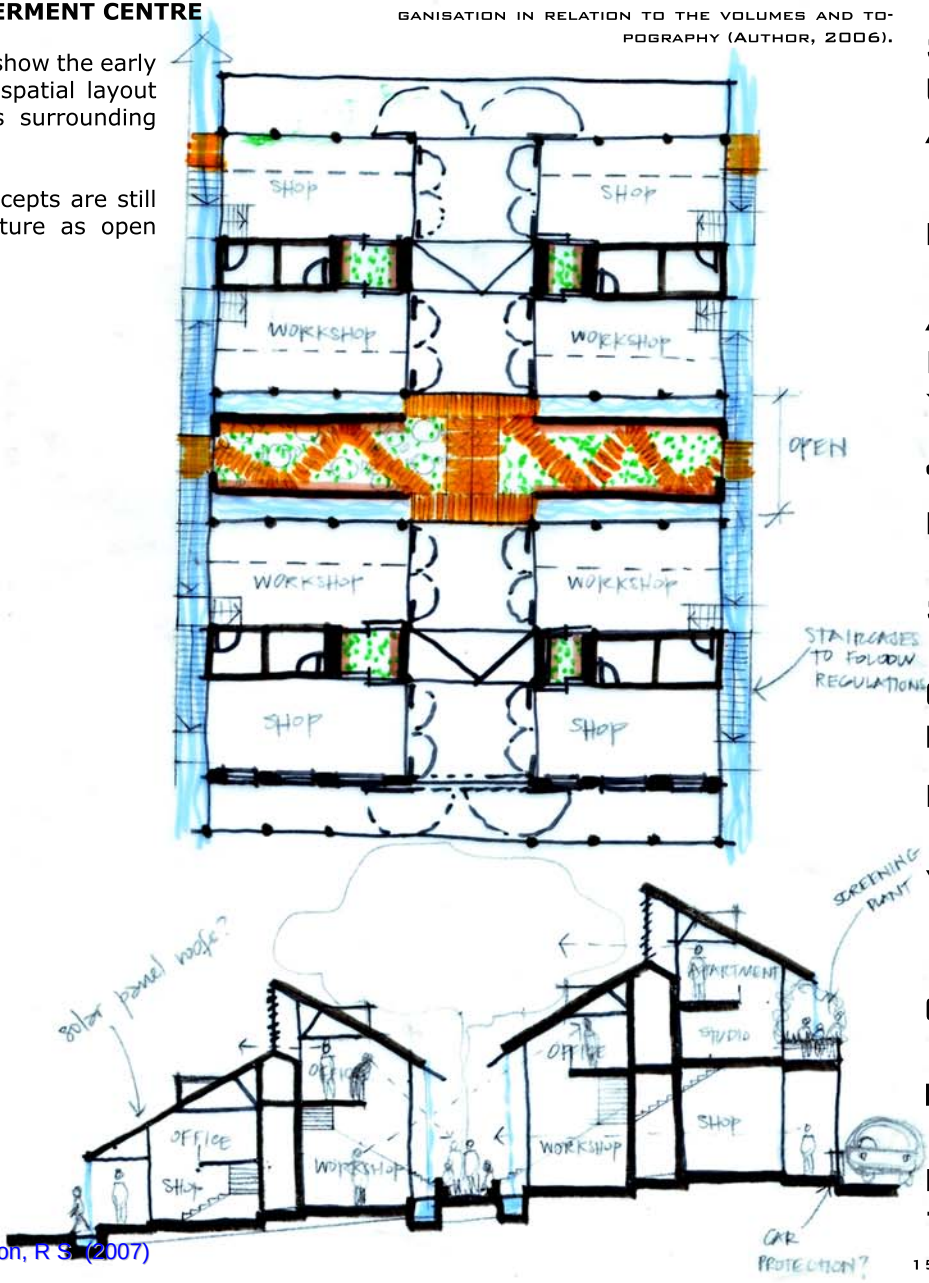


Fig. 219: 1:200 working model showing the preliminary concept for the empowerment centre with East-facing sawtooth roofs (Author, 2006).

Fig. 220: 1:200 working model showing the preliminary concept for the empowerment centre with East-facing sawtooth roofs - East corner (Author, 2006).

Fig. 221: Preliminary sketch of the rentable spaces component exploring the spatial organisation in relation to the volumes and topography (Author, 2006).



APPENDIX 2: VISUAL DIARY AND DESIGN DEVELOPMENT

3. DESIGN CONCEPTS FOR THE REFERENCE CENTRE

Left column:

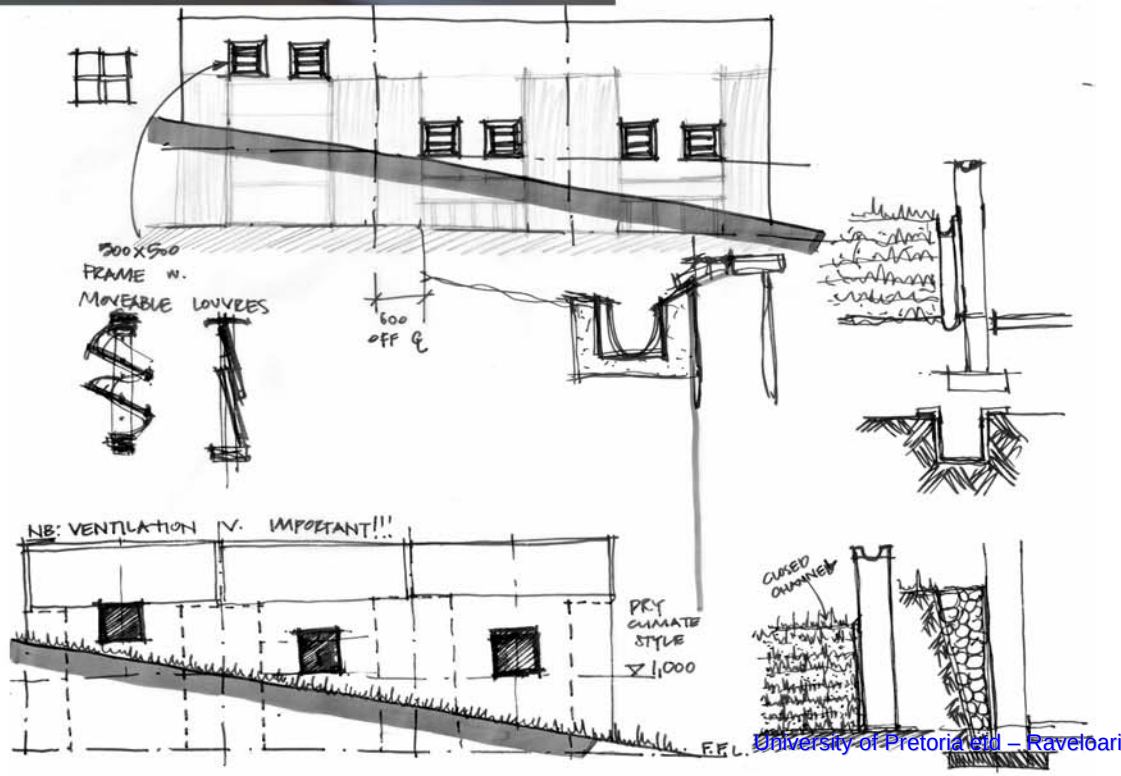
Fig. 222 (top): Close-up view of the reference centre's South elevation (Author, 2006).

Fig. 223 (bottom): Explorative sketches of the reference centre's South elevation, more specifically the concrete retaining wall - window composition and retaining wall structure (Author, 2006).

Right column:

Fig. 224 (top): 1:50 working model of the reference centre - South-East view (Author, 2006).

Fig. 225 (bottom): Investigative sketch of the reference centre's North elevation (Author, 2006).



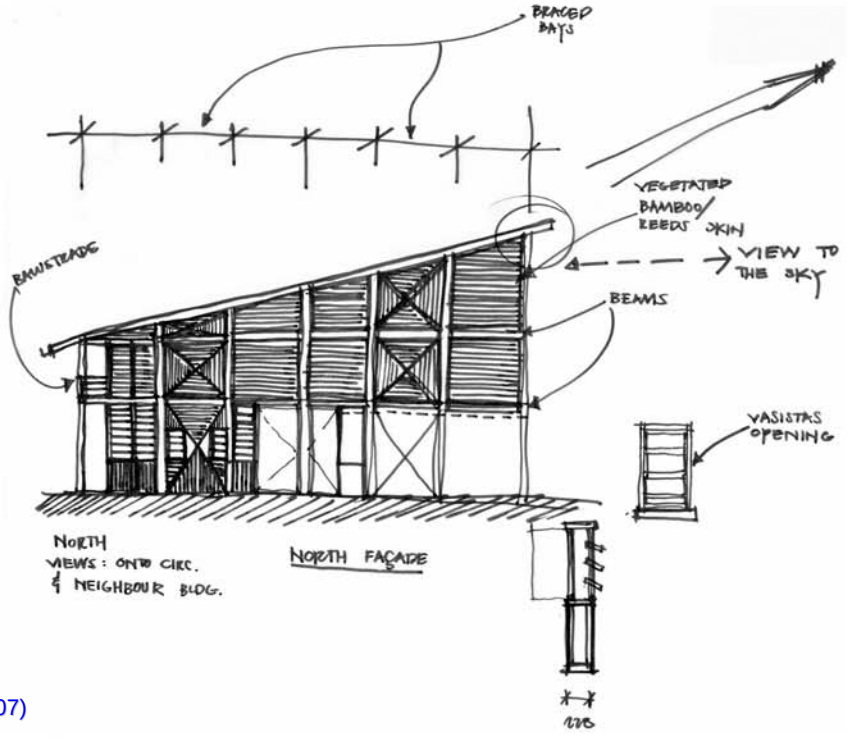
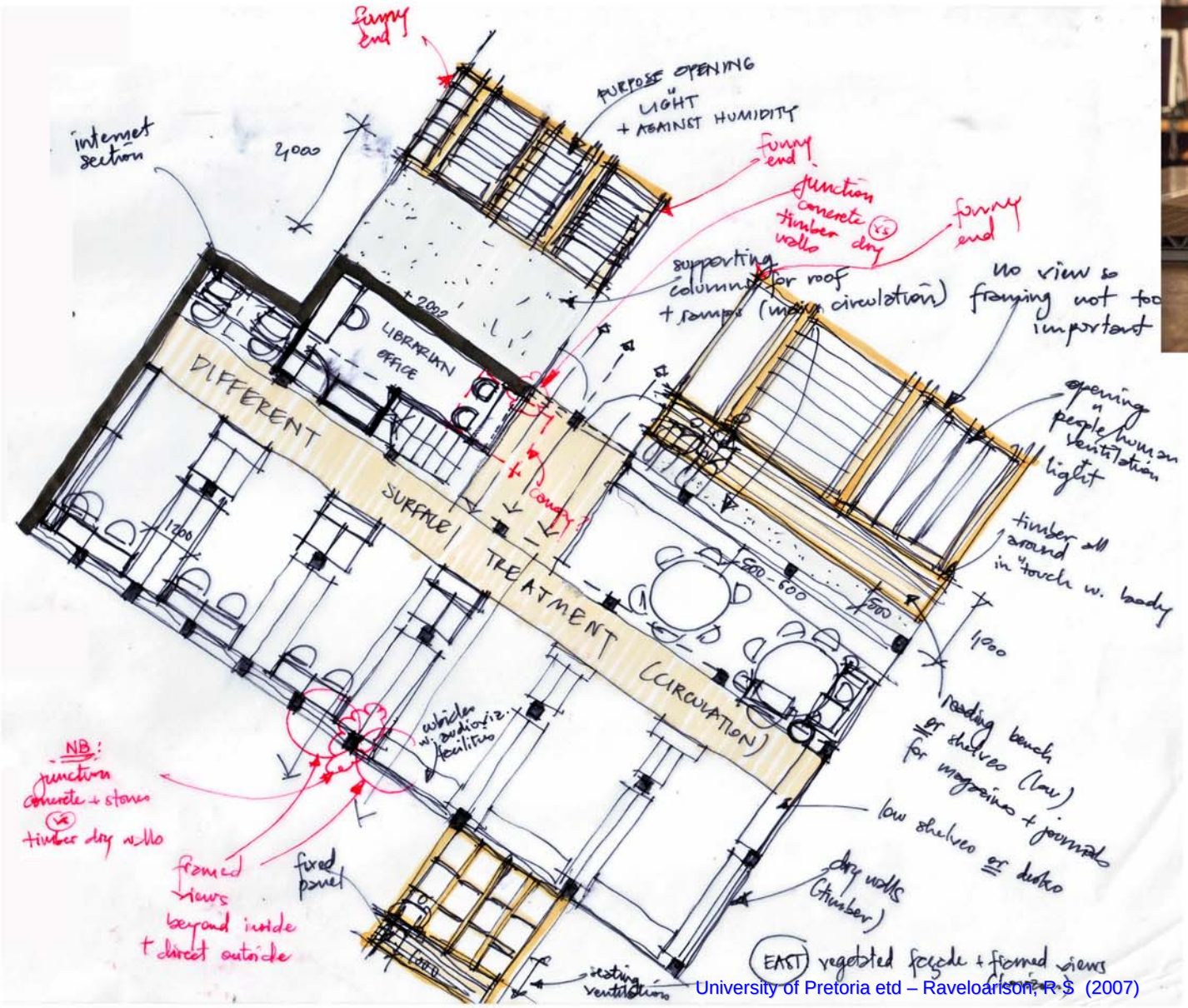


Fig. 226: Sketch plan of the reference centre's ground floor allocating for the library, a magazine and reading corner (North-East corner) as well as an office for the librarian by the stairs and the entrance; whereas the shelves are placed South with study cubicles modularly allocated in-between (Author, 2006).



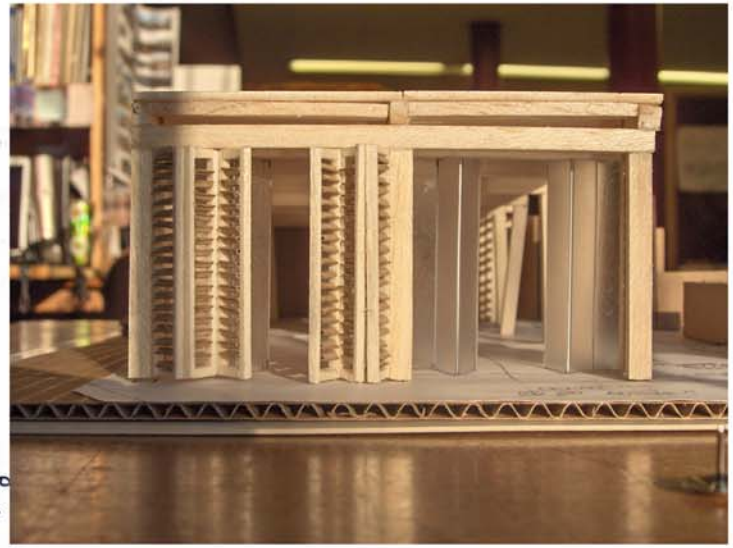


Fig. 227: 1:50 working model of the reference centre investigating on the full height screens by the East elevation allowing the complete integration of inside and outside, as well as allowing for spatial flexibility i.e. change of function over time (Author, 2006).