



CHAPTER 1: CONTEXT STUDY

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1. MADAGASCAR

a. THE 2005-2025 NATIONAL P.I.C. PROJECTS (SOURCE: Groupement EDSA et al. 2005):

The Projets Pôles Intégrés de Croissance (P.I.C.) or the Integrated Poles of Growth Projects are part of an enterprise against national poverty, initiated by the Malagasy Government in 2005. The P.I.C. aims to half poverty by 2025 in three target areas, which are Antananarivo/Antsirabe in the Centre, Taolagnaro in the South, and Nosy Be in the North. Each project focuses on the regions' specific economical issues and assets. For instance, Antananarivo/Antsirabe P.I.C. project aims to promote the region's arts and crafts as well as the tourism sectors; while the Taolagnaro P.I.C. expands on its mining resources; and finally, the Nosy Be P.I.C. encourages tourism, through the development of holiday resorts and ecotourism.

In the course of 2005, the Republic of Madagascar has developed a framework for the Nosy Be P.I.C. project, which consists of the Plan d'Aménagement Touristique Durable de Nosy Be (Nosy Be Sustainable Touristical Development Framework) and the Plan d'Urbanisme Directeur (PUDi – Main Urban Development Framework).

The Plan d'Aménagement Touristique Durable de Nosy Be thrives to set up a minimal platform of infrastructure in a coordinated and integrated way, to support an environment satisfying the private sector, investors and the people's expectations, to develop the Tourist Development Framework for the Nosy Be and Taolagnaro (Fort Dauphin) poles through an update and synthesis of the existing reports and ratios, particularly of the "Tourism Project in Madagascar" document - done in 1992 with the support of the UNDP (United Nations Programme for the Development). As for Nosy Be, the goal is to promote tourism development as a main source of economical growth. Therefore, the top priorities in the tourism sector, defined by the Poverty Reduction Strategy Document, are as follow:

- the promotion and development of tourism that

protects and safeguards the natural environment and the sociocultural identity of the Malagasy;

- the transformation of tourism into a sustainable lever of development for the direct benefit of the communities;
- the development and increase of tourism-related incomes and revenues for all stakeholders;
- the development of infrastructures through the enhancement and creation of viable and profitable target zones;
- the encouragement and creation of sustainable jobs to be created within the tourism sector.

The Plan d'Urbanisme Directeur (PUDi – Main Urban Development Framework) serves as a management, improvement and monitoring tool of the urban development in short, medium and long terms. It allows the municipal representatives to get a clear vision of the planning of future actions. The PUDi provides quantifiable needs that the thesis project could take part in proposing solutions, in terms of the numbers and types of buildings required in specific places, such as public sanitary facilities, drinking fountains, emergency services, schools, recreational spaces, stadiums, markets, etc, which are mainly sociocultural facilities.

In short, these base documents are necessary to put a framework of objectives and concerns for the thesis project. They also provide information concerning Madagascar and Nosy Be as a metropolis, in terms of biophysical characteristics, as well as social, cultural, economical and environmental information. These baseline papers offer a range of quantifiable data, as well as touristical and urban mindsets, necessary for the development of a programme towards the search for an appropriate contemporary Malagasy architecture.

FIG. 1: AFRICA VS. MADAGASCAR (SOURCE: P.I.C. DOCUMENT, 2005).





Antsiranana

FIG. 2: MADAGASCAR VS. ANTSIRANANA PROVINCE (SOURCE: P.I.C. DOCUMENT, 2005).



b. NATIONAL ISSUES AND PRIMARY OBJECTIVES (SOURCE: Groupement EDSA et al. 2005):

National poverty is one of the primary issues that the Republic of Madagascar is currently addressing. This poverty is a result of the high national unemployment rate, due to unstable jobs and inappropriate working conditions. However, while the country tackles this problem from an economical point of view, this dissertation contributes to the social and cultural dimensions.

Therefore, to go about helping with the fight against poverty, one of the main objectives set by the empowerment centre, through its programme, is to serve the Nosy Be citizens in conducting their own enterprises, and then introducing the latter to the global market for more participation and opportunities.

There is also a general lack of access to public facilities, as the P.I.C. documents mention, mainly due to the fact that the numbers of facilities cannot accommodate the urban growth.

As a result, as another goal, the project contributes to meeting the growing number of population by adding to the numbers of public vicinities in its urban and regional contexts, providing centrality, accessibility and public programmes responding to their needs.

Another problem noticeable throughout the country is the degradation of urban and especially natural environments, due to urban growth, mismanagement of resources, and especially deforestation-induced erosion (see Fig. 3), transforming Madagascar from the Green Island into the Red Island (see Fig. 4).

As a consequence, another objective set by the project is to put in place an environmentally-friendly example in dealing with issues of nature conservation and management, through sensible drainage and recycling programmes as a start.



FIG. 3: LAVAKA OR DEFORESTATION-INDUCED EROSION (SOURCE: [HTTP://PHOTOS.WILDMADAGASCAR.ORG/IMAGES/LAVAKA_00911.SHTML](http://PHOTOS.WILDMADAGASCAR.ORG/IMAGES/LAVAKA_00911.SHTML))



FIG. 4: TSIRIBIHINA RIVER TURNING RED BECAUSE OF EROSION (SOURCE: [HTTP://WWW.PBASE.COM/ERRORIST/MADAGASCA2&PAGE=7.JPG](http://WWW.PBASE.COM/ERRORIST/MADAGASCA2&PAGE=7.JPG))

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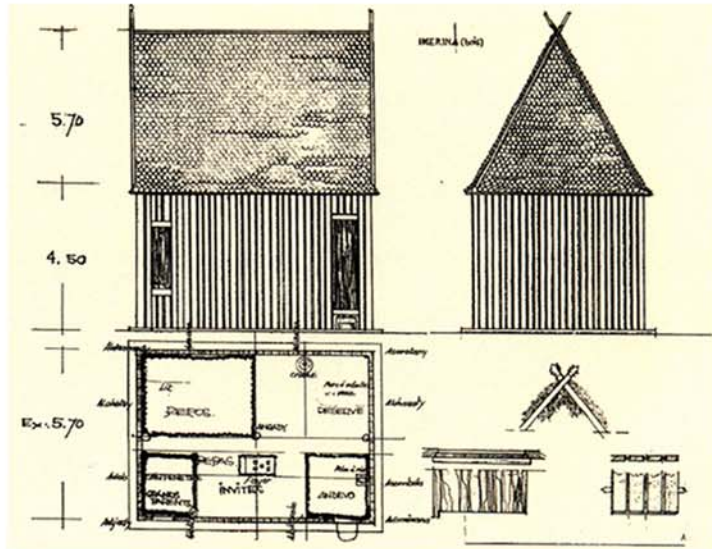
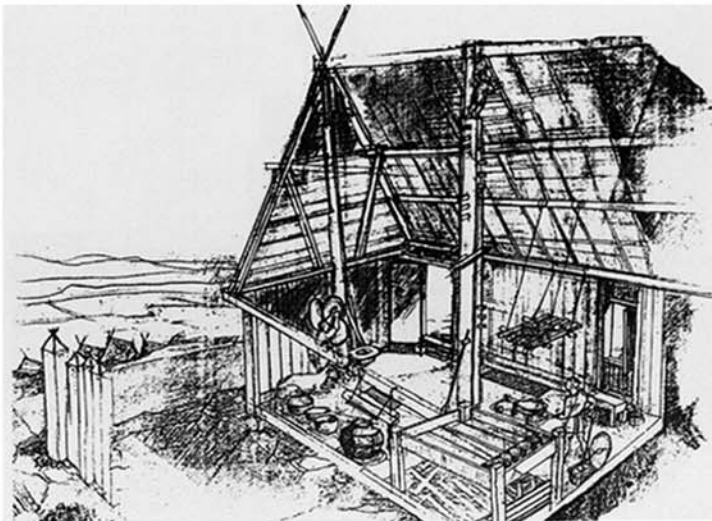


FIG. 5 (TOP): INTERPRETATION SKETCH OF MALAGASY CENTRAL TRIBE - MERINA - TRADITIONAL TIMBER HUT BY C.G. MANTAU & RATSIMIEBO. (SOURCE: MANTAU, C. G. RATSIMIEBO, H. 1893).

FIG. 6 (BOTTOM): SKETCH OF INTERIOR OF MERINA TRADITIONAL TIMBER HUT (SOURCE: MANTAU, C. G. RATSIMIEBO, H. 1893).



c. MALAGASY CULTURE TRANSLATED IN SPACES:

The following are prominent Malagasy cultural characteristics and use of space:

i. The mystical cult of ancestors and the importance of the dead, considered to be the transitional spiritual beings between the living and God, associated with different sacred places, such as the top of a hill or at a water source, or underneath a sacred tamarind or baobab tree (see Fig. 7). Usually those places are very well maintained, combined with the *fady* or the forbidden, since they are so sacred and paid a lot of respect by the locals.

ii. The mystical belief of the Zodiac, closely related to time and sun orientation. It sets a framework in daily lives and important decision-makings and activities, such as marriage or home building etc. This belief is implemented in the planning of the different functions of the house. The North-West corner then becomes the place where the elderly reside and where the guests are received. Hence, the *fatana* - or cooking and fire - is at the heart of the house to welcome both family members and guests. The North-East side of the house was originally for the king's throne, to be translated and become the parents' bedroom, also where one pays respect to the ancestors. The South East is where the kitchen storage and live stock are kept; and the South West is where the door is placed, facing West where all souls pass through. The same concept applies for tombs. Similarly, all the openings face West, to catch the *masoandro mody* - the sun going home (see Fig. 5 & 6).

iii. The Malagasy culture is a very social one, whereby social activities and congregations are closely associated with weekly and monthly markets (see Fig. 8). These open markets operate by assigning a week day to each participating village. This way, each village gets a fair opportunity to exhibit and sell its goods, as well as all the residents being able to visit family and relatives in the neighbouring villages. As a result, the market becomes not only an economical event but also a cultural one where visitors and residents feast on the exhibited goods and fairs.

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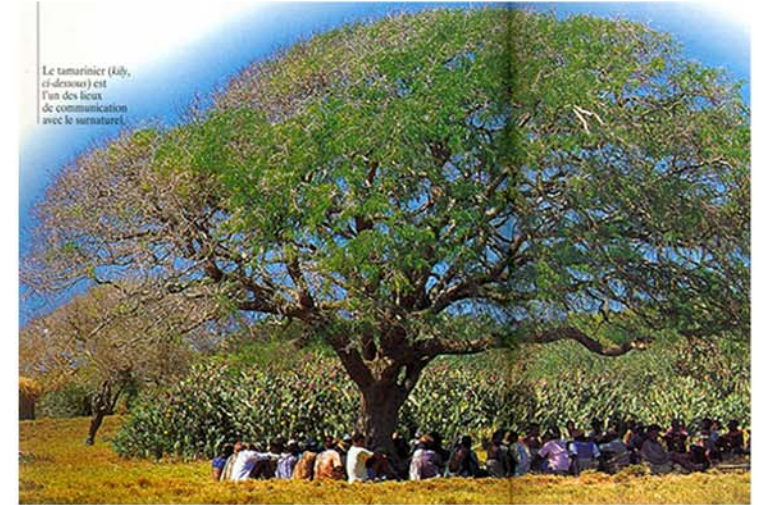
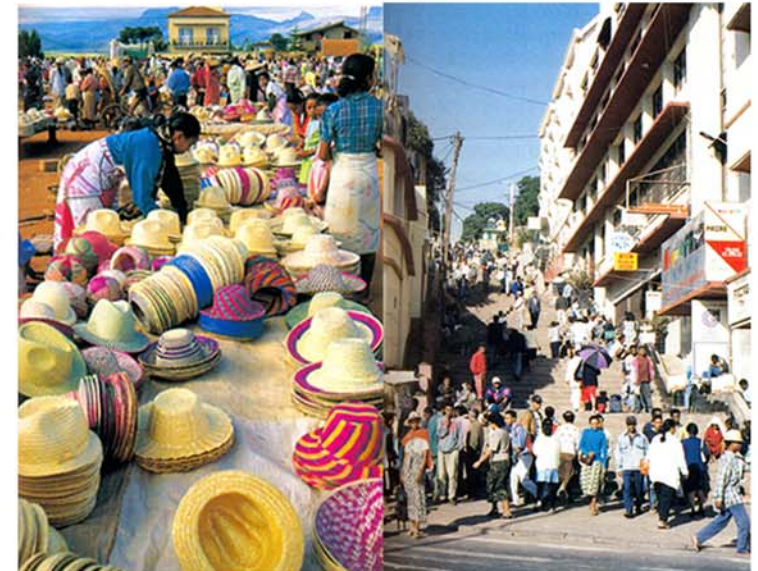


FIG. 7 (TOP): CONGREGATION UNDERNEATH TAMARIND TREE (SOURCE: ACQUIER, J. L. ET AL. 1999: 60-61)

FIG. 8 (BOTTOM LEFT): A LADY SELLING HAND-MADE HATS AT A VILLAGE MARKET (SOURCE: ACQUIER, J. L. ET AL. 1999: 91)

FIG. 9 (BOTTOM RIGHT): ANTANANARIVO RESIDENTS MINGLING BY ONE OF THE URBAN STAIRS WHICH LINK THE UPPER AND LOWER PARTS OF ANTANANARIVO (PHOTO BY JULIEN AUTRAN. SOURCE: "LA CITÉ DES MILLES", 1998: 119)





d. ANALYZING THE MALAGASY CONTEMPORARY ARCHITECTURE:

i. The Ambohitsaina University of Antananarivo, Ankatso, by Solo Razakamanantsoa, 1965 (see Fig. 10):

In terms of building typology, most buildings in the country use a concrete frame structure with brick infills, that allows for smaller classrooms to cohabit with central circulation spines, as well as bigger amphitheatres to house large numbers of students. The rooms are laid out so that at least one side catches natural light and ventilation. A large proportion of the roof is a flat concrete structure that is inappropriate due to the high levels of rainfall, which occurs in the Malagasy capital city of Antananarivo.

In general, the conclusion is that, on one hand, the concrete frame with brick infill building typology is successful to accommodate lecture halls and smaller classrooms simultaneously. On the other hand, flat roofs are unsuitable within a tropical climate. The planning attempts to be on a human scale but fails to facilitate movement between the different lecture halls.

ii. 67 Ha (see Fig. 12) and Ampefiloha Social Housing (see Fig. 11), Antananarivo, by SEIMAD, respectively 1970 and 1960:

The planning of the 67 Ha and Ampefiloha social housing is based on the Modernist concept of *tabula rasa* on a very rigid urban layout. As a result, very little community activity takes place in its surroundings, which have been transformed into depot spaces for unused and damaged cars.

In terms of the construction method, like the University of Antananarivo, concrete frame with brick infill is used throughout allowing the units to go from garage on the ground floors to the second floor bedrooms. The first floors become the living and dining rooms together with the kitchen. The planning of the flats consist of deep plans disabling proper natural lighting and ventilation. The accommodations can become very uncomfortable during the rainy season

when the temperatures and humidity are at their highest.

The units' frames bear flat concrete roofs, providing no protection against heavy rainfalls and rain storms, as well as direct sunlight, making indoor conditions unbearable. The lack of sufficient openings contribute to the poor conditions.

As a conclusion, the samples of contemporary architecture taken from Madagascar's capital city of Antananarivo are institutional and residential typologies, appropriate for the proposed project's programme.

The positive input from these examples is that Modernism, in other words frame building types, is that it could be successful when accommodating for a large number of users. The structural module permits a fair arrangement of openings to allow light and ventilation to avoid air-conditioning and its labourious maintenance.

Nevertheless, like in the case of the social housing, natural ventilation and lighting are not achieved due to the issue of deep planning and unsuccessful moduling. Furthermore, in both situations of the university and the housing, flat concrete roofs are used, causing dirty facades and indoor leakages, since rainfall is rather high in the country, letting bare sunlight to get inside the rooms creating uncomfortable atmospheres for the users.



FIG. 10: THE ECONOMICS FACULTY OF THE AMBOHITSAINA UNIVERSITY OF ANTANANARIVO, BY SOLO RAZAKAMANANTSOA, 1965 (PHOTO APM. SOURCE: "LA CITÉ DES MILLES". 1998:127).



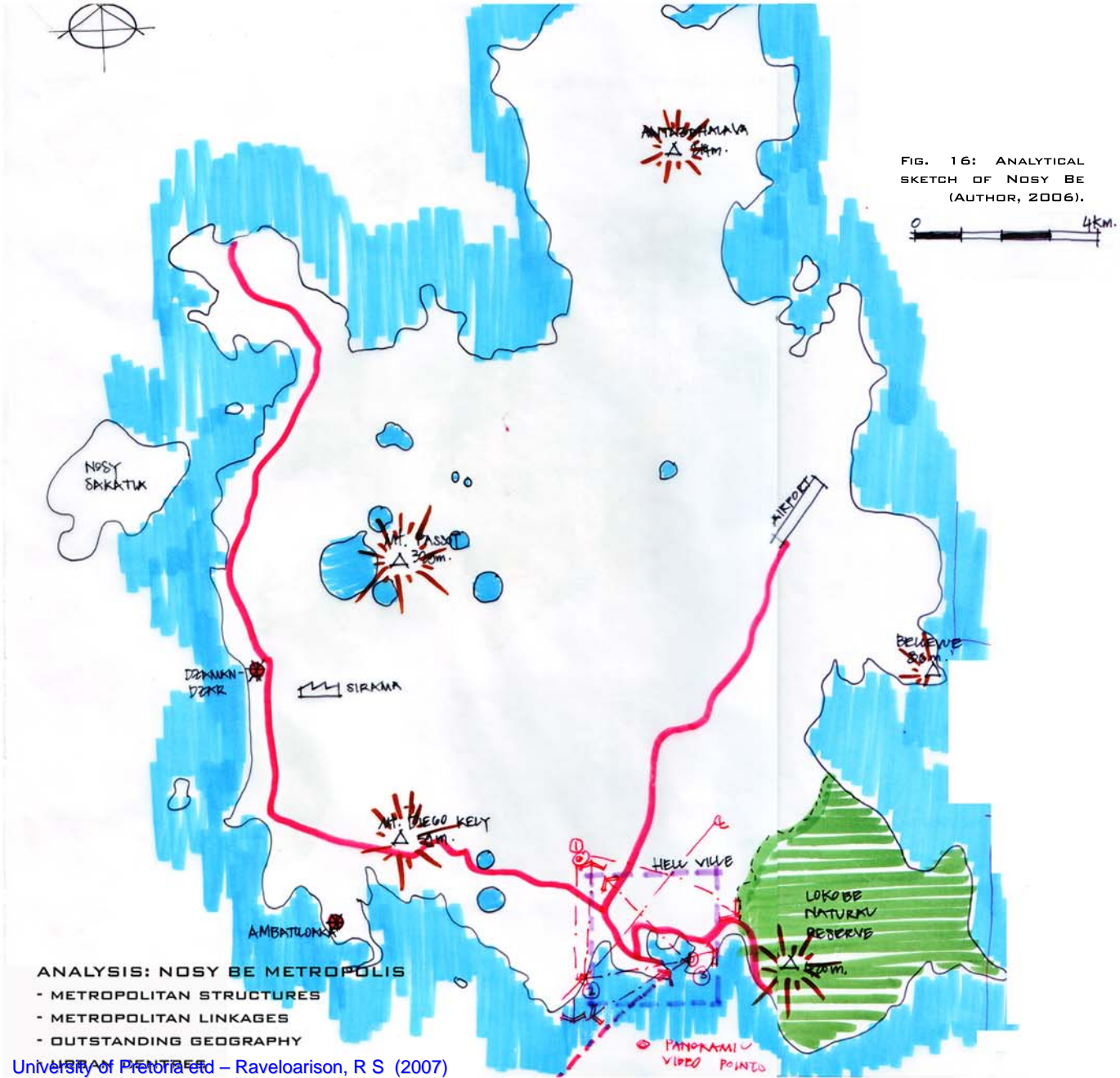
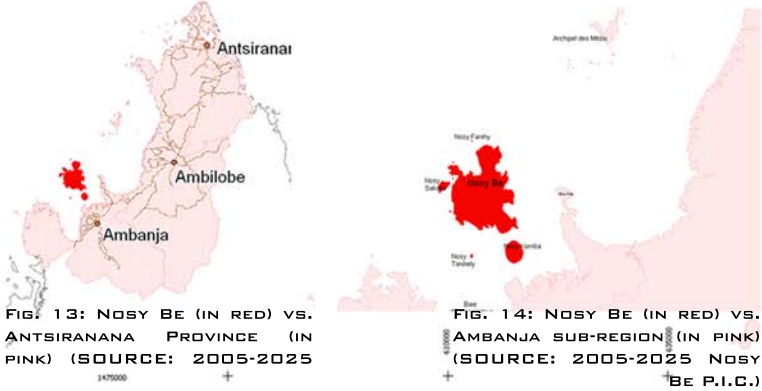
FIG. 11 (LEFT): AMPEFILOHA SOCIAL HOUSING, BY SEIMAD, 1960, ANTANANARIVO (PHOTO: JULIEN AUTRAN. SOURCE: "LA CITÉ DES MILLES". 1998: 126).

FIG. 12 (RIGHT): 67 HA SOCIAL HOUSING, BY SEIMAD, 1970, ANTANANARIVO (PHOTO: JULIEN AUTRAN. SOURCE: "LA CITÉ DES MILLES". 1998:126).



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2. NOSY BE a. Nosy Be





i. Historical Context (SOURCE: Groupement EDSA et al, 2005: 10.)

One can identify three stages within Nosy Be's historical context.

Before 1840, during the twelfth and thirteenth centuries, Nosy Be was an Arab commercial counter, specifically located in the South of Hell Ville, in Marodoka Ambanoro, where slave trade took place as well as cohabitation between Arabs, Africans, Indians, and the locals. The urban centre then moved to the Antakarana - Northern tribe - stronghold in Tafondro.

Between 1840-1896, amidst the pressure from the Merina tribe - Central tribe - during their campaign of unifying the main island, the Sakalava tribe got pushed away in the Northern parts of Madagascar and were obliged to seek for protection from France. Therefore, the Sakalava exchanged the ownership of the island in exchange of security, to make Nosy Be a French protectorate with the capital transferred in Andoany Hell Ville, named after the port and the Bourbon (now Reunion Island) governor Hell.

Between 1896 and 1960 (Madagascar's year of independence), Nosy Be abolished slave trade on its soils and went through a long process of re-integration with the main land to become part of Madagascar.

ii. Cultural Context:

The Nosy Be culture consists of diverse customs due to the existence of several ethnical and foreign groups, such as the Sakalava - from the West, Antakarana - from the North, Merina - from the Centre, Betsileo - from the South Centre, as well as the French, Italians, Indians and Arabs.

The cultural diversity and hospitality in Nosy Be makes it the number one touristic destination in Madagascar, therefore facilitating the annual Indian Ocean cultural event known as *Donia*.



FIG. 17: AN EXAMPLE OF FOREIGN HERITAGE IN NOSY BE, AN INDIAN TOMB LEFT IN THE OLD INDIAN QUARTER OF MARODOKA AMBANORO. THIS ISLAMIC INDIAN POPULATION ARRIVED IN THE ISLAND IN THE THIRTEENTH CENTURY, WHOSE MAIN ACTIVITY WAS TRADE AND COMMERCE (SOURCE: ACQUIER, J. L. ET AL. 1999: 55).



FIG. 18: A BUILDING FAÇADE DEMONSTRATING THE USE OF LOCAL MATERIALS - TIMBER, CORRUGATED STEEL ROOF SHEETING, AND MASONRY; USE OF MOTIFS - ABSTRACTED "ALDALO" OR MALAGASY TOTEM AND GEOMETRIC PATTERNS FOR THE OPENINGS; USE OF COLOURS - HERE DARK BROWN & WHITE PAINTS (SOURCE: GROUPEMENT INTERPROFESSIONNEL HOTELIER ET TOURISTIQUE DE NOSY BE. 2005: 8).

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b. *Donia* - Nosy Be's character:

Donia is an annual international cultural event which takes place in Nosy Be, involving different artists from the Indian Ocean, such as Mayotte, Mauritius, Reunion Island, etc, including the local and regional performers.

It takes place on the island during the cooler and dryer periods of the year, between May and June. It consists of a four-day programme of cultural (see Fig. 19 & 20), social and sports activities, where parades happen in the streets of Hell Ville. Sports contests take place on the beaches and concerts are held in the municipal stadium. There have been thirteen *Donia* events since 1994, and sponsors such as the Ministry of Tourism, cultural centres like the Alliance Francaise and Centre Culturel Albert Camus, foreign countries like France, Mayotte and Reunion Island, are regulars to deliver *Donia* to Nosy Be (<http://www.festival-donia.com>).

c. Architectural Typologies:

i. Vernacular Architecture - the Regional Organic Hut:

The regional vernacular architecture, as illustrated in Fig. 23, belongs to the North part of Madagascar, characterized by the extensive use of organic materials. The primary structure consists of timber post-and-lintel typology, to which the roof, walls and floor are clad. The cladding is made from a tree called *ravinala* - *ravinala madagascariensis* - available in the Northern and Eastern tropical forests of the main island. For instance, the roof is thatched with *ravinala* leaves, the wall panels become modular screens made from its branches, and finally the floor boards are de-skinned, halved and dried *ravinala* tree trunks. Within a settlement, these huts provide a continuity in appearance, material and proportion.

The organic structure with natural ventilation enables comfortable indoor environments with lower humidity levels. The exterior walls are screens, with gaps between the branches, to allow air movement in all directions. The suspended floor further contributes



FIG. 19 (TOP): CONCERTS IN THE HELL VILLE MUNICIPAL STADIUM, 2005 (SOURCE: [HTTP://WWW.FESTIVAL-DONIA.COM/DONIA2005](http://www.festival-donia.com/donia2005)).

FIG. 20 (BOTTOM): 2006 PARADE IN THE BOULEVARD GENERAL DE GAULLE NOT VERY FAR FROM THE EMPOWERMENT CENTRE'S SITE (SOURCE: [HTTP://WWW.FESTIVAL-DONIA.COM/DONIA2006/CARNAVAL01.JPG](http://www.festival-donia.com/donia2006/carnaval01.jpg))



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to ventilation and humidity control. Another advantage of the suspended floor is the ability to prevent water getting into the hut during heavy rain storms. The piloti setup also permits the flexibility of siting for the hut, on a steep or flat terrain. Concerning the roof, the panes are at steep angles (thirty to forty-five degrees) to get rid of the annual mean two thousand millimetres of rain. Due to the steep roof, there is left-over room for extra roof ventilation and storage in the ceiling. The roof's thatched surfaces contribute to the hut's insulation and waterproofing.

This building typology is still currently used throughout Nosy Be, because of its efficiency and comfort, as well as its simple and fast construction process. The only alterations are brought to the claddings changed to corrugation for the wall panels and roofing. The framework concept is still consistently applied. In the contemporary hut (see Fig. 21), the corrugated steel sheeting has replaced the previously used natural materials, because of the high availability of corrugation sheeting in comparison with thatching.

FIG. 21: ALTERED VERNACULAR TYPOLOGY IMPLEMENTED BY NOSY BE CITIZENS (SOURCE: AUTHOR, MARCH 2006).



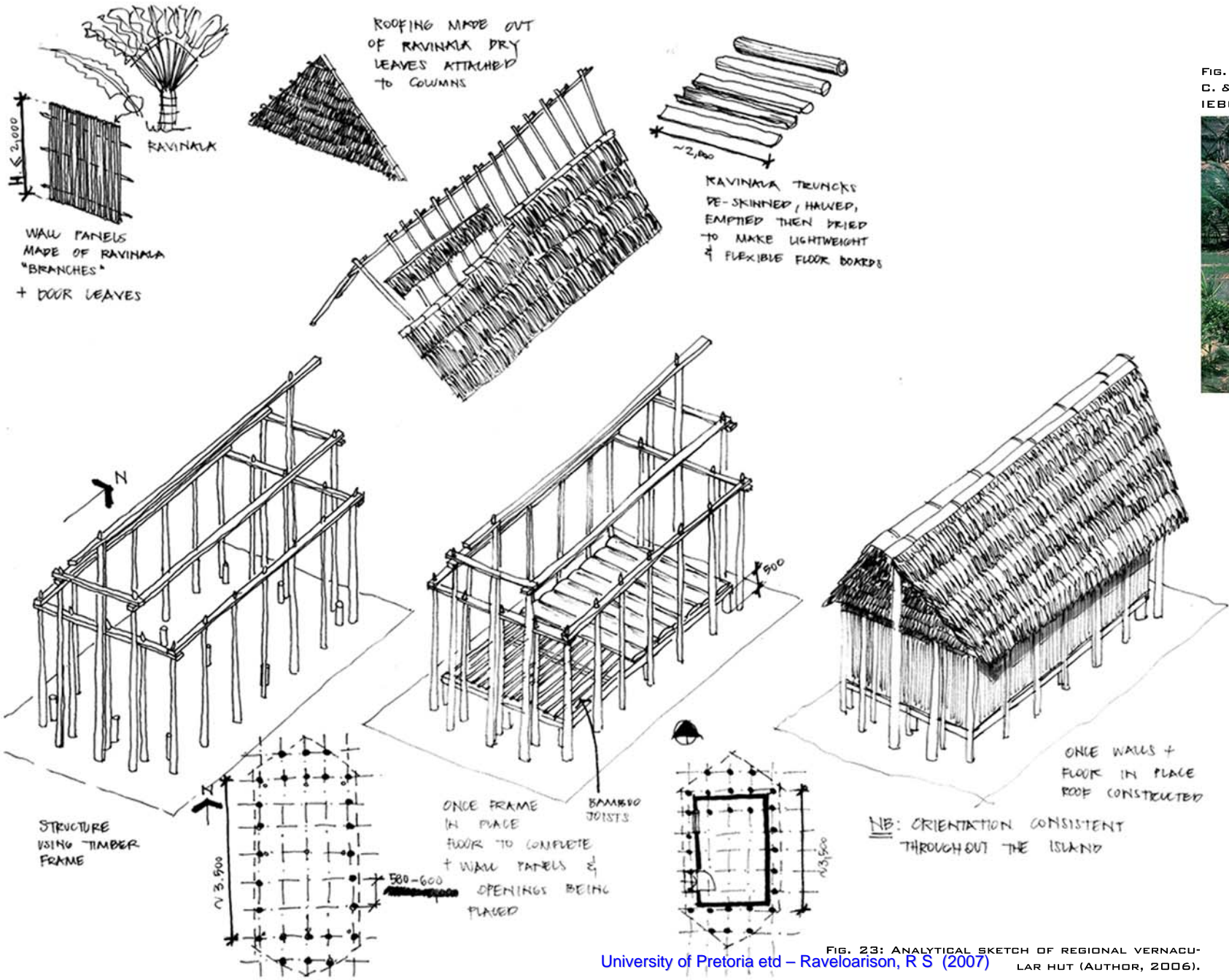


FIG. 22: CLUSTER OF HUTS (SOURCE: TREAL C. & RUIZ J. M. RAMANANTSOA, C. RATSIMIEBO, H. 1999: 14).



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University of Pretoria etd – Raveloarison, R S (2007) FIG. 23: ANALYTICAL SKETCH OF REGIONAL VERNACULAR HUT (AUTHOR, 2006).

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ii. The Colonial Architecture:

The Marodoka hut (see Fig. 24) is a good example of local Colonial Nosy Be - an architecture, where foreign concepts are interpreted within a tropical hot and humid zone.

Verandahs are consistently used throughout the building to wrap the interior spaces, allowing the latter to be thermally comfortable to accommodate.

This building typology still exists as an important architectural heritage throughout Nosy Be, but especially in Hell Ville town (see Fig. 25, 26 & 27). The civic public institutions fall mainly into this typology.

FIG. 24: ANALYTICAL SKETCH OF ONE OF NOSY BE'S COLONIAL HERITAGES, AN INDIAN HUT REMAINING AT THE OLD URBAN CENTRE IN MARODOKA AMBANDRO (AUTHOR, 2006).

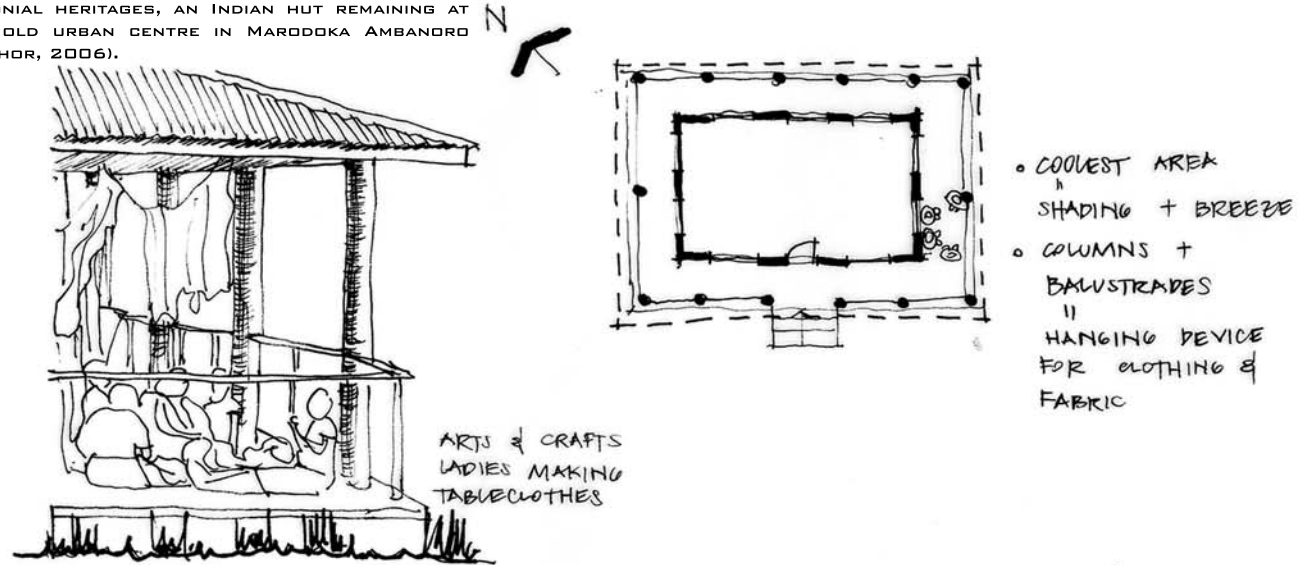


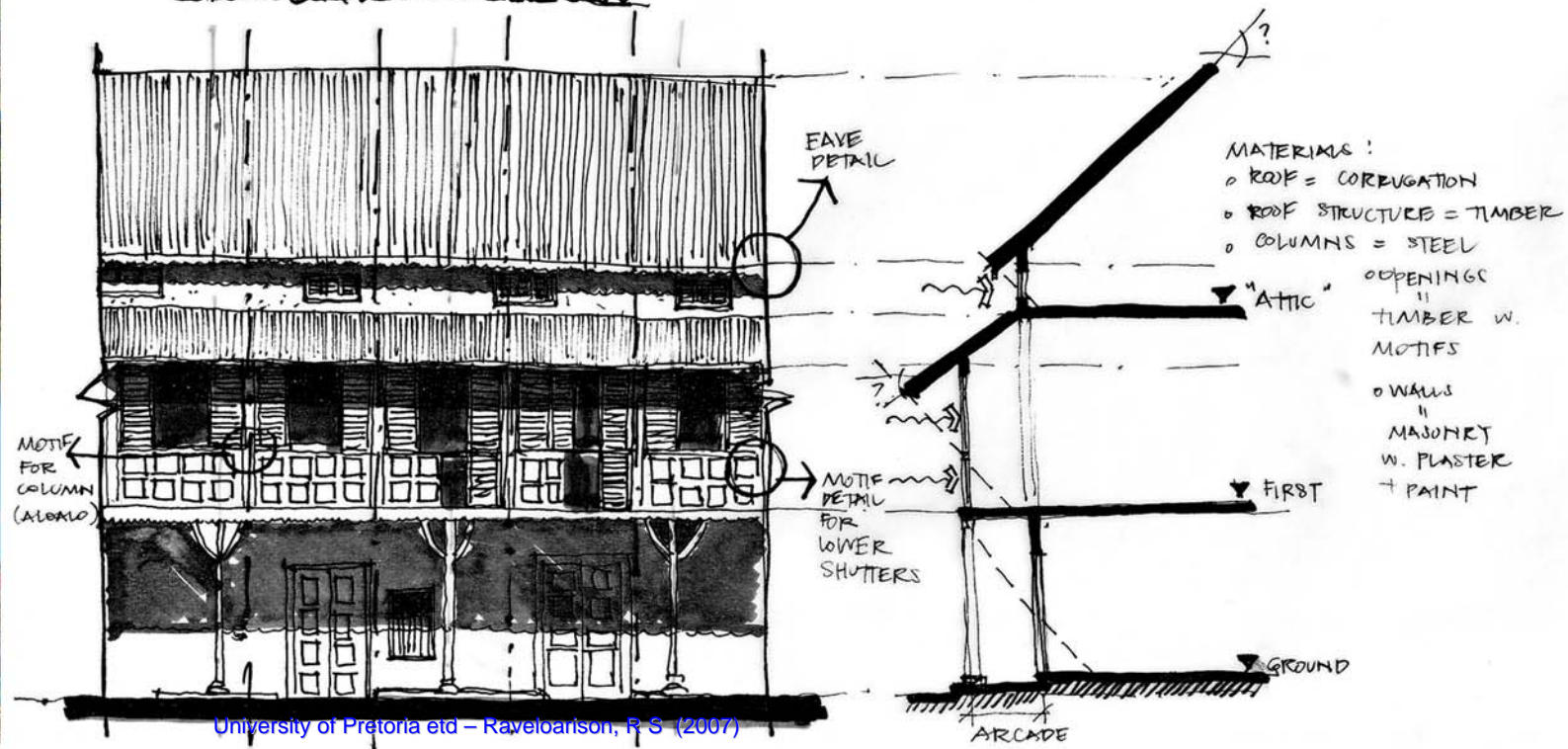
FIG. 25 (TOP): NOSY BE SOUS-PREFECTURE ELEVATION (PHOTO: AUTHOR, JANUARY 2006).



FIG. 26 (MIDDLE): NOSY BE SOUS-PREFECTURE PERSPECTIVE (PHOTO: AUTHOR, JANUARY 2006).



FIG. 27 (BOTTOM): SOMACODIS BUILDING (PHOTO: AUTHOR, JANUARY 2006).





iii. Modernism in Nosy Be:

Nosy Be's re-interpreted Modernism is often encountered in the commercial buildings and new editions to the civic and public buildings see Fig. 28 to 33), where space is needed to cater for a generous number of users and large functions, such as hotels and medium to large enterprises.

The majority are made out of concrete blocks or concrete frame with brick infills, plastered and painted. They do fulfill some if not all of Le Corbusier's five principles of Modernism; with the columns supporting the slabs and the roof; with some kind of shading devices as skin facades; strip openings; open liveable roofs as terraces or gardens; and open plan indoor spaces.



LEFT COLUMN, FROM TOP TO BOTTOM:

FIG. 28: RENOVATED BNI-CL BUILDING (PHOTO: AUTHOR, JANUARY 2006).

FIG. 29: CITY HALL (PHOTO: AUTHOR, JANUARY 2006).

FIG. 30: C.N.R.O. BUILDING (PHOTO: AUTHOR, JANUARY 2006).

RIGHT COLUMN, FROM TOP TO BOTTOM

FIG. 31: MAGRO COMMERCIAL BUILDING (PHOTO: AUTHOR, JANUARY 2006).

FIG. 32: HOUSE OF COMMERCE, LOCAL OFFICES (PHOTO: AUTHOR, JANUARY 2006).

FIG. 33: GALANA PETROL STATION (PHOTO: AUTHOR, JANUARY 2006).



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d. Social Context:

The social chart (see Table 1) gives an indication of the future urban growth within the next twenty years, catered for in the 2005-2025 Nosy Be P.I.C. project, as well as to give a framework of users and clients for the empowerment centre, targeting the economically active population of Hell Ville, the urban centre.

TABLE 1: HELL VILLE SOCIAL CHART

ARRONDISSEMENT	YEAR	AGE 0 - 5		AGE 6 - 17		AGE 18 - 59		AGE 60+		TOTAL		STRANGERS > AGE 21		TOTAL
		M	F	M	F	M	F	M	F	M	F	M	F	
HELL VILLE	2 002	2 093	2 844	5 726	5 851	5 573	5 592	814	859	14 206	15 146	194	190	29 736
	2 003	3 194	3 326	6 016	6 197	6 000	6 248	943	1 010	16 150	16 781	245	230	33 406

SOURCE: Base de Données de la Sous-Préfecture de Nosy Be

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3. HELL VILLE

a. Hell Ville streetscape:

Hell Ville's streetscape is organised around the Andoany hill, forming a small peninsula of its own, creating a linear activity strip from the town's gateway - North - towards the harbour - South.

Hell Ville hilltown's urban strip is characterized by two-to-four storey buildings, followed by domestic organic or more permanent masonry houses along the contours down to the sea shores.

FIG. 34: AERIAL PHOTO OF HELL VILLE INDICATING THE PORT (LEFT), COURS DE HELL (CENTRE) AND LE CAMP VERT QUARTER (PHOTO: AUTHOR, JANUARY 2006).

FIG. 35: AERIAL PHOTO OF HELL VILLE INDICATING THE MUNICIPAL HOSPITAL WITH THE ANDAVAKOTOKO QUARTER IN THE BACKGROUND AND THE SENGANINGA QUARTER IN THE FOREGROUND (PHOTO: AUTHOR, JANUARY 2006).

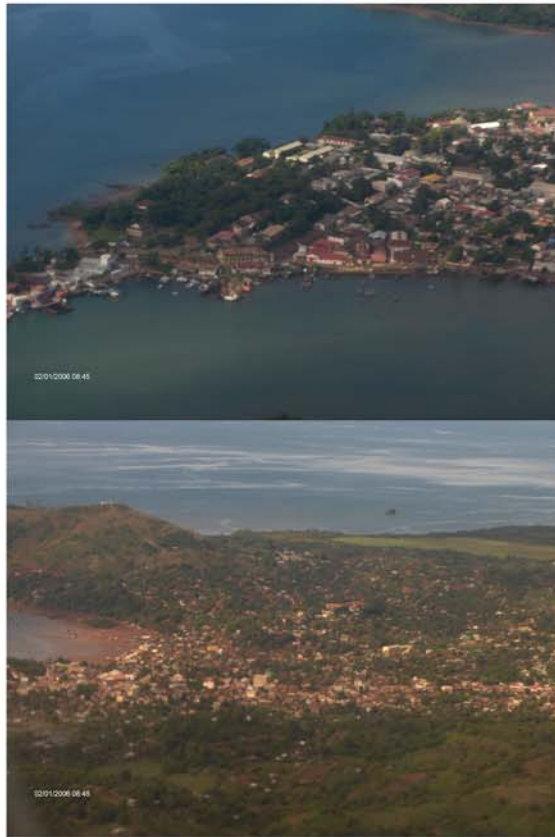


FIG. 36: ANALYTICAL SKETCH OF HELL VILLE PRECINCT (AUTHOR, 2006).





b. Urbanism:

i. Daily routine:

. In the mornings, the main activities take place as it is the coolest time of the day, such as the daily chores at home or to the shops and bazaar; schooling or office work; fishing - mostly at dawn; informal or formal trade at the bazaar or in the streets (see Fig. 39). The town is out on the main activity strip to catch a taxi or walk along the shops before disappearing in the classroom, or in a hut, or in a boutique, or walking down the stairs to the lower quarters.

. At lunchtime, the town suddenly slows down. Only a few people can be seen walking in the hot midday streets; one cannot find shade to soothe the burnt heads and arms, unless one stops under a tree on the sidewalk or step into somebody's veranda. It is siesta time.

. The sun then changes position and colour, and the town comes back to life again: the men gather on the bazaar's patio to share one another's experience of the day while chewing coca leaves (see Fig. 41); the food vendors unfold their stalls and prepare their fires to grill some beef kebabs and corns (see Fig. 40); the women and the girls make their way out to do the last shopping of the day for supper or for some cheap jewelry and accessories.

. At night, the youngsters look fresh and dress up for the buzzing night-clubs, and after a long night climb back into a taxi to head back home or simply walk with friends. The entire town is asleep only for a short while since in the very early hours of the morning, vendors already make their way to the bazaar and the shops with their fresh goods, some fish caught at dawn, vegetables picked up from the airport or the port, etc.

ii. Weekly and monthly routines:

Besides the daily patterns of Hell Ville, there are also the weekly and monthly social meetings of its town, around a *Moraingy* contest by the municipal

stadium, or flea markets by the Cours de Hell, or the week-end outings by the beach and along the garden of Cours de Hell. School sports events are also very popular in Nosy Be, including soccer and basket ball, as well as beach activities promoted by the Professional Associations of the island.

iii. Urban places:

1. In between spaces:

During the two site visits undertaken in January and March 2006, conclusions were made that most community activities happen in between streets and buildings, where shade is provided by projecting mango trees or neighbouring buildings, and breezes channelled between the houses.

Therefore, the main outdoor living, working and playing activities take place, such as the family father fixing bits and pieces of the dwelling; the children playing monitored by the housewives; morning breakfasts; evening snacks and shopping; etc (see Fig. 37 & 38).

2. Urban structures:

These structures are those most popular and present in the community's routines, with highly cultural and social associations.

They are the following:

- Cours de Hell (see Fig. 44)
- Hell Ville bazaar (see Fig. 42)
- Municipal Stadium
- Municipal Hospital
- Taxi Station (see Fig. 43)



FIG. 37 (TOP): A FAMILY MAN WORKING ON A TIMBER POLE FOR THE HOUSE'S PERIMETER WALL (PHOTO: AUTHOR, MARCH 2006).



FIG. 38 (BOTTOM): CHILDREN PLAYING IN ONE OF THE RESIDENTIAL PEDESTRIAN CORRIDORS (PHOTO: AUTHOR, MARCH 2006).

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FIG. 39: A MORNING BREAKFAST IN RUE 2 (PHOTO: AUTHOR, MARCH 2006).



FIG. 40: A VENDOR INSTALLING HER GOODIES FOR THE CITIZENS' EVENING SNACK AND SOCIAL (PHOTO: AUTHOR, MARCH 2006).



FIG. 41: AN AFTERNOON GATHERING OF THE HELL VILLE MEN, CHATTING UNDERNEATH THE BAZAAR'S AFTERNOON SHADE (PHOTO: AUTHOR, JANUARY 2006).

FIG. 42 (LEFT TOP): HELL VILLE BAZAAR AND MUNICIPAL THEATRE (PHOTO: AUTHOR, JANUARY 2006).

FIG. 43 (RIGHT TOP): BOULEVARD GENERAL DE GAULLE TAXI STATION (PHOTO: AUTHOR, JANUARY 2006).

FIG. 44 (BOTTOM): HELL VILLE SOUS-PREFECTURE BUILDING WITH THE COURS DE HELL (PHOTO: AUTHOR, JANUARY 2006).

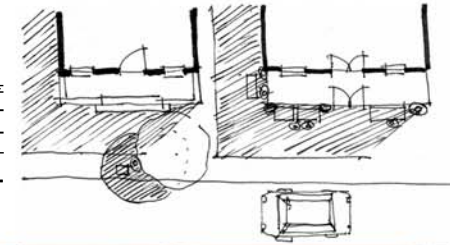


FIG. 45: INTERPRETATIVE SKETCH SHOWING THE INTERDEPENDENCY BETWEEN ACTIVITIES, SHADE AND MOVEMENT (AUTHOR, 2006).



iv. Linkages:

- The highest level of energy and activity takes place along the movement linkages, through the main activity strip - the Boulevard General de Gaulle, the secondary streets like Rue 2 and Rue 21, as well as along the pedestrian corridors (see Fig. 46 & 47)).
- On the site precinct, there are two types of pedestrian movements (see Fig. 48):
 - . along the Boulevard General de Gaulle, connecting the metropolitan mixed-use urban buildings, where the visitors and residents mingle as the main users inside the urban layer
 - . domestic, connecting the domestic layers, along pedestrian corridors and stairs, where the local residents perform their daily routines in the extended living rooms, which are the back alleys and secondary streets

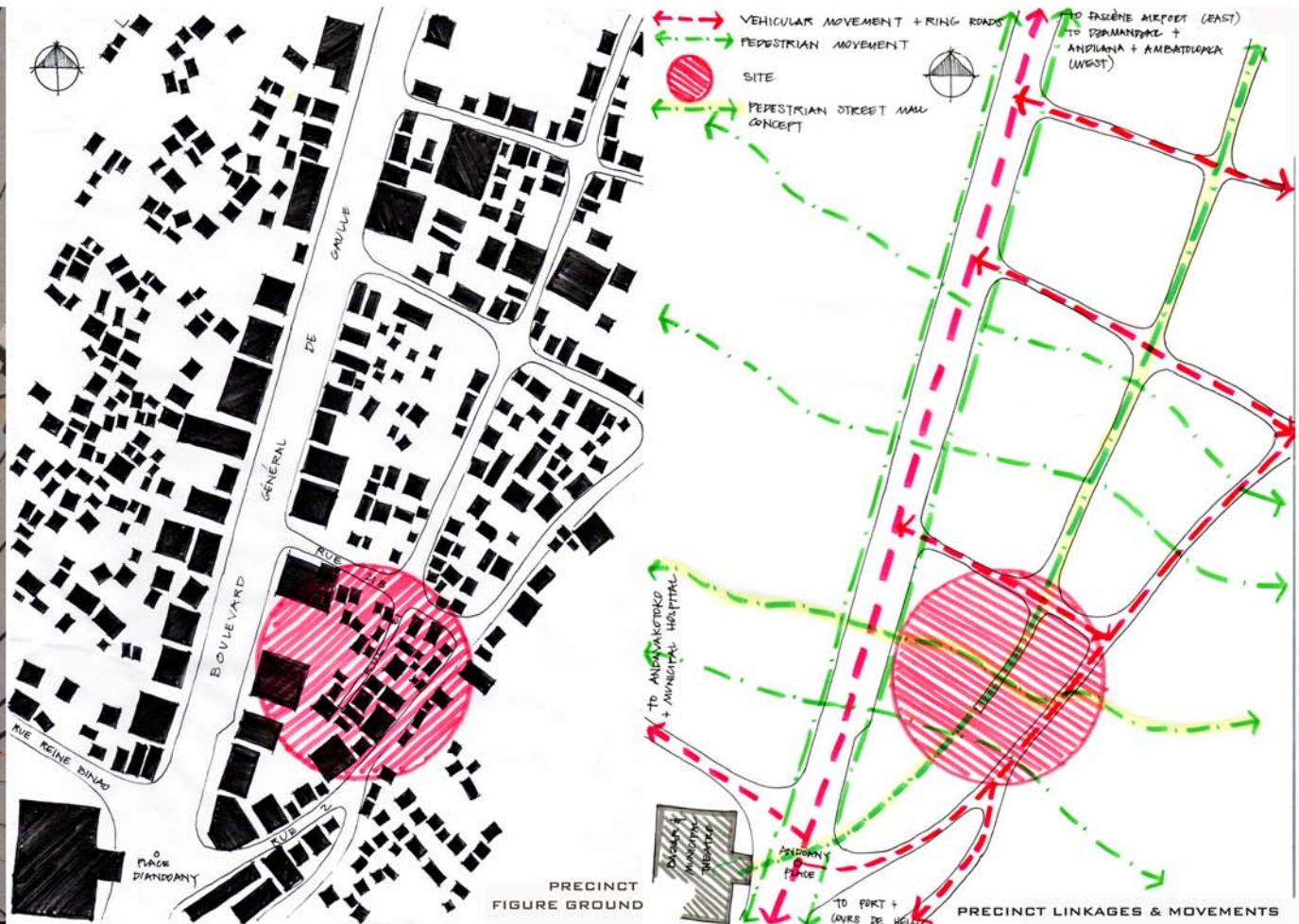
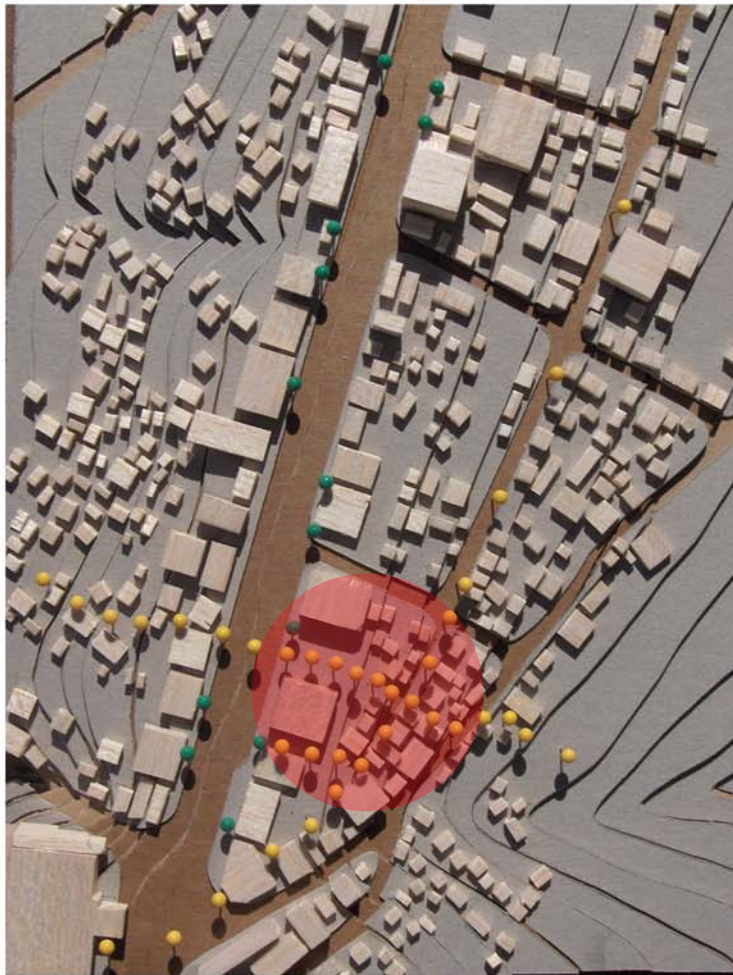


FIG. 46 (LEFT): URBAN MODEL SHOWING THE SITE'S PRECINCT, ITS TOPOGRAPHY, AND THE INTENDED URBAN INTERVENTIONS (AUTHOR, MAY 2006)

FIG. 47 (MIDDLE): ANALYTICAL SKETCH SHOWING THE PRECINCT'S FIGURE GROUND (AUTHOR, 2006).

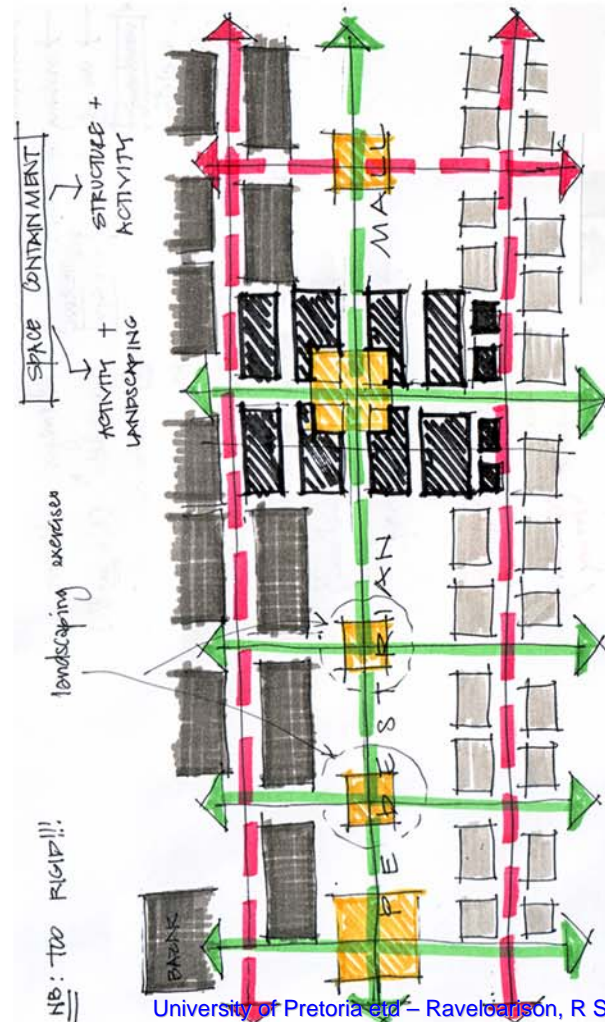
FIG. 48 (RIGHT): ANALYTICAL SKETCH SHOWING THE MOVEMENT PATTERNS ON AND THROUGH THE SITE (AUTHOR, 2006).

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v. Urbanism - Conclusion:

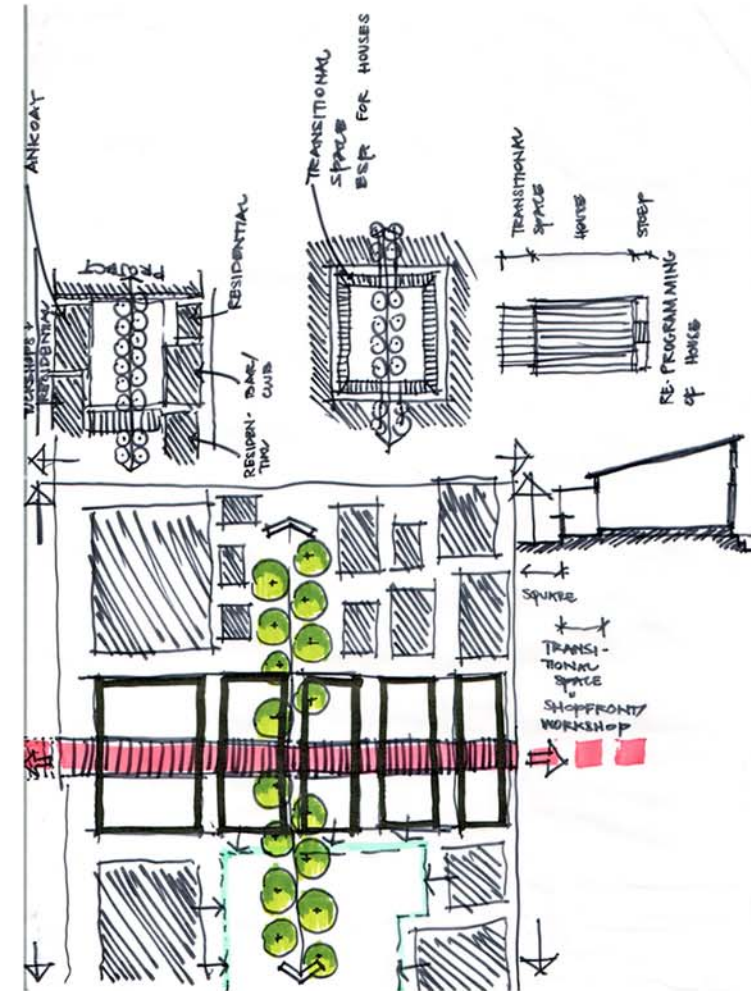
To conclude, the proposed project's objective, regarding these urban and domestic pedestrian linkages, is to enhance them through landscaping programmes as well as integrated circulation spaces with visual and physical relationships (see Fig 49 & 50). As a result, spontaneous and routine urban activities are intensified along these pedestrian streets, promoting participation and a sense of belonging within the community.

FIG. 49: DIAGRAMMATICAL SKETCH SHOWING LINKAGE STRATEGIES THROUGH AND AROUND THE SITE, TOWARDS URBAN AND DOMESTIC LAYERS (AUTHOR, 2006).



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FIG. 50: SKETCH ASSOCIATING ARCHITECTURAL INTERVENTIONS WITH LANDSCAPING ONES (AUTHOR, 2006).



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d. Geography:

i. Climate:

The climatic chart (see Table 2) gives directives on the hydrology, humidity levels, temperatures, insolation, wind speed and direction throughout the island of Nosy Be.

The followings are guidelines addressed in the proposed centre:

- yearly precipitation is above two thousand millimetres, therefore careful considerations around pitched roofs, waterproofing elements, storm water drainage and management need to inform the design on a fairly important level for the project to succeed

- the breeze is a very important factor for comfortable indoor spaces. As a result, the building orientation must cater for prevailing wind directions; therefore, the empowerment centre's components shall face North East on their lengths to accommodate natural cross ventilation

- humidity levels are very high throughout the year especially during the rainy season - December to March. The project must cater for humidity alternatives such as on piloti ground floors, suspended floors, airy structures, deep ceilings, as well cross ventilation.

For the empowerment centre to be successful as a meaningful place, where users are feeling like they belong to and are comfortable inside and outside its spaces, the careful implementation of climatic strategies is a pre-requisite to be applied in space planning as well as the three-dimensional moulding of the spaces.

ii. Topography and morphology:

As mentioned earlier, Hell Ville is organised like a hill town, with the upper quarters settled around the main activity strips - from Boulevard General de Gaulle in the North to Avenue de l'Indépendance to Rue Passot in the South by Cours de Hell and the port; whereas, helped by the urban growth, the lower quarters accommodate the rest of the town and are becoming the most populated ones, where flood

TABLE 2: NOSY BE CLIMATIC CHART

	J	F	M	A	M	J	J	A	S	O	N	D	TOTAL
HYDROLOGY (mm)	610.20	493.90	395.50	186.60	68.10	45.40	40.20	32.30	33.66	87.30	196.10	453.80	2 643.06
DAYS	23	22	20	13	7	5	4	3	4	6	16	21	144
HUMIDITY (%)	88	87	86	86	84	84	82	79	79	76	79	86	83
MAX. TEMP. (°C)	31.10	31.10	31.80	32.00	31.20	30.00	29.60	29.90	31.00	32.00	32.00	31.50	31.10
MIN. TEMP. (°C)	22.60	22.80	22.80	22.40	20.90	19.00	18.00	17.80	19.10	20.80	22.00	22.50	20.89
MEAN TEMP. (°C)	26.85	26.95	27.30	27.20	26.05	24.50	23.80	23.85	25.05	26.40	27.00	27.00	26.00
INSOLATION (h 1/10)	136.10	170.20	222.90	244.20	269.90	247.70	262.50	282.20	276.90	279.30	247.60	218.20	238.14
WIND SPEED (km/h)	6	6	5	4	4	4	5	6	7	8	7	5	5.58
WIND DIRECTION	N/NW	N/NW	NE/NW	NE/NW	NE/W	NE/W	NE/W	NE/W	NE/W	NE/NW	NE/NW	NE/NW	

SOURCE: Service Météo

issues occur. Therefore, as a result, with this hill formation and most urban activities happening at the top, storm drainage, erosion and pollution become important issues to be addressed in the project. The question of humanising the roughly ten-degree slope on the site is also considered in the empowerment centre to allow urban activities and linkages to take place comfortably.

iii. Vegetation and climate:

In Hell Ville, vegetation and climate play a vital role in the daily activities. For instance, trees, associated with shade, become shelters for street vendors (see Fig. 53).

In Cours de Hell where old civic colonial buildings are organised around a Roman-like garden, mango trees are planted around the pathways, providing shade for people waiting in the queues by the Sous-Prefecture building or the Police Station. During the week-ends, Cours de Hell transforms itself into a park for promenades and picnics, as well as flea markets, fairs and exhibitions, because the natural canopies of the mango trees provide comfortable outdoor environments.

Along the main strip, especially on the Boulevard

General de Gaulle, the mango and tropical almond trees are also associated with the daily urban patterns of community life. Carpenters extend their workshops outside on the walkway underneath a tree's generous foliage (see Fig. 51 & 52). The shade of a tree becomes a vendor's stall, assisted by an umbrella and a tabletop to demonstrate her or his goods (see Fig. 55 & 56).

The physical characteristics of a site and its surroundings must be thoroughly analysed and interpreted as the physical environment influences the urban patterns, and in this case, cultural aspects as well.



FIG. 51: MECHANIC WORKING ON THE WALKWAY BECAUSE THERE IS MORE SPACE AND IT IS COOLER TOO (PHOTO: AUTHOR, JANUARY 2006).



FIG. 53: A LADY VENDOR SELLING HER GOODS WHILE SOCIALISING WITH HER FRIENDS UNDERNEATH THE COOL SPOTS OF A TROPICAL ALMOND TREE (PHOTO: AUTHOR, JANUARY 2006).

FIG. 52: A CARPENTER TAKING A BREAK ON ONE OF HIS PIECES OF FURNITURE PIECE, ALSO WORKING ON THE WALKWAY AS AN EXTENDED WORKSHOP (PHOTO: AUTHOR, JANUARY 2006).



FIG. 54: PEDESTRIANS AND VENDORS SHELTERING UNDERNEATH A SHOP'S VERANDAH ON A RAINY DAY (PHOTO: AUTHOR, JANUARY 2006).



FIG. 55: CELLULAR OPERATORS INSTALLING THEIR BUSINESS UNDERNEATH A MANGO TREE (PHOTO: AUTHOR, JANUARY 2006).

FIG. 56: PEDESTRIANS AND CARS SHELTERING UNDERNEATH A TROPICAL ALMOND TREE (PHOTO: AUTHOR, JANUARY 2006).





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4. THE SITE:

a. Site Analysis (see Fig. 57):

i. Rue 2 (see Fig. 61 & 62):

Rue 2 is mostly residential and most of its users are pedestrians, besides its secondary ring road status. Half of it is tarred. However, despite the residential component, there is a remarkable informality about it, due to its street vendors along the walkways. The street develops into a mini-street market for affordable goods for the common citizen. Only a few urban buildings are present, those being the Western Union and Caisse d'Epargne building and the Sabor Tropical Club.

ii. Rue 21 (see Fig. 60 & 63):

The Rue 21 is more of a transfer street for the more domestic Rue 2 to the more urban Boulevard General de Gaulle. It feeds the pedestrian corridors, becoming webs leading to the huts.

iii. Boulevard General de Gaulle (see Fig. 59):

The Boulevard General de Gaulle is part of the main activity strip of Hell Ville. It is the last segment before it joins the National road to the airport on the East and the beaches and resorts on the West. All sorts of business take place on its walkways, from informal vendors to established commercial enterprises. The street plays a large role in the community and it contributes to tourism.

iv. Place d'Andoany (see Fig. 42):

The Place d'Andoany is the second roundabout in Hell Ville, where the roads from the lower quarters to and the residential layers intersect with the main activity strip. The main features of this intersection are the bazaar and the municipal theatre, these being important landmarks in Hell Ville. Due to its centrality, this place is where social manifestations, like the Women's Celebration on every 8th March, take place.

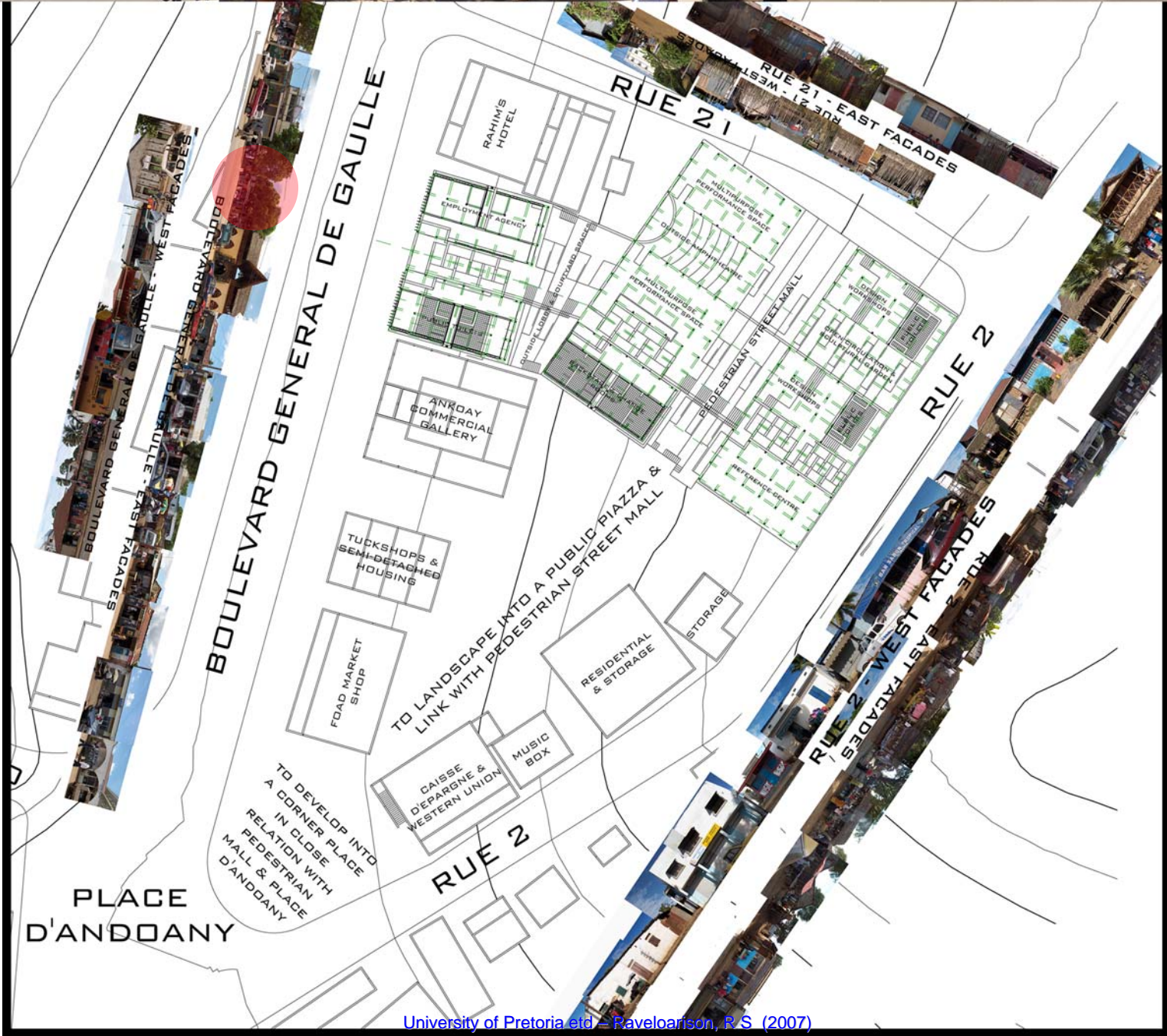


FIG. 57: CONTEXT AND PROPOSED SITE PLAN (PHOTOS: AUTHOR, JANUARY & MARCH 2006).

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FIG. 58: BOULEVARD GENERAL DE GAULLE EAST WALKWAY STREET ELEVATION (PHOTOS: AUTHOR, JANUARY 2006).

BOULEVARD GENERAL DE GAULLE - EAST FACADES

FIG. 59: BOULEVARD GENERAL DE GAULLE WEST WALKWAY STREET ELEVATION (PHOTOS: AUTHOR, JANUARY 2006).



BOULEVARD GENERAL DE GAULLE - WEST FACADES

FIG. 60: RUE 21 WEST WALKWAY STREET ELEVATION (PHOTOS: AUTHOR, MARCH 2006).



RUE 21 - WEST FACADES

FIG. 61: THE RUE 2 EAST WALKWAY STREET ELEVATION (PHOTOS: AUTHOR, MARCH 2006).



RUE 2 - EAST FACADES

FIG. 62: RUE 2 WEST WALKWAY STREET ELEVATION (PHOTOS: AUTHOR, MARCH 2006).



RUE 2 - WEST FACADES



BOULEVARD GENERAL DE GAULLE - WEST FACADES



FIG. 63: RUE 21 EAST WALKWAY STREET ELEVATION (PHOTOS: AUTHOR, MARCH 2006).



RUE 2 - EAST FACADES



RUE 2 - WEST FACADES

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vi. Analytical Sketches:



FIG. 64 (LEFT): SITE MODEL SHOWING THE SURROUNDING BUILDINGS AND ROADS, AS WELL AS THE TOPOGRAPHY (PHOTO: AUTHOR, 2006).



FIG. 65 (MIDDLE): ANALYTICAL SKETCH SHOWING THE INFORMAL ACTIVITIES AROUND THE SITE (AUTHOR, 2006).



FIG. 66 (RIGHT): ANALYTICAL SKETCH SHOWING THE SURROUNDING BUILDINGS' PROGRAMMES (AUTHOR, 2006).

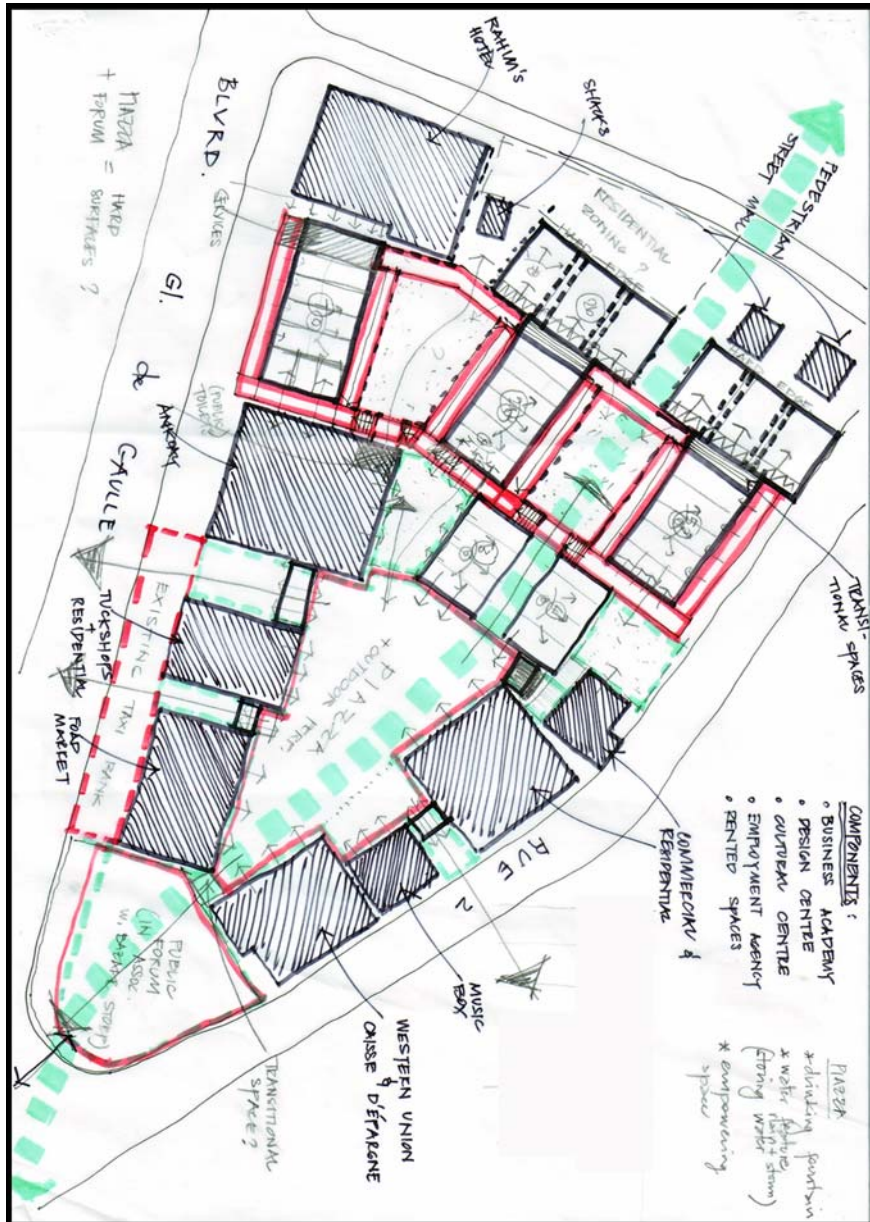


FIG. 67 (LEFT): PRELIMINARY DIAGRAMMATICAL SKETCH OF SPATIAL HIERARCHIES AND URBAN VS. PROJECT LINKAGES (AUTHOR, 2006).

FIG. 68 (RIGHT): PRELIMINARY DIAGRAMMATICAL SKETCH OF SPATIAL PLANNING IN RELATION TO THE URBAN SCALES AND FABRIC AS WELL AS THE MAIN CIRCULATION SPACES (AUTHOR, 2006).



FIG. 69: SECTIONAL SKETCH EXPLORING THE URBAN INTERFACE WITH THE BOULEVARD GENERAL DE GAULLE, AND THE TRANSITION FROM URBAN TO DOMESTIC FABRIC WHILE ACCOMMODATING FOR THE EMPOWERMENT CENTRE'S ACTIVITIES (AUTHOR, 2006).

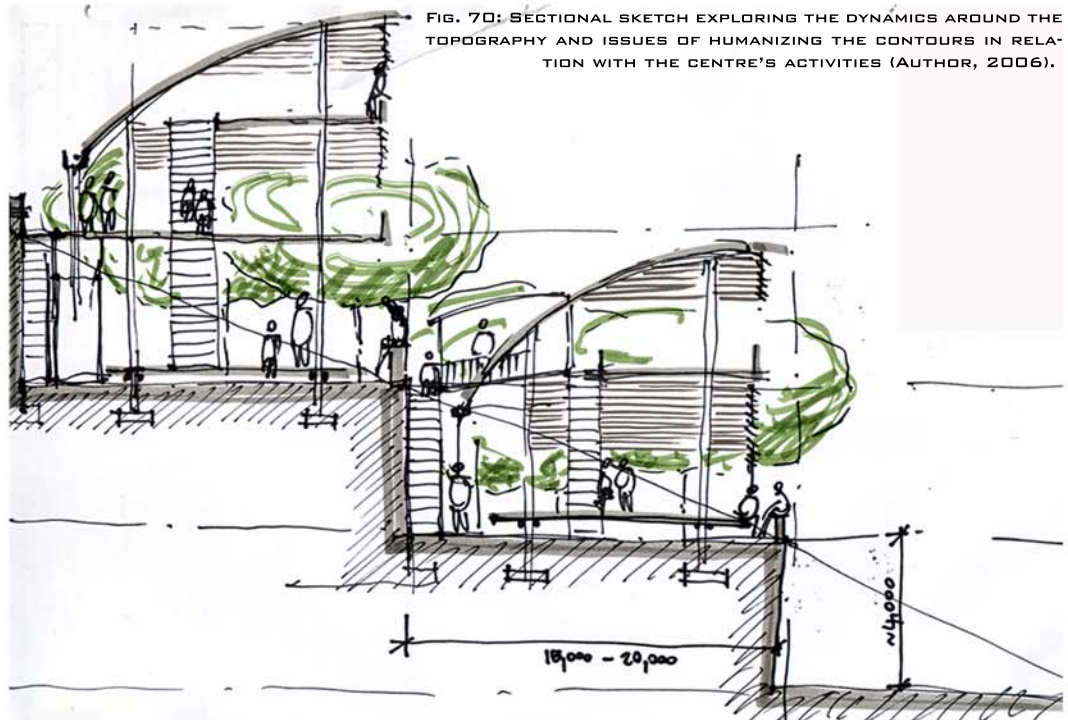
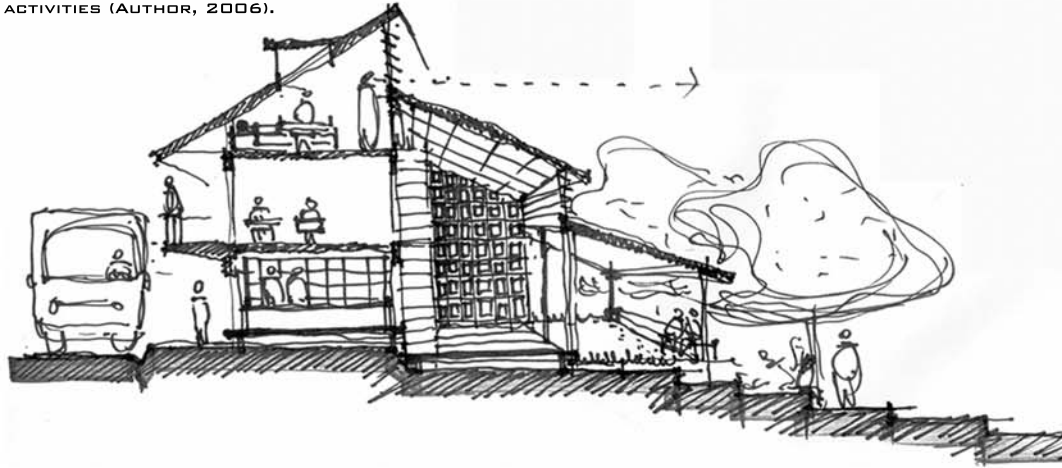
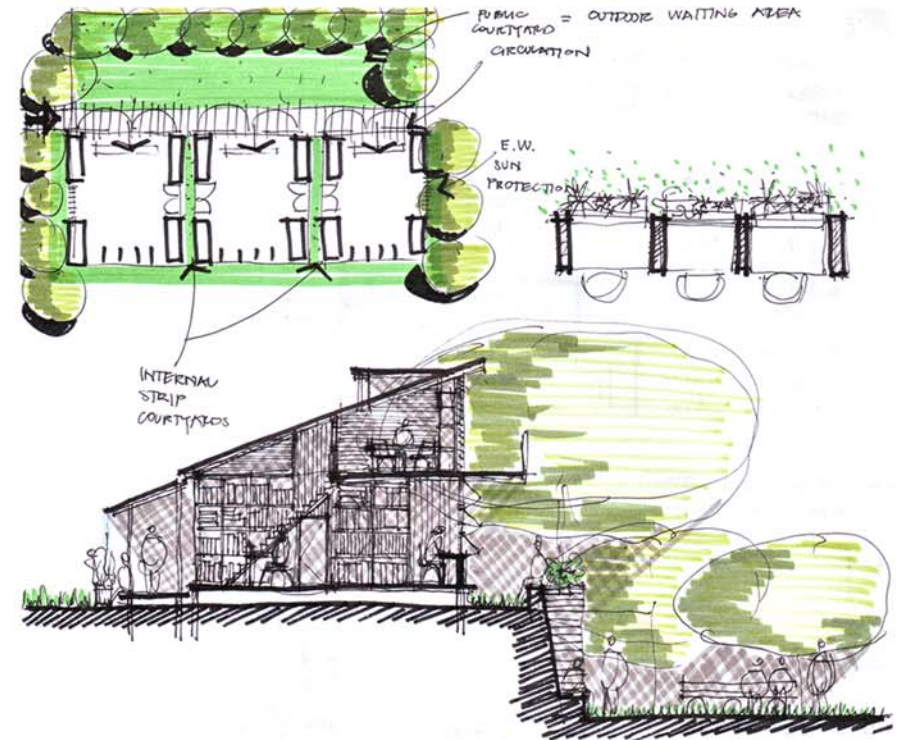


FIG. 70: SECTIONAL SKETCH EXPLORING THE DYNAMICS AROUND THE TOPOGRAPHY AND ISSUES OF HUMANIZING THE CONTOURS IN RELATION WITH THE CENTRE'S ACTIVITIES (AUTHOR, 2006).

FIG. 71: SKETCHES EXPLORING ISSUES AROUND SERVED AND SERVING SPACES IN RELATION WITH THE CLIMATIC FACTORS (AUTHOR, 2006).





b. Site analysis conclusions:

The following conclusions are addressed relevant to the design of the empowerment centre and its surrounding spaces:

- a. Landscape interventions will be necessary to humanize spaces in terms of the site's topography. Terracing is important for landscaping and architectural exercises, in order to make the site and the activities humanly appropriate.
- b. Because of the hot and humid tropical climate, shading devices are very important; therefore, the use of ever green planting and trees together with architectural shading devices will assist in the thermal comfort of the indoor and outdoor spaces.
- c. Courtyards are crucial elements in between the interior spaces to allow cross ventilation while accommodating for outdoor activities. These outside spaces also enable the integration of nature into the indoors.
- d. Main circulation spaces need to be incorporated into the existing urban linkages.
- e. The visual and physical linkages will promote legibility and choice, to empower the people with more options.
- f. Decisions on orientation are informed by the predominant wind direction, topography, and views.
- g. Due to the proposed terracing and cut-and-fill strategies, the retaining walls have the opportunity to become liveable spaces, in other words, cater for seating, niched platforms, vegetated retaining walls, etc.
- h. The planning of the empowerment centre should take into account its surrounding buildings and programmes. For instance, by the Boulevard General de Gaulle, the programme must be mixed-use, catering for commercial, office and living spaces, at a generous scale of height (double to quadruple walk-up sto-

ries) with a minimum length of ten metres. By the Rue 2, where the urban zoning is more domestic and residential, quieter activities are more appropriate, with lower buildings of one to two floors. In between the Boulevard General de Gaulle and the Rue 2, the buildings should enhance the pedestrian street mall concept, that intersects with the project's main circulation spaces, therefore the centre's components need to cater for multipurpose spaces in conjunction with the pedestrian vertical and horizontal linkages.

I. Opportunities around the views and landscaping interventions need to be exploited to its maximum in order to intensify if not re-integrate the urban and natural environments into the daily urban patterns.