6.1 Programme development A: Composing a partnership profile
6.2 Programme development B: Creating a system of relationships
6.3 Programme explanation

INDEX:

INTRODUCTION

This chapter identifies potential client partnerships and programmatic opportunities based on observation within Pretoria’s inner city. A system of relationships is proposed and leads to design interpretation and application on site.
6.1 PROGRAMME DEVELOPMENT

BASIS FOR DEVELOPING A PROGRAMME THAT REFLECTS CONTEXTUAL OPPORTUNITIES AND PROJECT INTENTIONS

6.3.1 INTRODUCTION

The proposed functions and client partnership is based on church related organizations and activities currently placed within the inner-city of Pretoria. The programme development is a manifestation of the “church as system” definition proposed at the onset of this investigation.

The programme is experimental in nature and contains a combination of elements involved with activities such as: Church gathering, housing development, social services, urban research, commercial enterprise, facilities management and inter-disciplined partnership.

6.3.2 METHOD

The programme is developed (figure 6.1) in 3 stages:

1) Organizational profile and origins

(figure 6.2)

Organizations within the inner-city of Pretoria are identified according to their involvement with the themes of church and urban development. The positioning of these organizations within the inner-city is analysed and the potential of involvement with the proposed project (either through movement or duplication) interpreted.

2) Grouping into a system of relationships

(figure 6.3)

The organizations and functions are grouped into a system of relationships based on 1) Existing and potential links between organizations, and 2) Grouping within themes such as housing, social, church, organizational, academic and commercial.

3) Application on site

(figure 6.4)

The third phase is applying the programme (through design intervention) to Schubart Park as site. This implies 1) Adapting the programme to the conditions found on site and within the surrounding precinct, 2) Exploring partnerships with current role players within Schubart Park, and 3) Balancing thematic (church related) concerns with the needs and opportunities of Schubart Park as site.

6.3.3 CLIENT PROFILE

Main partners in development and management

- Tshwane Leadership Foundation (TLF)
- Development of communities and urban renewal
- Pretoria Evangelism and Nurture (PEN)
- Urban ministry and social needs provision and facilities management
Site partners (Schubart Park)

City of Tswane Metropolitan Municipality
Owner of Schubart Park, management through the Tshwane Housing Company

Schubart Park Residents Committee
Community organization

Social development

Centre for Urban Transformation (CUT)
Management of social service centres, community forums, legal aid facilities, employment agencies, childcare facilities, women's centres, shelters, arts programmes...

Pretoria Evangelism and Nurture (PEN)
Management of nursery schools, health clinics, housing, social services, counseling...

Christelike Maatskaplike Raad (CMR)
Social work offices

Housing and urban development

Yeast City Housing (YCH)
New and re-developed social housing schemes and management of residential stock

Commercial enterprise

Tshepo Urban Trading
Street trade, small business incubator and skills development

Academic

Institute for Urban Ministry (IUM)
Training and networking and research in urban development and theology, in partnership with the University of South-Africa (UNISA)

Uniting Reformed Church - Training seminary
Training and support to ministers

Church congregations

Uniting Reformed Church (URC) - Melodi ya Tshwane
Inner-city church congregation

International Church of Pretoria
Congregation of French-speaking African immigrants

Various inner-city churches
Many inner city church congregations are in need of well serviced gathering spaces to use in partnership with other organizations on a temporary or permanent basis

Church forums

Inner City Churches Forum (ICCF)
Partnership of inner-city churches in Pretoria

South African Council of Churches (SACC)
Ecumenical platform for co-operation
6.2 PROGRAMME - STAGE 1

COMPOSING A PARTNERSHIP PROFILE BASED ON EXISTING INNER-CITY ORGANIZATIONS AND ROLE-PLAYERS
Fig. 6.2 partnership profile based on existing inner-city organizations
6.3 PROGRAMME - STAGE 2

GROUPING OF ORGANIZATIONS AND FUNCTIONS INTO A SYSTEM OF RELATIONSHIPS
Fig. 6.3 Grouping of organizations and functions into a system of relationships
PART C

DESIGN
CHURCH SPACE AND URBAN FORM

Selected design themes and precedents

INDEX

7.1 South-African church design
7.2 The application of light
7.3 Modern African church spaces
7.4 Making generous urban spaces

INTRODUCTION

This chapter investigates both thematic (church) and urban precedents that illustrate certain applicable concepts that will influence design resolution within this study.
7.1 SOUTH-AFRICAN CHURCH DESIGN

DESIGN PRINCIPLES AS EXPRESSED IN PRECEDENTS OF FORMAL CHURCH ARCHITECTURE IN THE SOUTH AFRICAN CONTEXT

7.1.1 INTRODUCTION

Selected case studies of church design in the South-African context that explore design issues such as:

- Place-making and a layered progression from public to private (7.1.2 New church for the Blessed Sacrament Parish)

- Responding to physical context, manipulating scale and engagement with the streetscape (7.1.3 Lebaleng church)

- Responding to a dynamic inner-city positioning (7.1.4 Cathedral of the Holy Nativity)

- Geometry, light, materiality, volumetric expression and planar manipulation (7.1.5: Dutch Reformed Church, Welkom-west), and

- Interpreting formal and traditional elements within a contextual frame of reference (7.1.6 Musgrave Road Congregational Church).

7.1.2 NEW CHURCH FOR THE BLESSED SACRAMENT PARISH

Omm Design Workshop
Virginia, Durban North
Date: 2006 (completed)

The new church for the Blessed Sacrament Parish embodies concerns for internal and external space-making and a layered progression from public interface through to private spiritual gathering. The following themes apply:

Place-making: Composition of buildings and open spaces

The design (figure 7.1) separates a new church volume (placed at the public end of the site) from an existing church structure (to become a parish hall) and creates a courtyard (figure 7.2) that joins together various elements of the design.

The courtyard, as explained in the Digest of South-African Architecture (2006:180), is “central to the concept of the building layout... connecting the internal activities of the congregation with the world outside”. The courtyard as communal space (figure 7.2) allows for gathering before and after mass and becomes the entrance foyer to the parish activities. A covered walkway (figure 7.3) surrounds the courtyard.

Context and street interface

A sensitive relationship between the building (figure 7.4) and its surroundings were achieved by breaking down the mass of the building along the street edge to “reduce the otherwise overwhelming scale of the building” (Digest, 2006:181). The steeple (figure 7.5) is placed at the public end of the building and is visible from a distance. Further, the courtyard is partially visible to the street and the entrance gates to the courtyard will “receive decorative panels, giving personality, expression and spiritual meaning to the streetscape.”
Layering and spatial progression

Various thresholds succeed each other in the progression towards the private inner-spaces of the church: 1) Street/sidewalk 2) Transition zone (figure 7.4) 3) Entrance portico 4) covered walkway (figure 7.3) 5) Courtyard (figure 7.2) 6) Entrance lobby 7) Main seating area 8) sanctuary, and 7) Chapel.

7.1.3 LEBALENG CHURCH

Noero Wolff Architects
North-west Province
Date: Design 1999 (un-built)

This design proposal is described in the Citation of the project for the 1999 S.A Architect Project Awards (Le Roux, 1999:26), as an “everyday architecture”, responding sensitively and successfully to physical context, the building achieves a civic presence, acknowledging the community and the public realm.

Response to context

The massing and articulation of the building reconciles a response to context on two levels.

1) The design responds to the wider landscape dominated by large structure such as grain silos and mines, to which, as explained by Le Roux (1999:26), “the design in its massing and articulation, makes reference to...” (figure 7.7)

2) The design responds to the human scale of the surrounding houses and streets: the roof of the building (figure 7.6) “slopes down towards the south in order to avoid the church casting a big shadow onto the houses next to it.” (Le Roux 1999:26). The aisles, with lower roof elements (figure 7.6) “become a scaling device that mediates between the large volume of the church and the neighborhood.”

Civic interface and public space

The building (figure 7.7) achieves a civic presence without its size dominating the area, this is achieved by “placing the biggest building mass in the centre of the site and wrapping low scale elements around it” (Le Roux, 1999:26).

The interface between church and public space is dealt with by defining the street edge with a planted pergola and seating underneath (figure 7.7). Le Roux (1999:26) explains that this device “creates a sacred space for the church, whilst still being a public gesture”. Along with an arm of the building holding services the pergola defines entry into the church and creates a semi-public gathering space.

7.1.4 CATHEDRAL OF THE HOLY NATIVITY

Heinrich Kannemeyer and Norbert Rozendal
Pietermaritzburg
Date 1976 (design competition)

In 1976 Heinrich Kannemeyer and Norbert Rozendal won the design competition for the new Anglican Cathedral of the Holy Nativity to be built in the heart of Pietermaritzburg’s inner city (Peters, 2009:48). The project (figure 7.8) integrates a new design with the original St Peter’s cathedral designed by Sophia Grey (figure 7.9).
Public space and urban furniture

The project extends across the width of a city block and utilized the opportunity to connect the 2 adjacent streets by create a public through fare populated with trees and seating (figure 7.10). The project fronts a busy pedestrian corridor (figure 7.12) which widens to become a public space in front of the cathedral.

Route and entrance

Ribbon-like walls extend from the church buildings into the public realm to announce entrance (fig 7.11). An entrance route leads along the side of the site towards the entrance of the liturgical space.

7.1.5 DUTCH REFORMED CHURCH, WELKOM

Roelof Uitenbogaardt
Welkom West
1964

This building combines important explorations of geometry, light, structure, materiality, volumetric expression and planar manipulation into a legible building that is an important case study of formal church architecture in South Africa.

Geometry, massing, legibility

The building is read in 3 parts (figure 7.14): The bridge, the concrete bell tower and the main massing which dominates the view. Nuttal (2005:65) explains this mass to be monumental and prominent but not overwhelming, and adds that the various elevations change marginally where planes and volumes express internal spatial resolution and “invigorates the reading.”

The stacking of geometric volumes achieve a sculptural massing (figure 7.13) and the rising planes achieve legibility by culminating in “four high parapets which externally define the inner square of the plan and establish the height of the cuboid volume.”

The plan (figure 7.15), after Nuttal (2005:66), has a strong diagrammatic quality (essentially a square within a square) and creates patterns, rhythms and relationships that orders the scheme and creates an internal topography where it responds to spatial needs.
Light, materiality and details

Light, entering through various clerestory windows and light shafts, falls on the interior brick infill and according to Nuttal (2005:66), brings to the interior (figure 7.17) a terracotta glow that contrast the concrete structure. The pierced brickwork infill (figure 7.18) further serves an acoustic purpose and adds texture to the interior surfaces.

Selective light entry draws attention to important element such as the pulpit (figure 7.19), and draws attention to competent detailing (figure 7.20).

7.1.6 MUSGRAVE ROAD CONGREGATIONAL CHURCH

Paul Mikula
Durban

Raman’s (2005:15) suggestion that the churches of Pual Mikula are aimed at “developing emergent models, interpreted to suit an African outlook on Christianity and to achieve economical construction” can be used as a basis to understand the design of the Musgrave Road Congregational Church.

African interpretation of church formality

It is suggested by Raman (2005:15) that in the design there is an “implicit recognition that Christianity in Africa is an altogether more joyous affair than it is in Europe”. He adds that often the joyous and solemn co-exist and that this design by Mikula reconciles the two by a formal arrangement in the middle and an informal one at the periphery (figure 7.21).

The facade containing entrance is formal and direct, the lively mosaic exterior (figure 7.22) opts for the “Natal way of using the earthy colours of the area” (Raman, 2005:16) and suggests a response to specific context that “still preserves the prototypical spiritual atmosphere in religious buildings”.

Fig. 7.16 Perspective drawing of the main interior volume of the Dutch Reformed Church in Welkom-west

Fig. 7.17 Light falls on brick infill walls and brings to the interior to a terracotta glow
Fig. 7.18 Pierced brickwork infill

Fig. 7.19 Controlled light entry draws attention to important element such as the pulpit
Fig. 7.20 Detailing of concrete and timber components

Fig. 7.21 Section drawing of the musgrave road congregational church designed by Paul Mikula

Fig. 7.22 Lively mosaic exterior of the formal entrance into the Musgrave Road Congregational Church
7.2 \textbf{THE APPLICATION OF LIGHT}

\textbf{LIGHT AS ELEMENT OF ARCHITECTURE: SPIRITUAL AND SENSORY SPACES}

\subsection*{7.2.1 INTRODUCTION}

“At its simplest, light allows us to see, to know where we are and what lies around us. Beyond exposing things to view, light models those things to enhance visual acuity and to help us negotiate the physical world.” (Plummer, 2009:6)

Plummer (2009:6) argues that from the beginnings of architecture, man’s relationship with light has transcended necessity, and even the limits of objective reality. In the relationship between light and religious architecture, “light was employed to arouse feelings of mysticism and to convey the sacredness of a place (figure 7.23 and 7.24). Due to its awing powers over earth, light could manifest a divine presence for believers.”

Apart from the spiritual connotations, Plummer (2009:6) argues that buildings also express something simpler and more immediately graspable: “an ethereal presence at the outer limits of material existence with a miraculous capacity to bring things alive at a sensory level.”

\subsection*{7.2.2 THEORY AND PRECEDENT: SEVEN CONCEPTS OF LIGHT IN ARCHITECTURE}

The application of light in architecture is explored through various concepts pertaining to light as put forth by Plummer in his text: “The architecture of natural light.” These concepts are illustrated graphically through the use of precedents.

1) \textbf{Evanesence: Orchestration of light to mutate through time}

“While buildings may be physically static, their ability to register changes and movements of natural light allows them to perceptually transform and display signs of life” (Plummer, 2009:18)

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{sweeney_chapel.png}
\caption{Fig. 7.25 and 7.26 Sweeney Chapel, USA, by Edward Barnes. A lattice of glass emit light mutating continually in shape, position, angle and hue.}
\end{figure}

2) \textbf{Procession: Choreography of light for the moving eye}

“Due to its power to seduce and attract, light has always played a pivotal role in successions of space that are rewarding and memorable. It is not single, isolated moments or views that are important for the moving eye, but a continuous flow of human perceptions...” (Plummer, 2009:54)

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{sweeney_chapel.png}
\caption{Fig. 7.27 and 7.28 Pilar and Joan Miro Foundation, Spain, by Rafael Moneo. Routes thread through spaces along a succession of contrasting light conditions}
\end{figure}

3) \textbf{Veils of glass: Refraction of light in a diaphanous film}

“...poetic values of ambiguity and mystery attained when glass interferes with light rays, diverting and delaying their course of passage.” (Plummer, 2009:82)

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{sweeney_chapel.png}
\caption{Fig. 7.23 Interior view of Reims Cathedral. Light illuminates the stone vaults through a rose-window}
\end{figure}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{sweeney_chapel.png}
\caption{Fig. 7.24 View of the chapel interior at the Dominican Monastery at La Tourette, designed by Le Corbusier. Light enters the contemplative space from above through light wells.}
\end{figure}
4) Atomization: Sifting of light through a porous screen

“the capacity of a mesh to fracture without obstructing light, and to disintegrate objects into the air... a kind of porous wall that is simultaneously gauzy and luminous” (Plummer, 2009:114)

5) Canalization: Channeling of light through a hollow mass

“More radical were their efforts to carve out routes for natural forces to penetrate the innermost depths of a building, transforming the paradigm of a cellular mass into something new - a spatial lattice riddled with tunnels for daylight to travel through” (Plummer, 2009:150)

6) Atmospheric silence: Suffusion of light with a unified mood

“For centuries, architects have tried to grasp - and better control - the elusive ability of natural light to create its own spirit of place when imbuing a building with mood.” (Plummer, 2009:180)

7) Luminescence: Materialization of light in physical matter

“.light exerts a mesmerizing, even miraculous, power to transform otherwise mute objects and dull materials and make them shine with an elevated beauty and a sense of being more alive” (Plummer, 2009:218)
7.3 MODERN AFRICAN CHURCH SPACES

7.3.1 DOMINICAN INSTITUTE

-Demas Nwoko
-Ibadan, Nigeria
-1973 (completed)

An African modernity

Omezi (2008:34) investigates a re-thinking of the African modern by observing the work of Demas Nwoko whose architecture spatially interprets the cultural production related to formulating post-colonial identity in Africa. Nwoko's architecture, as explained by Omezi, sought to "place modernity beyond the ethnocentric confines of a purely European narrative" and to "resolve the crisis at the heart of contemporary Africa: the nature of its modernity".

In his architecture, Nwoko had "taken a conscious position on materiality that involved using appropriate materials and systems..." and "developed a specific attitude to space... referencing traditional architecture not purely for motifs, but somehow distilling meaning of elements he deemed appropriate and articulating these concerns with the techniques of the modern..." (Omezi, 2008:38).

Design manifestation

Godwin, Nwoko & Hopwood (2007:50) explains that when the original design for the Dominical Institute was produced in 1966 by another architect, it was found to be too rigid: "The community wanted something more "African" which Nwoko was able to deliver".

Nwoko's design is dramatic, the building (figure 7.38) sits on a slight incline and, as described by Omezi (2008:42), develops elements like "a striking tower rising over the main building" (figure 7.38) and "garden pools that flank the entrance porch leading into the building" (figure 7.40). Omezi adds that the language of the building is expressive; "a sculptural statement of the kinetic potential relationships between horizontal and vertical" (figure 7.39).

Christianity and African society

Omezi (2008:42) notes that the extreme plastic expressionism that Demas Nwoko resorts to evokes surreal qualities and expresses the interconnectedness of physical and spiritual worlds that mark African mythology; he adds that the church pulls together a central theme in the synthesis of Christianity in African society: "the appropriation of symbols, signs and ritual within the context of African mystical leanings".

7.3.2 JOINT CHRISTIAN CHAPEL

-Anthony B. Almeida
-University campus, Dar Es Salaam
-1975 (completed)

Folkers (2010:249) describes Almeida as a modernist architects who sought solutions to problems by adapting local resources. Almeida coined the slogan "adapt, not adopt" and applied it in his work, such as the design of the ecumenical Joint Christian Chapel on the University of Dar Es Salaam campus of 1975.

Inter-denominational space

Van de Belt et. al (2005) explains that the Chapel fits into a master plan for the University. The building (figure 7.41) was required to not be immediately recognized as a church and to accommodate multiple Christian denominations.
The building has a Greek cross plan (figure 7.42), dividing it into a central space and 4 secondary “arms” with independent entrances (figure 7.43). Folkers (2010:250) explains that 3 of the cross’ arms can be closed off from the main chapel by means of folding partitions and a fourth arm holds communal facilities, he adds that “when the partitions are opened, there is space for larger or communal services.”

A Basic concept for structure and climate

The building has a square plan form, the design is ordered by a simple concept that integrate structural and climatic concerns: A double row of structural columns (figure 7.46) line both the northern and southern facades, achieving the following: 1) Supporting the vaulted roof (figure 7.47) that spans in segments across the two structural elements, and 2) Allowing a perforated, free facade (figure 7.48) to line the northern and southern sides to allow cross ventilation. The solid east and western block solar gain, according to Van de Belt et. al (2005), preventing heating build-up.

Structure and articulation

The building has a cassette roof with wide eaves, which “gives the impression that the roof is floating over the walls” (Folkers, 2010:250). Ventilation is achieved by lifting the main roof above the enclosing walls and raising the roof of the main space higher than that of the side spaces. The roof is constructed as a grid of intersecting beams diagonal to the geometry of the vertical support structure.

Light enters the interior through full height vertical strips of coloured glass (figure 44) and the exterior is articulated by concrete fins (figure 45), spaced apart to receive window openings and provide solar control.

7.3.3 ST. PETER’S CHURCH

H.L. Shah
Dar Es Salaam
1962 (completed)

The building is expressed through its basic elements: structure, roof covering and vertical screen (figure 7.49). The patterns created by the perforated walls, articulation of the concrete support elements and the curved rhythm of the vaulted roof combines to complete a basic and elegant design unity.
7.4 MAKING GENEROUS URBAN SPACES

7.4.1 CREATING “GENEROUS” AND “MEMORABLE” URBAN SPACES

Cooke (2005:32) laments the shortage of quality of urban place-making in South-African cities and refers to the need for creating “generous” and “memorable” urban spaces. These spaces, according to Cooke (2005:32) should 1) Be achieved by returning to the notion of habitability - accommodating everyday activities (figure 7.50), and 2) Be defined by the “skillful use of buildings, ground plane and secondary elements such as low walls and planting” (figure 7.51). Some principles for further investigating the notion of generous urban space can be drawn from the buildings and urban interventions of Piet Louw. Todeschini & Kruger (2007:42) sees in Louw’s work a well grounded connection between “the place”, the “nature of the problem”, the “opportunity” and “the improvement of place by systematic design across all scales.” Cooke (2005:33) explains that Louw’s core intention is to “make urban space” and to “make it habitable.” More specific elements of Louw’s work is explained by Cooke (2005:32), these include:

1) Creating distinctive space with quality of enclosure and emphasis on gateways and thresholds. (figure 7.52 and 7.53)

2) Spatial variety (formal-, informal-, in-between-, edge-, directional-, centralized-, corner-, shaded and open spaces. (figure 7.54 and 7.55)

3) Hierarchy and layering, the relationship between the city, district and local environments and between public and private spaces. (figure 7.58)

4) A building’s contribution to public space as a major determinant of its form. (figure 7.56 and 7.57)
7.4.2 INTEGRATING MARGINALISED URBAN USERS

Public urban spaces hold the potential to allow for multiplicity in terms of usage and can allow for a variety of user groups to benefit from the different elements that make up a particular space.

Hansen (2008:44) discusses integrating “marginalised urban users” in the development of urban spaces, he refers to users such as street traders and taxi operators but a variety of urban dwellers can be seen as marginalized due to lack of usable public spaces.

Design that enables the endeavors of marginalized urban users and creates a sense of identity and ownership is proposed by Hansen (2008:44). Examples of this approach include 1) Rocky Street Traders Market in Yeoville (figure 7.59), comprising of flexible trading spaces facing the street forming a threshold into quieter courtyards spaces, and 2) Baragwanath Transport facility and Trader Market (figure 7.60 and 7.61), that lends legibility and a sense of permanence to mini-bus transport and street trading whilst also activating street edges and creating a sense of identity.

7.4.3 BASIC AND FLEXIBLE URBAN INTERVENTIONS

The idea of achieving maximum effect with a limited or basic urban intervention is especially relevant in the urban environments of South Africa. As an example, the Phillipi Lansdowne Public Space Project (figure 7.62 and 7.63) attempted to “contribute to the broader public,” “allow spaces to be appropriated by the community” and facilitate “growth and adaptation over time” (Digest, 2002:56). This was achieved by elements such as a prominent public forecourt and a robust colonnade that defines public open space and can be built onto. Amenities like seating, laundry tubs and public phones start to programme the intervention.

Fig. 7.59 Rocky Street Trader Market, Yeoville. Flexible trading spaces and street definition

Fig. 7.60 and 7.61 Baragwanath Transport Facility and Trader Market. Legibility of space, identity and a sense of permanence for previously marginalised users

Fig. 7.62 Phillipi Lansdowne Public Space Project. Robust colonnade defining open space and allowing to be built onto

Fig. 7.63 Phillipi Lansdowne Public Space Project. Public space integrated with the surrounding context and facilitating growth and adaptation over time