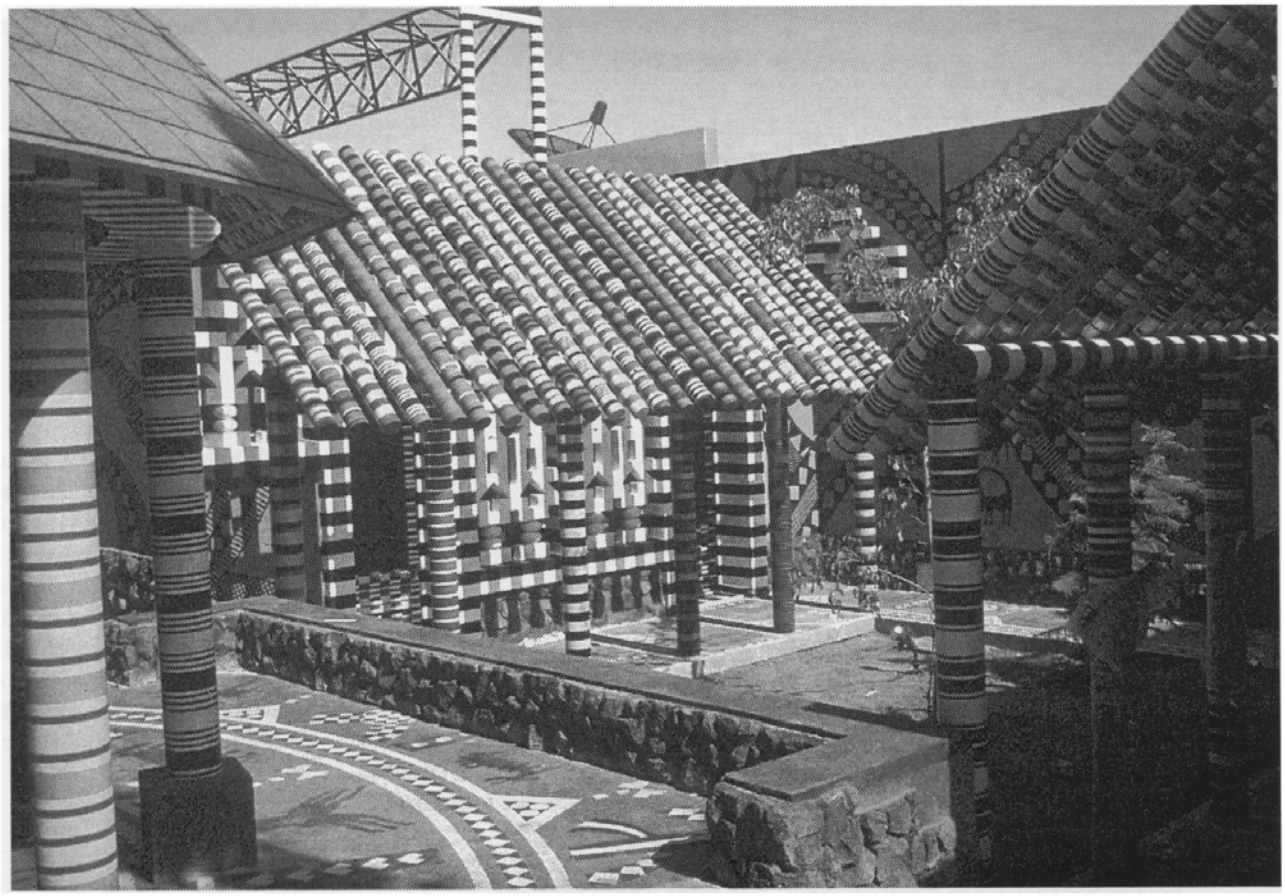
1995 Technical Review
Summary
by Jolyon Leslie

Franco-Senegalese Cultural Centre

Kaolack, Senegal
1559.SEN



Architect
Patrick Dujarric

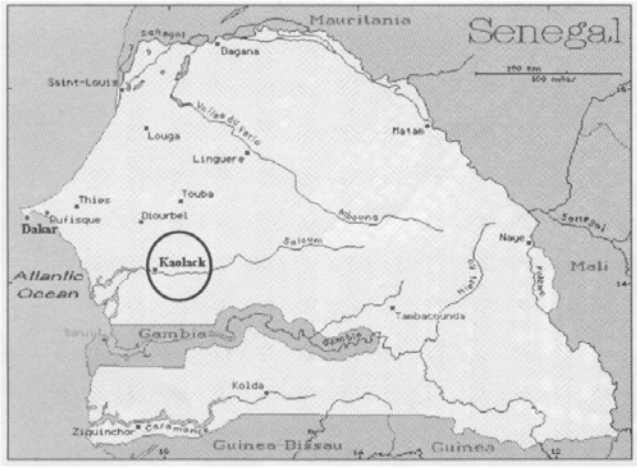
Client
Alliance Franco-Sénégalaise

Completed
1994

Alliance Franco-Sénégalaise, Kaolack, Senegal

Introduction

The building comprises a cultural centre for the Alliance Franco-Sénégalaise in Kaolack, Senegal, providing space for a library, classrooms, exhibitions, administrative offices and an open-air theatre. Drawing upon the scale of traditional domestic architecture of the region, the various parts of the complex are organised around a series of open spaces which extend the range of potential activities to the outdoors, and exploit the site to the full. These spaces provide an important and popular social focus for all inhabitants of the town, in addition to those using the complex for cultural activities or study. The modest architectural vocabulary of the complex serves as a foil for a virtuoso scheme of surface decoration, inspired by a wide range of sources from the region.



Kaolack is situated 160 km southeast from Dakar on the Saloum river

Context

Historical background

As a cultural centre for the Alliance Franco-Sénégalaise in Kaolack, the project was conceived within the framework of a wider cultural involvement of the Mission de Coopération et d'Action Culturelle in Senegal, which aims to promote French language and culture in the region. The various regional branches, working under the auspices of a national organisation of the Alliance, comprise distinguished local personalities, who are responsible for the overall management of the activities of the Alliance in the regions. In the case of Kaolack, a spirited local committee was able to secure in 1991 the necessary support for the construction of the cultural complex to house a range of activities for the local population.

Local architecture

Kaolack is a medium-sized town with little to distinguish it visually from any other regional capital in the area. The centre of the town is characterised by low-rise development, much of which dates from the colonial era, with deep verandas and pitched roofs. With the exception of the cultural complex, the modern public buildings of Kaolack are non-descript. Most domestic buildings comprise modest single-storey homes of cement block. Rectangular earth-brick homes with grass roofs are more common in the peri-urban areas or surrounding villages. Homes are generally surrounded by low walls of earth-brick or grass matting to ensure some degree of privacy. Most villages in the area still have a raised timber platform built of massive logs, which serves for the meetings of elders or for social events

Climate

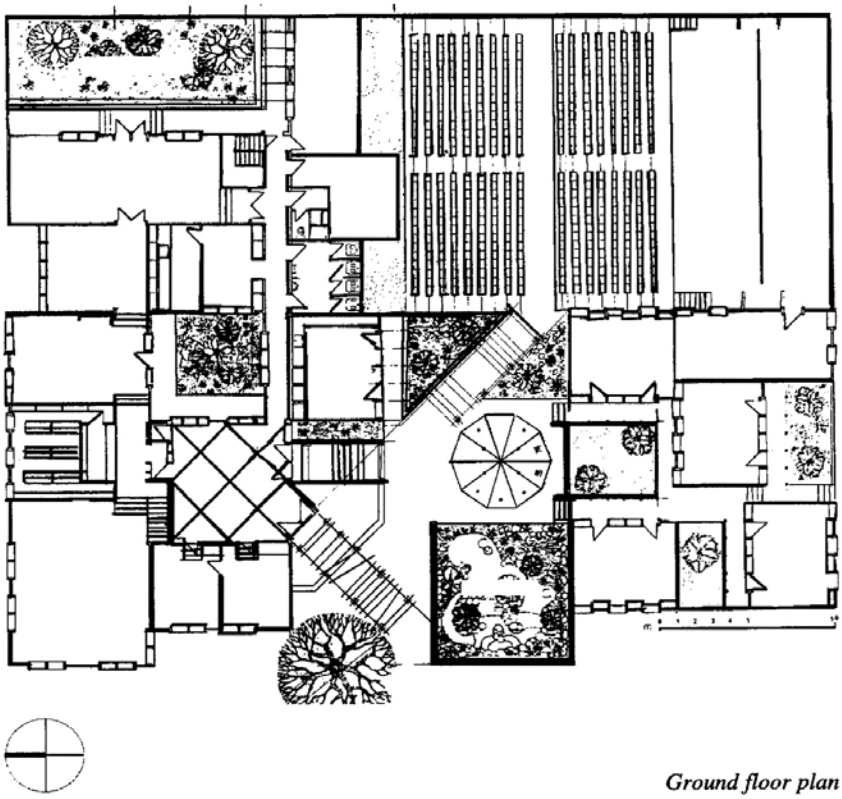
The region is characterised by a mild temperate climate, perhaps influenced by the proximity of the estuary of the Salum Islands to the west. Temperatures range between 18 and 31 degrees C, with rains between June and October. The town is affected by dust storms during the dry season.

Site

The size and location of the site of the complex is clearly important to the overall success of the pro-

gramme. It was secured, significantly perhaps, due to the support offered by the local authorities. Located in an area of civic buildings in the centre of the town, opposite the municipality, the complex is close also to the railway station and a market. As such, it has quickly become one of the principal public buildings (and something of a landmark) in Kaolack.

The site provided sufficient area to arrange the spaces required by the brief on a single level, and therefore enabled the architect to explore the scale of a "village". Given that most of the users are pedestrians, access is straight off the main road under a series of low pavilions that form the hub of the circulation of the complex. This open aspect is in keeping with the context, and helps to avoid the sense of congestion in the often-busy setting.



Ground floor plan

Topography

The site is flat, offering the architect little opportunity to exploit the topography. The use of small changes of level within the building to delineate spaces has been achieved with great subtlety.

Programme

General objectives

A programme for the construction of a number of cultural complexes in the SeneGambia region was conceived by the Mission de Co-operation et d'Action Culturelle during 1991, as part of the development of regional centres of the Alliance Française. The aim of such centres is to promote knowledge and understanding of the French language, and promote cultural exchanges between the population of the region and France. The cultural complex in Kaolack is therefore both a centre for study of language, but and a focus for a range of artistic and social activities (theatre, music, sport, communal meetings) that will promote mutual understanding.

The programme objectives were to design and construct a complex to house a range of cultural activities that would fit into with the context of the setting in the town of Kaolack. Aside from the practical aspects of the design, the need to construct a public building that would reflect the local traditions of the region was clearly important to the client, not least in the choice of architect.

Functional requirements

The initial brief was one which foresaw the arrangement of the spaces required for such a cultural function under a single roof. Instead, the approach adopted by the architect is one which separates the various principal functions of the complex on the site, in order to create the grouping of spaces housing respectively:

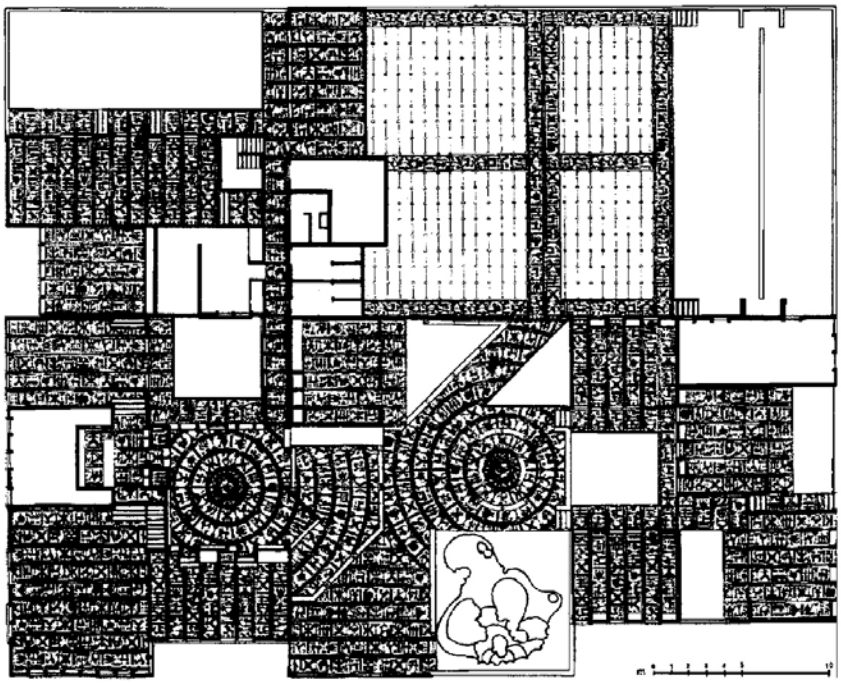
- entrance hall/exhibition space, administrative offices and library
- classrooms
- outdoor space for cinema/theatre

The three parts of the ensemble have been grouped on differing levels around an outdoor entrance space, designed as both a garden and meeting place, with a traditional-style "palaver hut" derived from village examples. By consciously emulating the scale of traditional domestic building, the architect has set out to exploit the richness of incident that such an approach can offer.

Description

Building data

The complex comprises a total of 750 square metres of built area, separated in three principal groups, reflecting the functional requirements of the brief.



Ground floor plan with paving design

The principal wing of the building houses the exhibition space/entrance hall, library, press room, study room, audio-visual room, administrative offices (with a children's reading area above), stores and lavatories. This part of the building is entered through a central double-height exhibition space, formal in nature, which gives on to library, office and other spaces. This section of the building also enjoys two courtyards. One of these has been converted, through addition of shading by users, into an outdoor study area. The administrative offices with the children's reading area above form the largest mass of the complex, beside the main entrance. Adjacent to this block (but accessible from outside) is an arts room, similar in form and design to the adjacent classrooms.

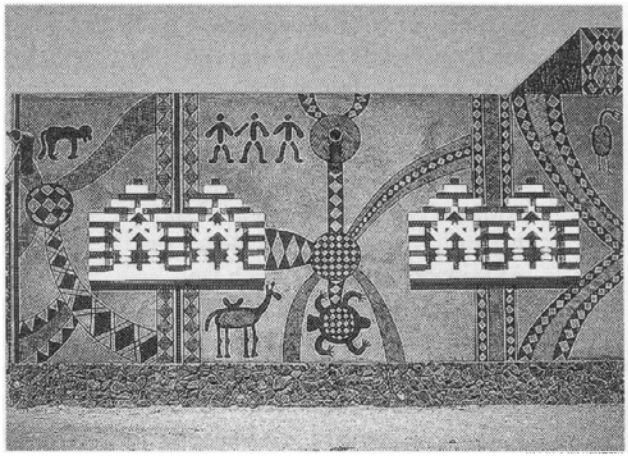
The classroom block comprise a four modestly-sized rooms arranged around small planted areas to provide the maximum privacy and coolness for the students. This is perhaps the part of the complex that most directly (and successfully) derives from the model of the traditional village, not least in exploiting small changes in levels.

The outdoor theatre is approached directly from the main external space at the entrance of the complex. The stage is accessible directly from a separate external entrance to the site and there is a stage store adjacent to the classrooms.

Design concepts

Originally conceived with all activities housed under one roof, the design was developed into a scheme comprising three parts, each housing distinct activities. This was partly possible due to the size of the site, with a total area of 3,212 square metres. The final built area of the complex (of 750 square metres) covers less than a quarter of the site. This has allowed greater emphasis to be given to the external spaces in the design than had perhaps been originally conceived. These outdoor spaces have, in their way, become as important as the enclosed spaces that surround them, and provided the architect with an opportunity to emulate the richness of incident and decoration that once characterised the traditional domestic architecture of the region.

The complex offeres the inhabitants of Kaolack a range of comfortable and practical spaces for use by residents of all ages. The design allows for a wide range of activities to take place (for example, in the library, press room and



Library building, west façade

classrooms) in close proximity, while providing users with maximum privacy and comfort. As important as the conventional cultural activities, however, the complex has come to be used for a range of additional functions (including local social events, sports, etc.). While these may not have been foreseen in the original brief, the architect has used his understanding of the local context to create a variety of spaces for public functions.

The decision to create an ensemble of separate spaces on the site was been partly dictated by practical considerations, and partly by the wish to create a modest domestic scale for the complex as a whole. The result is a building that respects the context, by presenting a modest but assertive façade to the surrounding town.

Having admirably resolved the practical issues posed by the brief in the given setting, the architect has set the scene for a virtuoso exploration of the decorative potential of the local tradition. Rather than seeing the purpose of this decoration as imitative, the architect has set out to make it illustrative of the regional traditions. In this, he has adapted motifs from indigenous surface decoration (including domestic objects such as calabashes) to a modern architectural programme, in order to stimulate an interest in a range of motifs. The sources of the various aspects of the decoration (which are dealt with below) are perhaps less important than their re-interpretation in the new context. Given the positive response from the users of the building to the decoration, there seems little doubt that the architect has succeeded in his aim in stimulating a renewed interest and delight in colour and form.

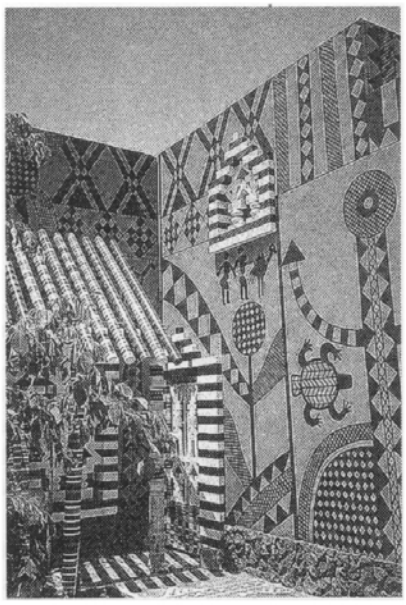
The main entrance of the complex is beside a large existing tree, whose incorporation into the design is inspired. While the landscaping of the two strips of land that lie between the complex and the main roads continues, that of the internal courtyards and entrance space of the building is well-established and demonstrates the potential for creating a series of micro-environments to temper the extreme climate of the area. The use of water in the main entrance is particularly successful (and popular) in providing a focus for this important space. Low stone walls have been used to define the site on the two street elevations, and work continues in the planting of indigenous species in the belt of land that separates lies between these walls and the building itself.

Materials and technology

The building makes use of technology that is familiar throughout the region. Load-bearing walls of cement blocks on strip footings support structural cement roofing components, under which suspended ceilings are hung. The structure is strengthened by a ring beam of reinforced concrete at wall-head level. External pavilions and pergolas are supported on concrete-filled PVC pipes, with a superstructure of hollow PVC pipes or timber lattice with a finish of shingles.

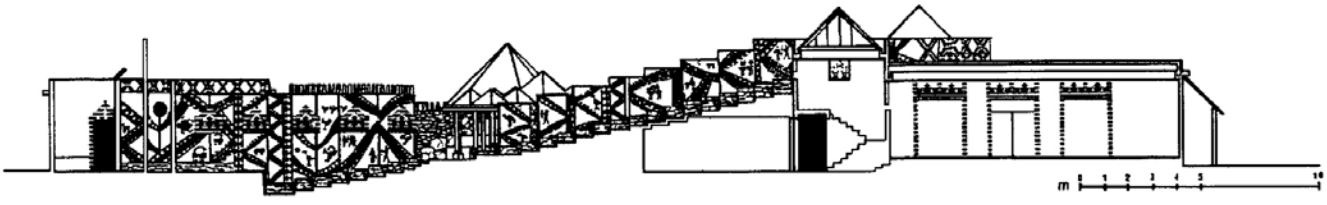
The building makes use of locally-available or manufactured materials throughout, in a conscious attempt to explore the potential of the modern vernacular. The principal materials and techniques used in the covered spaces are:

- Concrete strip foundations supporting cement-filled concrete blocks (manufactured on the site) below ground.
- Hollow cement block walling, with one of the upper courses replaced by a ring beam combined with gutter of reinforced concrete.
- Roofing of profiled cement components.
- External walls finished with

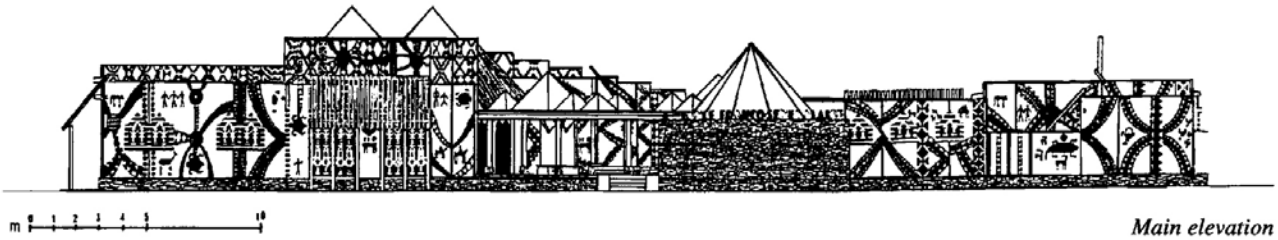


Courtyard and portico looking towards the audio-visual room

Section through the open air theatre



Alliance Franco-Sénégalaise, Kaolack, Senegal



Main elevation

oxide-tinted plastered and painted decoration.
- Reinforced concrete sunscreens protect recessed external windows.
- Internal walls finished with gypsum plaster with extensive painted decoration.
- Plastered ceilings suspended from profiled roofing components.

The principal materials for external pavilions and structures comprise:
- concrete-filled PVC pipes as supporting poles, on concrete pad foundations.
- superstructure of hollow PVC pipes and timber lattice-work.

The principal floor finishes for both covered and external spaces are of decorative terrazzo, with addition of limestone, laterite and basalt as colouring agents, over a cement screed.

The technology chosen for the complex is deliberately basic, making use only of locally available materials. The architect has set out deliberately in some cases to make use of familiar components (including PVC pipes and terrazzo floor finishes) in unorthodox ways to achieve a synthesis of technologies that well suits the local context. It is hoped that these techniques might serve as examples for other public buildings in the area, as appropriate.

The complex is conventionally serviced, making use only of ceiling fans for cooling. Provision for cross-ventilation in all public spaces has resulted in a comfortable environment, even at the hottest times of the day.

Origins of:

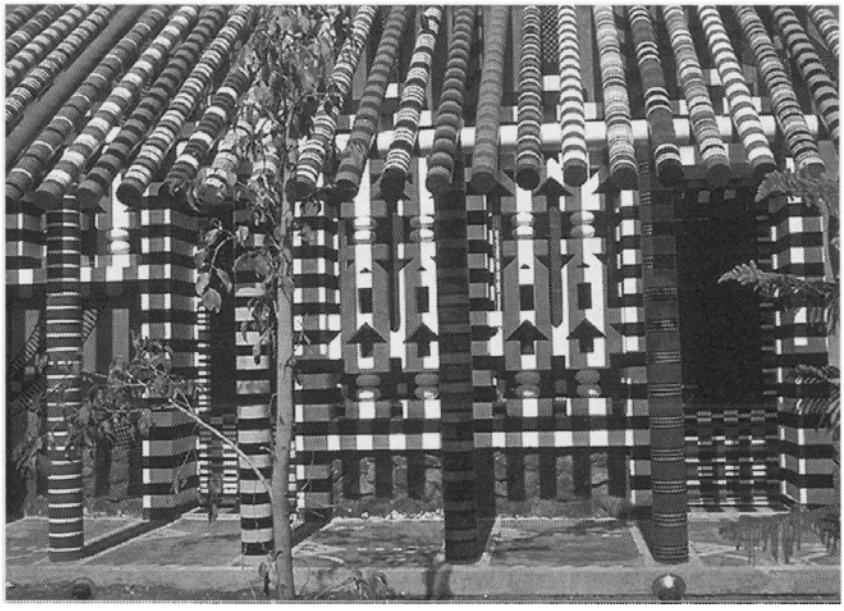
Technology

There is little technologically innovative per se in the building, whose methods of construction are drawn from the developing "modern vernacular" common to the region.

In its use of decoration in this context, however, the building is clearly innovative. The principal sources for the decorative aspects are:
- decorated PVC pipe and timber lattice ceilings derived from "Mourid" ceilings used in devotional public buildings in Mauretania.
- window screens derived from earth-brick claustras used in homes in parts of the interior of Senegal and Mauritania.
- decorative patterns on doors derived from traditional fabric designs from Senegal, Mali and elsewhere in the region. Images and patterns on walling and floors are derived from traditional designs on calabashes used in the region for domestic purposes. The significance of some of these designs is well-understood. In the principal public spaces of the complex, the traditional image of Kaolak (in the form of a lizard) has been incorporated.

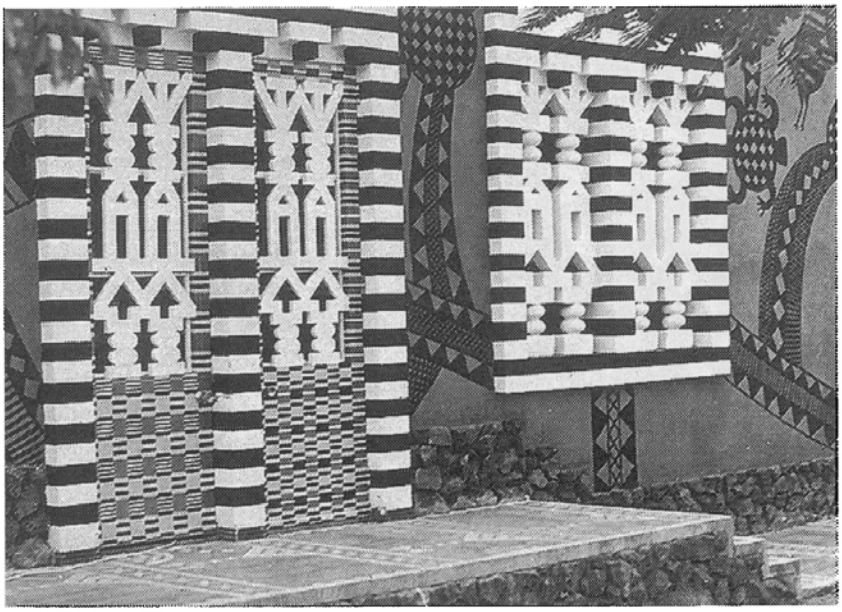
Materials

The complex was built in a context where "modern" manufactured materials have largely replaced the hand-made (and largely organic) traditional components. To replace this, a widely-used modern vernacular has emerged, making use of non-traditional materials that are seen to be effective for current-day needs. The architect has sought to exploit this modern vernacular to the full. Most of the materials used in the



Courtyard entrance leading to exhibition area

Alliance Franco-Sénégalaise, Kaolack, Senegal



Audio-visual room, with windows looking onto courtyard.

construction of the complex have been collected or processed locally. For example:
- cement for walling and roofing components was from the Rifisque plant (175 km).
- pre-cast roofing components were produced in Sebikotane (50 km)
- laterite, basalt and limestone for floor finishes were collected locally.

Labour force

The use of familiar construction technology resulted in little involvement of specialist skills in the construction of the complex. Al of the labour used in the building was indigenous, with less than twenty percent of a skilled nature. External decoration, based upon designs prepared by the architect, was subcontracted to a local collective (As Diack).

Professionals

The architect of the complex is French, and has lived and taught since 1973 in Senegal. In addition to his architectural practice, he has a background in anthropology and has published extensively about traditional crafts and building techniques of the region. The preparation of structural designs for the complex was undertaken by Senegalese consultants Bureau Godillard. The contractor for the building was a Senegal-based company Batisahel. Supervision was undertaken by Bureau Véritas of Dakar.

Construction Schedule and Costs

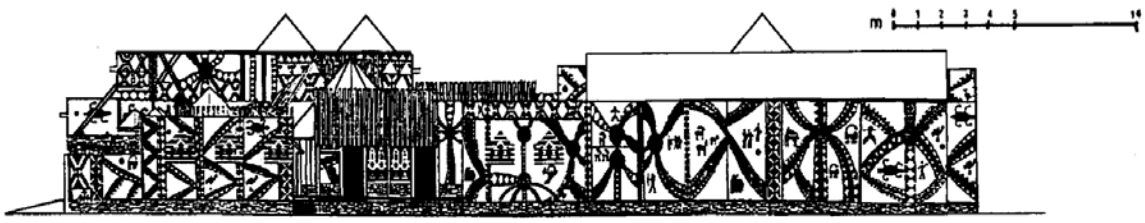
History of project

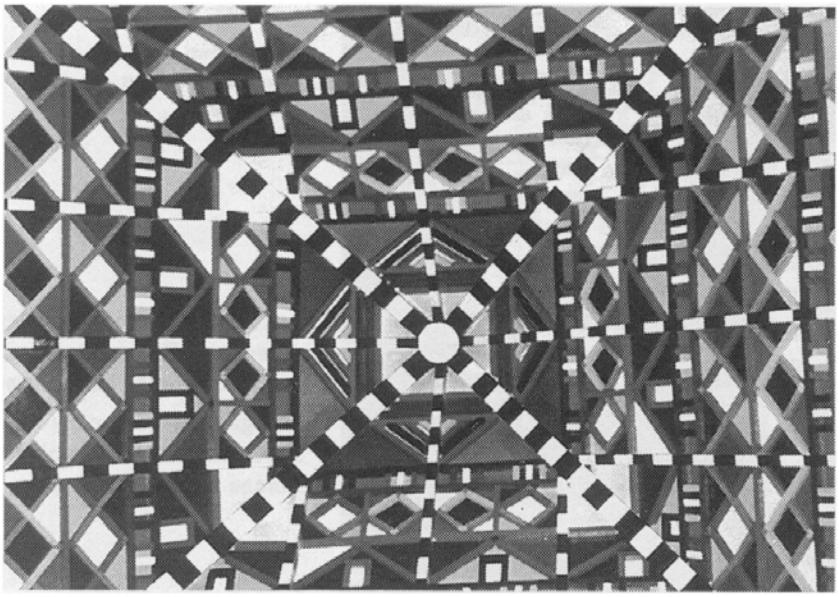
Resources for the project, which was first conceived by the Kaolack committee for the Alliance Franco-Sénégalaise during 1990, were secured in 1991 from the Coopération Française by the Mission de Coopération et d'Action Culturelle of Dakar. Construction began on site in March 1993, and the complex was completed in April 1994.

Costs and financing

The total cost of the complex was $557,693. With the exception of the donation of the land by the local authorities, the cost of the project was met entirely from public funds made available through the Coopération Française.

South elevation





Detail of ceiling over the entrance/exhibition area

Comparative costs

The modest final cost of the building compares to that of standard middle-range public buildings of the region, which would typically have an in-situ concrete frame and roof slab, and imported tiled floors. The fact that the Kaolack complex possesses an altogether better quality of space and finish within this price, is indeed an achievement. At $412 per square metre, the cost of the project compares well with similar construction of this type in the region

Maintenance costs

The client is well satisfied with the low recurrent costs of upkeep for the complex. In addition to the use of conventional services, this is due to the robust and sensible detailing used throughout

Technical Assessment

Functional assessment

Few users or visitors can fault the complex for its functional performance. It seems to fit the practical requirements of its users well, by providing a variety of spaces on the site in modest and effective manner. The spatial separation of the various functions of the complex is successful, and easily comprehensible for the visitor. The entrance and circulation, pivotal for a public building of this type, is particularly well-handled. Subtle (and in some cases, very practical) changes in level between all of the major spaces are used to great effect, in combination with patterned decoration.

Climatic performance

Using well-tried techniques, the building seems to enjoy a high overall environmental performance in a difficult climate. Lightweight roofing components, coupled with well-ventilated roof voids, perform well, even during the heat of midday. All of the public spaces in the building benefit noticeably from cross-ventilation, through louvered windows behind screens in the case of external openings. Users expressed themselves satisfied with the conventional ceiling fans, which maintain some air movement in the hottest months. Natural lighting in public spaces seemed to be adequate. The screens covering external openings in the library wing, offices and some classrooms seem to provide an acceptable degree of privacy without obstructing the natural light excessively. Artificial lighting is provided by conventional fittings throughout. The acoustics of spaces in this well-used building seemed to be good, despite the prevalence of hard surfaces throughout. Although it was not possible to witness the performance of the open-air theatre, it is said to have good acoustic qualities both for music and speech. The increasing use of the auditorium for public meetings seems to bear this out.

Choice of materials and level of technology

The choice of materials and building techniques is altogether appropriate for the context in which the complex has been built. Not only are most of the materials and finishes affordable (and therefore replicable in other public buildings, if appropriate) but also familiar to most builders. This will ease the maintenance of the building in the future, and add to a sense of the building being distinctively Senegalese in conception and realisation.

Maintenance

There appeared to be few evident problems with the maintenance of this heavily-used building, which enjoys sensible and practical detailing throughout. A few examples might serve to demonstrate the performance in places where one might normally expect to see deterioration:

- gutters behind the parapet walls of all spaces have been provided with large diameter terracotta water spouts to clear rainwater from the face of the building.
- the base of all plastered walls, both internal and external, are protected by stone or terrazzo dados.
- floor finishes, although innovative in design, are based on well-tried

terrazzo techniques, which seem to have performed well under heavy wear.

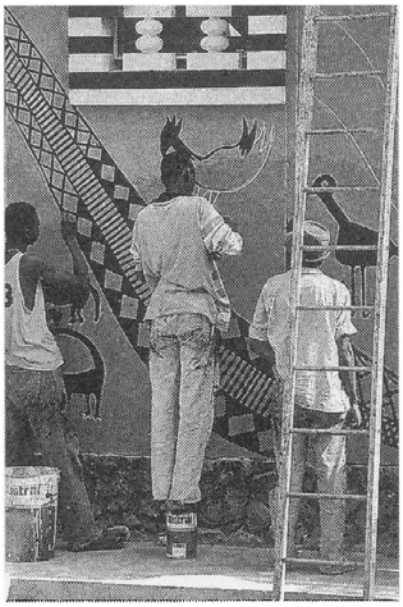
Design features

The design of the complex is practical and effective. The layout of the various wings is based primarily on functional decisions about the use of space for the range of activities. By exploiting the potential of external spaces on the site to the full, the architect has succeeded in creating a series of useful outdoor spaces that add significantly to the effectiveness and richness of the whole.

The decorative aspects are perhaps some of the most striking (and popular) aspects of the design. That the architect has chosen to make use of a wide variety of decorative motifs in innovative ways is, in itself, an inspired move. In the context in which it is used, any attempt at faithful re-creation of traditional forms or patterns could have been inappropriate. Instead, the building has provided an opportunity to demonstrate a synthesis of traditional patterns, which seems both recognisable and appreciated by the users. This single aspect of the design seems to have done more to make the population feel proud of their building than any other.

Users

The complex is used by a wide range of the population of Kaolak. For the purposes of conventional "classroom study", children and adults come to learn to read and write, and school students come to supplement their school studies through a variety of courses. For the purposes of reading, all ages are provided with space to borrow and read books, from a children's reading corner in the library to a press room, the latter mainly used by adults from the town who come to see the local and international press. In addition, there is space for use by local artists. The centre increasingly provides a focus for a wider range of social activities, especially for both cultural performance and public meetings, in the open-air theatre. The importance of the latter function was stressed by a number of the users of the complex. It is interesting to note that the central space in the complex is also being spontaneously used as a setting for wedding and other photographs.



Painting the façade designs

User response

The building is clearly popular. It seems to have exceeded the expectations of the client, who continues to be excited by the potential that it offers as a focus for social and cultural life in Kaolack. The local authorities too seem to be proud of such a public building in their town, and continue to offer support to the local committee of the Alliance Franco-Sénégalaise in its management. Perhaps most importantly, those using the building are vocal in their enjoyment of its exuberant colour and sense of space.

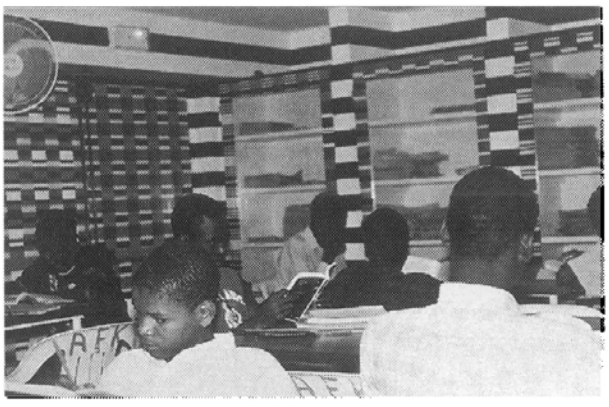
Project personnel

The client for the project was the Mission de Coopération et d'Action Culturelle, Dakar, which worked closely with the local committee of the Alliance Franco-Sénégalaise. Prominent in this committee at the time were Matar Barro (President), Eugene Haroun, Makhone Diaw, Issa Ndoye, Amary Fall, Mamadou Baidy Dieng, Momar Faye, Armand Diop and Sega Toure. Additional support came from the Governor of Kaolack, M. Bocar Diallo, and the Mayor of the town, M. Abdulhaye Diack. There seems little doubt that sustained local support has been significant in the success of the cultural complex.

The delegate of the Alliance Française in Dakar, Patrick Mandrilly, was clearly instrumental in ensuring that the original architectural objectives of the project were achieved.

The project architect is Patrick Dujarric, who practises in Dakar.

Jolyon Leslie
April 1995



Interior library