



Institut Angolais d'Education

Technical preliminary project of septembre 1972

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1. ARCHITECTS' DESCRIPTION

1.1 Situation

The site is situated 7 km north of Dolisie going on the old Gabon road.

The area which is about 1000 m x 2000 m is to the north enclosed by the Mafoubou river and to the west and the south by the old Gabon road. To the east the limit is going parallel to and at a distance of 1000 m from the old Gabon road. The area is divided in the direction east-west by a crossing road.

Area 200 ha.

To the north along the river the ground is level but is flooded in the rainy season. South of the crossroad the ground is Rilly. The buildings are placed here approximately 350 m south of the crossroad in a level of about 25 m above the northern part of the area.

1.2 The mutual placing of the buildings

All the buildings are placed in the direction east-west. Buildings with mutual relations form courtyard areas which contribute to the friendly villagelike appearance.

The south-western part of the buildings consists of cormitories for girls and boys with a toilet-block and a laundry. The north-eastern part consists of the educationbuildings with the workshop at the furthest distance from the dormitory-area. The administrationbuildings and teachers' buildings are placed to the north by the approach road. The kitchen and the dining-hall are placed in the central part of the buildings, the dining-hall is meant to be used as the assembly-hall. Outside of the dining-hall between the dormitories and the administration is layed out a rallyingground with a flagpole.

1.3 The individual buildings

- 1.3.1 Dormitory for boys consisting of 2 rooms for 10 persons. Fronts like type A (see drawing no. 10.22 01). Furniture: steel-cupboard for student, two-storied steelbunks.
- 1.3.2 Dormitory for girls, like 1.3.1
- 1.3.3 Toiletblock containing 2 sections for boys and 1 for girls plus laundry. Each section consists of a toiletcorridor, a changing room, a wash-groove and a shower-corridor. The laundry contains 2 wash-boilers, rinsing vessels and ironing tables. Between the blocks is a depot for clean clothes.
- 1.3.4 Like 1.3.1
- 1.3.5 Educationblocks containing 6 classrooms. Between the classrooms depots for books and teaching material. Front type (see drawing 10.23 01).
- 1.3.6 Kitchen and dining-hall. Kitchen placed around a kitchenyard. In the dining-hall are seats for 150 persons eating and 300 persons at lectures. Front (see drawing 10.23 01).
- 1.3.7 Teachers' residence, containing 12 rooms for 2 persons. In front toiletblock, covered area with dinette. Front type (see drawing 10.24 01).
- 1.3.8 Laboratory and small toiletblock, containing laboratory with preparationroom and depot, darkroom and a small classroom for 15 students. Front type (see drawing 10.23 01).
- 1.3.9 Infirmary containing doctor's room, examination-room and bedroom with 6 beds. Front type (see drawing 10.24 01).
- 1.3.10 Administrationbuilding containing director's office secretariat, teachers' room, library, printing- and copyroom, trade-class and central depot. Front type (see drawing 10.24 01).

- 1.3.11 Workshop containing drawing-hall, bricklayer's, carpenter's, metal- and electrical workshops, mechanic's workshop with lubrication pit and generatorroom. Front type (see drawing 10.23 01).
- 1.4 Remaining buildings are stables and water-tower, drawings of which will be produced later.
- 1.5 Fronts occur in 3 types.
Type A is provided with wooden slat and on the inside mosquito net.
Drawing 10.22 01
Type B is a topped window provided with a transparent acrylic pane. At the inside a mosquito net.
Drawing 10.23 01
Type C is an elevating window provided with transparent glass or acrylic. At the outside a mosquito net.
Drawing 10.24 01
All outside doors are sliding doors. Inside doors are partly regular doors, partly sliding doors.
- 1.6 The roofing is gray corrugated asbestos sheets.

2. STRUCTURE

- 2.1 The design is based on two standard building structures. One for the large span building for dining room and workshop, and one for the smaller span in all the other buildings.
- 2.2 The structure is a three pinned timber frame of solid timber peices with bolt connections and steel joint plates. The longitudinal stability is based on steel diagonals placed in each end module in all buildings.
The exterior and interior walls have no structural significantns. The interior walls are made of concrete bricks.
- 2.3 The frames are anchored in ordinary liniar foundations at a level of either 80 cm below ground level or 30 cm below existing level (in filled up areas). The concrete floors are built directly on the ground.
- 2.4 The structural design is based on a working bending stress of 200 kg/cm^2 . The wind load on a wind speed of 40 m/sec and an equivalent statical pressure of 100 kg/m^2 .
The allowable stress for steel used in bolts is 1300 kg/cm^2 .

3. WATER - AND SANITARY INSTALLATIONS

3.1 Water supply

Alternative possibilities are being considered. Until the applicability of some other way of supply has been confirmed by wateranalyses there is planned the installation of an electrically operating subsoilwaterpumps in an enclosed borehole. The water is being pumped to an elevated tank (water-tower) from where the supply to the various blocks goes through an earth supply network made of galvanized steel tubes.

The effective capacity of the water-tower is 8 - 10 m³. By a special outlet about 1/3 of the water capacity is being reserved for kitchen-purposes only.

There is calculated on an average 24-hours consumption of 200 l/person and a maximum hourconsumption of 40 l/person.

3.2 Discharge - installations

The rainwater from the roof-surfaces and coatings is carried off over the ground. The wastewater (apart from the tailwater from kitchens and laboratories) is carried off to septic tank installations and from there (together with kitchenoutlet etc.) to cesspools.

The waste pipes in earth are expected to be carried out in pitchfibertubes (manufacture Key) which are resistant to termites, chemicals etc. The method of assembling is simple.

3.3 Sanitary installations

In the buildings the water-pipes are being lead visible, to as large an extent as possible there will be pushbutton operated drain valves. At the toilets the flush comes from overhead reservoirs. Toilettes in the studentareas will be installed as soleplate lavatories (French type). By each stu-

dent toilet there will be installed a water cock. Toilettes in the teachers areas are planned as waterclosets (porcelain) with overhead reservoir. In the student areas wash-hand basins are planned as loose wash-tubs made of plastic, alternatively fastened steel washgrooves. In teachers' areas are planned steel washbowls.



4. ELECTRICAL INSTALLATIONS

4.1 Main power supply:

Electric power is supplied from a diesel generator plant placed separately as shown on drawing no. 40.00

Upon the erection of building blocks one 23,5 kW dieselgenerating set is installed for supplying power to site installations and water pump.

This generating set will be sufficient to supply power to all electrical installations in the finished blocks according to the present plan but there will be no spare power supply.

We have therefore in the lay-out of the electrical installations and of the room housing the dieselgenerating set made provisions for the erection and connection of one further 36,5 kW dieselgenerator.

After careful consideration of the service- and maintenance facilities on the spot we have chosen a Lister generator type.

It has furthermore been our aim to make the dieselgenerating plant as simple as possible from an operating and maintenance point of view.

Major specification

<u>Dieselgenerating set no.</u>	<u>1</u>	<u>2</u>
Manufacture	Lister	Lister
Type	HA 4	HA 6
3 phase	23,5 kW	36,5 kW
(0,8 P.F)	29,4 kVA	45,6 kVA
Voltage	380/220V	380/220 V
Cycles	50 Hz	50 Hz

Both generating sets are:

1. Air cooled
2. Manuel start
3. Automatic disconnection
4. Control for oilpressure and temperature

4.2 Main lines

The main cables are drawn in the earth from the main board in the generator room to the single blocks and to the water pump.

The main cables are terminated in a separate fuse box in each block from where the internal light- and power installation is drawn.

4.3 Light installation

In rooms and sleeping rooms incandescent lamp is installed.

In all other places 40 W fluorescent lampfittings are installed.

Local switch-on in each room.

Further 220 V sockets for connection of individual lighting at working places.

Out-door fluorescent lampfittings are installed a few places on the buildings.

4.4 Power installation

In both laboratory and workshop 220 V and 380 V sockets for connection of various equipment and machines.

4.5 Feeble current installations

Telephone and aeriels are not planned.

For connection of film- and dia projectors and tape recorders 220 V sockets are placed in all class rooms.

4.6 Lightning - conductor installation

All blocks will be protected by lightning-conductors.

EDUCATIONAL ASPECTS

Type and level of the institution:

The institute will offer instruction at primary and secondary level, consisting of general education and versatile vocational training.

The purpose is:

- to prepare young people for education at middle level
- to prepare young people for education, which does later give access to higher education
- to give young people preliminary training, which will enable them to teach in the liberated zones of Angola and thus meet the educational, administrative and technical requirements of a population, which is mainly rural.

Motivation:

Since the colonial heritage in the field of education finds its expression in a considerable lack of acres, a low cultural level and a high degree of illiteracy, MPLA has adopted an educational policy, which on a long-term-basis, will raise the general cultural level of the Angolan people, and on a short-term-basis fulfil the need of cadres for the different tasks of the liberation struggle and for the socio-economic development of the liberated zones, or the needs of a rural population, which is mobilized in a national liberation struggle (Quotation from MPLA-report, 1972).

Number of students and staff:

The institute is intended for 180 boys, 90 girls, 16 teachers and an administrative staff of 5 persons.

Function:

On the basis of a unitary conception of education, the school has been designed as a 9-year unitary school, consisting of:

- a 5 year primary school
- a 4 year secondary school.

The last 2 years of the secondary school comprise 3 possibilities of specialization:

- a biological line
- a technical line
- an educational line.

The biological line gives access to medium level or higher education (after practical service) within the fields of medicine, pharmacy, agronomy, biology, etc.

The technical line gives access to medium level or higher education (after practical service) within the fields of electronics, mechanics, radio technics, mining, chemistry, physics, etc.

The educational line trains teachers for primary schools.

Since the school has a predominantly practical character, the following workshops are included:

- agricultural workshop
- workshop for carpentry and joiner's work
- plumbery workshop

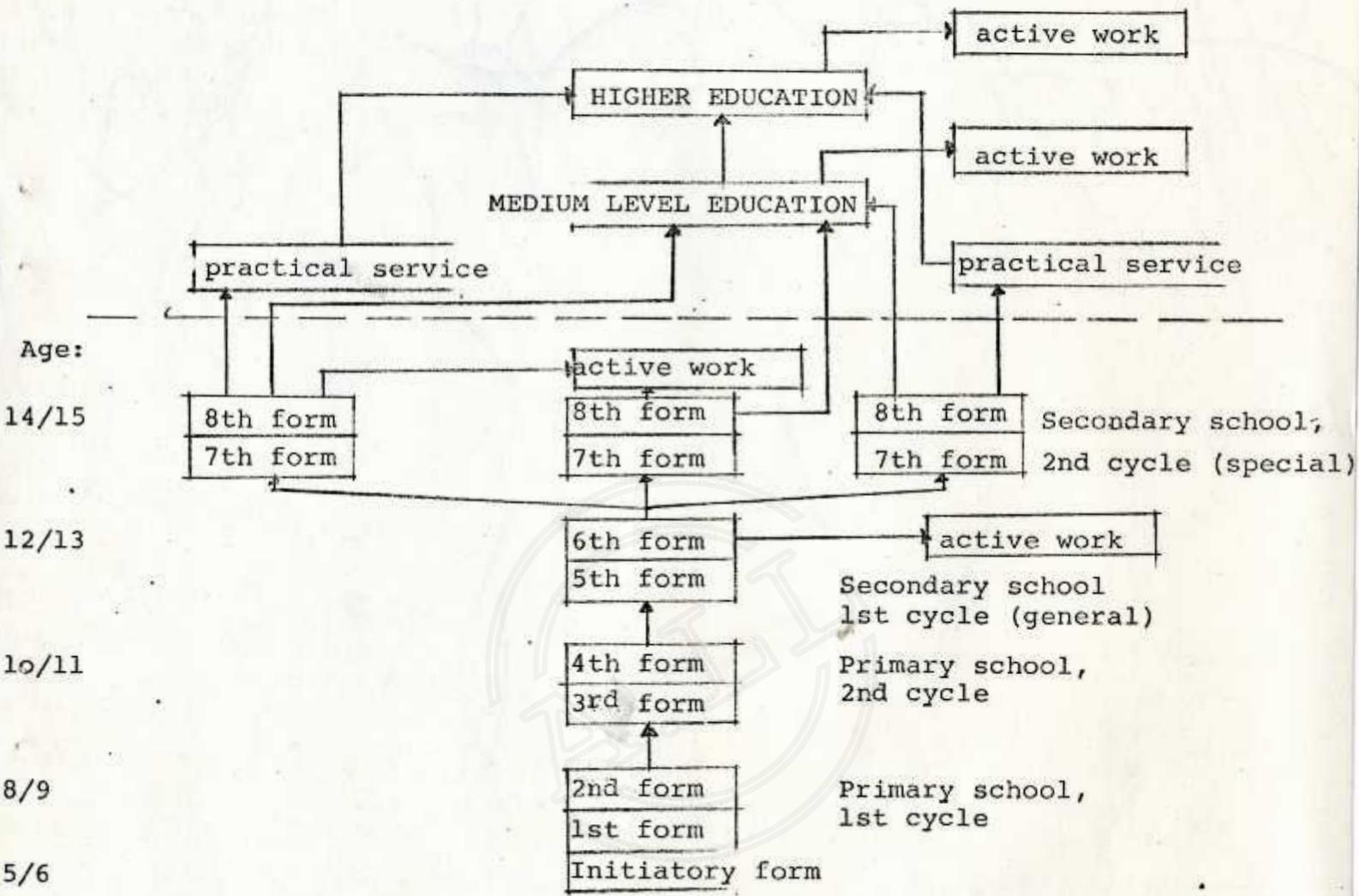
- electric workshop
- masonry workshop
- workshop for general mechanics
- workshop for commerce and administration.

The instruction in the workshops has a versatile character, as all students will receive instruction in all the workshops.

Also first aid and household economics will be included in the instruction of the school as subjects.



Educational structure:



The broken line limits the instruction given at the school.
 Instruction at the levels above the line will take place abroad.

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20.01	01	Constructors drawings
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30.00	01	Sanitary drawings
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40.00	01	Electricity drawing