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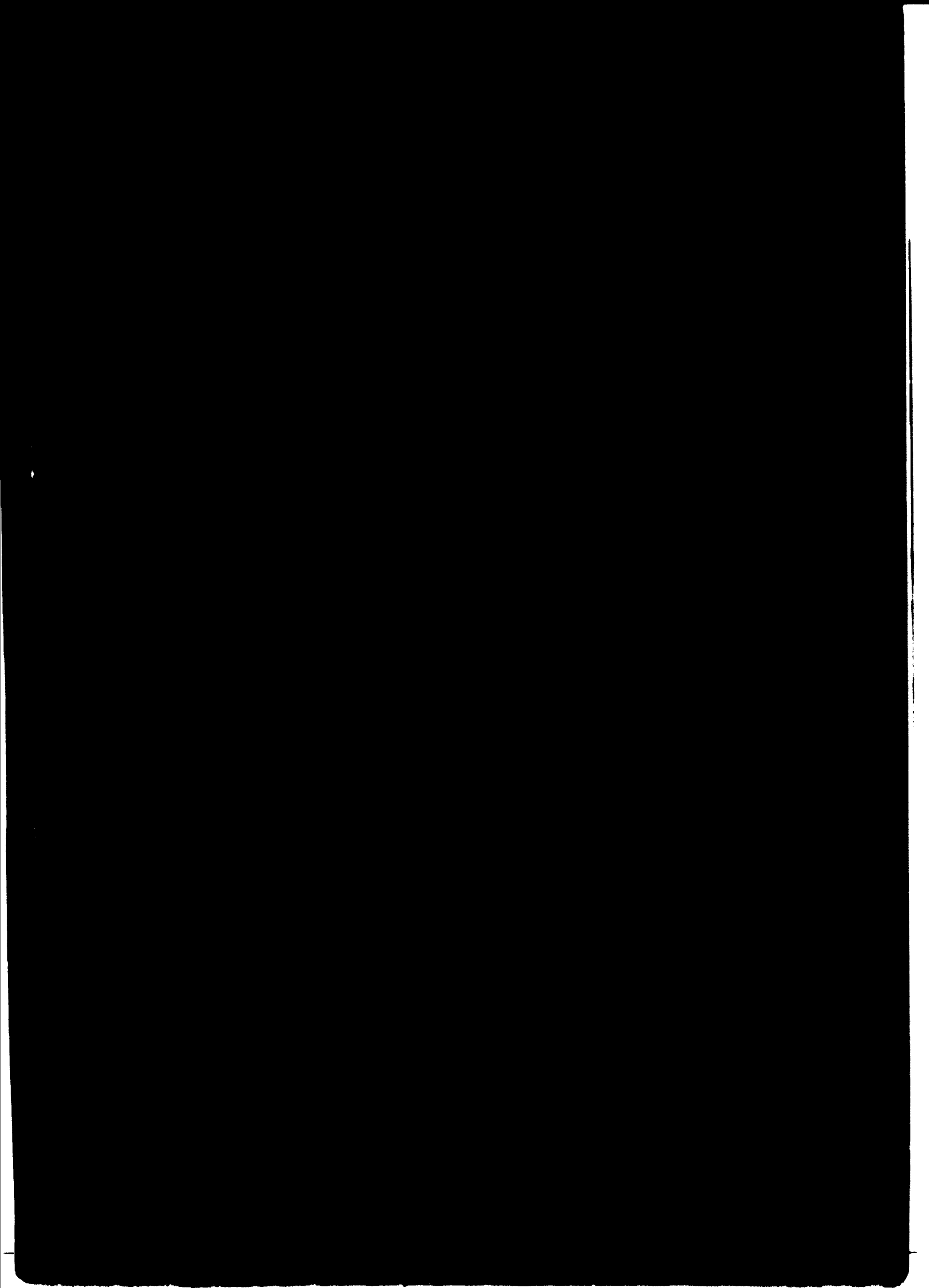
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the Field of Metalworking Industries

Addis Ababa, Ethiopia, 14-25 November 1977

TECHNICAL CO-OPERATION AMONG THE DEVELOPING COUNTRIES
OF AFRICA IN THE ENGINEERING INDUSTRIES ^{1/}

by

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^{1/} The views and opinions expressed in this paper are those of the author and do not necessarily reflect the views of the secretariat of UNIDO. This document has been translated from an unedited original.

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FOREWORD

This is the fourth regional meeting on the development problems of the engineering industries.

The meeting is being held in Africa - at the very heart of the "underdeveloped majority", since 18 of the 29 least developed countries of the third world are in Africa.

It is important to take cognizance of this situation. After the relative failure of the Development Decade, this is inter alia an occasion for seeking out and identifying the reasons why the 29 least developed countries have not been able to take off economically, and adopting corrective measures.

Why is it that some countries have underground or even surface minerals, yet are unable to exploit them for their own benefit?

Why is it that some countries see these minerals being extracted yet are unable to process them or use them to manufacture end products?

Why do some countries see the means for extracting the wealth of their soil and their underground deposits imported, used and even reimported, yet never manage to produce such means themselves nor, consequently, equipment and consumption goods?

The replies to these questions are to be found in the shortcomings of the industrial sector in general and more particularly in the shortcomings of the engineering and metal-processing industries, something which is the hallmark of our countries' economies.

The People's Republic of Benin will make its modest contribution to this discussion by drawing up a balance-sheet of its experience and reflections in this area.

We hope that this 11-day Workshop to take place at Addis Ababa from 14 to 25 November 1977 will make it possible:

- To analyse all the aspects of our deficiencies;
- To determine the underlying reasons for them, and
- To devise solutions and a plan of action for applying them.

The Addis Ababa Workshop must not end merely in pious wishes. Hence the need to lay the foundations for real co-operation between the backward countries in order to co-ordinate their economic policies and to decide on actions that will lessen the gap between our economic level and that of the developed countries.

I. INTRODUCTION

Benin extends between 6° and 14° north and between 0° and 4.5° east. It borders on the Niger and the Upper Volta in the north, Nigeria in the east and Togo in the west. In the south it has a 125 km coast line on the Gulf of Guinea. It has an area of 112,000 km² and a population of 3.1 million, giving an average population density of 27.5 inhabitants per km². The population is heavily concentrated on the coast where the density varies from 25 to 164 inhabitants per km².

The population of working age (15 to 55 years) is estimated to be 1,240,000.

The number of paid jobs is estimated to be 42,000, representing 3.4 per cent of the population of working age - a clear indication of the amount of unemployment and underemployment.

The gross domestic product (GDP) for 1975 was estimated to be 102,000 million CFA francs. It was only 66,800 million in 1971. The per capita income in 1975 was 34,000 CFA francs or approximately \$US 136.

Savings cover 2 per cent of GDP, so that investment is dependent on foreign aid.

The country has a mainly rural economy.

In 1975 agriculture contributed 30 per cent of GDP.

In 1975 industry contributed only 8.7 per cent of GDP.

The tertiary sector is responsible for 61.3 per cent of GDP.

Exports cover only 35 - 55 per cent of imports and the coverage has declined continuously since 1968.

The proportion of imports represented by equipment has continued to decrease.

Benin is one of the least industrialized countries of West Africa. It is not surprising that it is one of the 29 least developed of the developing countries.

II. SURVEY OF INDUSTRY IN BENIN

II. 1. General situation

From the beginning of the colonial period until 26 October 1972, the date on which our national liberation was proclaimed, no industrial unit worthy of the name was set up in Benin. Similarly, there was no thorough-going research into our mineral resources which, where they were known to exist, were never developed. The policy of colonial domination consisted in establishing social and production relationships turning our country into:

A source of cheap raw materials;

An outlet for manufactures;

An importer of small quantities of foreign capital for setting up in Benin production units with a low value added, dependent on French industry.

Now that the colonial and neocolonial periods are over, it is clear, then, that the main cause of our industrial backwardness is foreign domination. This consisted in keeping industry at a very rudimentary level.

A sector-by-sector census reveals that there are at most some 60 industrial units, the majority of them small and medium-sized.

The main large units are State corporations and mixed-economy concerns.

II. 2. Main units

Fats and oils

SONICOG, Société nationale des industries des corps gras, producing palm kernel oil, palm kernel oil cakes, and oil, butter and fats of ground nuts, shea, copra and soap-berry.

Total production was 65,000 tonnes in 1975-76.

The turnover for 1975-76 was 5,600 million CFA francs, corresponding to approximately 32 per cent of the whole of national industrial turnover; 95 per cent of production is for export.

From 1971 to 1975 SONICOG was responsible for 47 per cent of all capital investment in the industrial sector.

It provided approximately 700 jobs in 1975-76.

It markets all the palm oil produced by SOBEPALH (Société béninoise du palmier à huile) and the palm oil of IRHO.

Despite this wide range of activities, a detailed study of prices shows that they fluctuate widely and are very dependent on the economic situation in European countries.

SONICOG's activities are outward-looking.

Total capital investment in the fats and oils industry increased from 2,700 million in 1971 to 6,600 million in 1975. Turnover increased from 4,600 million in 1971 to 5,600 million in 1975. The total number of jobs in the sector in 1975 was 1,054.

Textiles and footwear

SOBETEX - IBETEX and leather

This group was responsible for 7 per cent of capital investment in 1974-75 and provided 1,500 jobs.

SOBETEX (Société béninoise de textile) prints loomstate goods. It is a mixed company with an output of 10,000 million metres of printed fabrics.

IBETEX (Industrie béninoise de textile), a mixed company carrying on weaving and spinning and producing hosiery. It started up in 1976 and has invested more than 5 thousand million francs.

The BATA company takes care of the leather industry, but is at present in stagnation.

The turnover for the whole sector increased from 1,600 million in 1971 to 3,400 million in 1975 and nearly all sales are local. The branch provided 395 jobs in 1975, ten of them filled by expatriates.

Foodstuffs industry. This is carried on by the following group of units:

SOBEPROM (Société béninoise de produits de mer). Distributes deep-frozen fish, and is foreign-owned.

CRUSTAGEL, which produces deep-frozen shrimps, is a foreign company.

Industrie alimentaire SARL, which produces couscous and pasta, is French-owned (BSN group).

GLB (Grands moulins du Bénin). This is a flour mill, Lebanese-owned.

SIBICOB - produces biscuits and confectionery.

ILB (Industrie laitière du Bénin) produces yogurt.

Total investment increased from 52.6 million in 1971 to 829 million in 1975. Turnover increased from 539 million to 2,500 million in 1975, based on nearly 85 per cent local sales.

The number of jobs provided is 631, 14 of which were filled by expatriates in 1975.

Mining industries

This sector consists of the cement industry and the Société céramique industrielle du Bénin (CIB).

The Société des ciments du Bénin (Benin Cement Company) is at present operating a clinker-crushing unit with a capacity of 200,000 tonnes/year at Cotonou, while awaiting completion of the Onigbolo cement project and construction of the second clinker-crushing unit at Agblangandan.

We cannot yet give any figures for the two units pending.

The figures for plants now operating in the sector are as follows:

The crushing unit produces 200,000 tonnes of cement a year;

CIB produces floor tiles, sanitary goods and porcelain.

Total investment for this group increased from 400 million in 1971 to 429 million in 1975.

Turnover rose from 800 million in 1971 to 2,200 million in 1975, with nearly 60 per cent local sales.

The sector provided 48 jobs in 1975, three of them filled by expatriates.

Beverages industry

We note two units in this sector:

1. The "La Béninoise" brewery, taken over by the State in 1975 and the largest unit in the sector;

2. Overseas: a private company making fortified beverages. The investment for both units reached 629 million CFA francs in 1975.

Turnover, which in 1971 was only 133 million for the one old brewery then in existence, increased to about 1,600 million in 1975.

The number of jobs provided was 322 in 1975, five of them being filled by expatriates. Total value added reached a record 896 million CFA francs in 1973 on a turnover of 1,572 million CFA francs.

Water, gas, electricity. Here again two units are representative.

SBEE or the Société béninoise d'électricité et d'eau: this has been a State company since January 1973.

Its distribution capacity rose to 47,400 million kWh in 1975-1976; only 3 thousand million kWh were produced locally, the remainder being imported from Ghana (Akossombo dam) through the intermediary of the Benin Electricity Community, an inter-State organization set up for the joint exploitation of subregional energy resources.

SBEE made a big investment effort in 1974, following which it reached 26 per cent of the total figure for the industry from 1971 to 1975. It almost trebled its manpower in the three years from 1974 to 1976.

SOBEGI: This group used to be run by Air liquide. It is still foreign-controlled and produces gas, the annual output since 1975 being approximately 410,000 m³.

The figures for the whole of this sector are as follows:
Investments increased from 81.6 million in 1971 to 3,600 million in 1975;
Turnover rose from 88.4 million in 1971 to 1,300 million in 1975.

The entire output is consumed domestically. Electricity consumption has reached levels such that there are serious risks of shortages in the subregion by 1980. Pending projects need to be speeded up.

Jobs: 313 in 1975, four filled by expatriates.

Engineering industries - see further on -

Building materials

Four undertakings are noted in this sector:

Bénin-Métaux. Sheet-metal shaping, production of aluminium utensils. It is a private concern.

STREQ. Aluminium joinery. Another private concern.

Entreprise du Bénin. Construction and public works undertaking, the biggest in the sector.

CONDEL. To produce electric cables; it is under construction.

Two State companies have started up in this sector - SOBEMAC (Société béninoise de matériaux de construction) and SONACOTRAP (Société de travaux publics).

The figures for the sector as a whole are as follows:

Investment: 162 million in 1971
274 million in 1975

Turnover: 324 million in 1971
726 million in 1975

All sales were on the domestic market.

Jobs in 1975: 213, seven filled by expatriates.

However, the number of jobs in this sector, which was 410 in 1973, has declined steadily.

Total value added in 1975 was 334 million on a turnover of 726 million.

Paper and printing

Most of the activity in this sector is carried on by private concerns. The State runs some establishments through ONEPI (National Publishing, Press and Printing Office). SONAPAL, a recently created State company, has a monopoly in the import and sale of stationery articles.

Sales and production policy are badly organized in this sector, in which capital investment has been tending to drop since 1971, when it reached 73 million, and turnover fluctuates greatly, with a 1973 peak of almost 80 million.

The sector always runs at a loss and the number of jobs is steadily decreasing.

Wood and furniture

Crafts predominate here, as shown by the very large number of small concerns. There are three establishments which can be considered to rank as industrial concerns, but they have no management structures to speak of.

Capital investment rose from 41 million in 1971 to 49 million in 1974 and to 46 million in 1975.

Turnover is in a continuous decline - from 74 million in 1971 to 35 million in 1975.

The level of employment is almost static and there was even a 10 per cent drop in 1975.

Miscellaneous industries

We have included under this head:

Laundries
Tyres (retreading)
Electronics (appliance assembly)
Fruit canning
Leather goods
Perfumery
Synthetic foams
Packaging
Clothing, etc.

The main capital investment in this sector was made between 1973 and 1974; turnover was 316 million in 1975 and the sector provided 122 jobs. Value added in 1975 was 33.4 million, and salaries amount to barely 12 per cent of turnover.

General conclusions regarding industry

The number of jobs in industry was approximately 5,000 in 1976.

Turnover reached 18 thousand million in 1975, and exports account for 37 per cent of the value of industrial products.

There has been a considerable capital accumulation in industry due to a sharp increase in investment in the period from 1974 to 1976. New investment in an amount something like 21 thousand million CFA francs was recorded in 1976. The textile sector alone accounted for 5,200 million in January 1976.

The following results are for the period from 1971 to 1975:

Over-all productivity rate	109.6
Over-all profit rate	7.3%
Rate of growth of value added	26.0%
Rate of growth of employment	15.5% in 1975
Wage ratio	8.8%

All industries except for fats and oils import their raw materials, the value of which rose from 38 per cent in 1971 to 63 per cent in 1976.

Productivity is very high in the following sectors:

Building materials;
Textiles and leather;
Mining industries.

The paper and printing industry and the wood and furniture industry are productive despite their disorganized state.

The engineering and metal-processing industries have average productivity.

Trends

The secondary sector will increase its share of GDP from 14 per cent in 1976 to 22 per cent in 1979, whereas the share of the tertiary sector will decrease from 57 per cent in 1976 to 43 per cent in 1979. Heavy investment will therefore be necessary in the secondary sector and for the first phase will be nearly 117 thousand million CFA francs, 77 per cent of which will be for five main projects, as follows:

	<u>Thousand million</u> <u>CFA francs</u>
Agro-industrial sugar complex	22
Cement production	15
Petroleum extraction	20
Petroleum refining	25
Spinning and weaving	5

The remaining 23 per cent will be devoted to national development in connexion with infrastructure projects for roads, dams, telecommunications, etc.

III. THE ENGINEERING AND METAL-PROCESSING INDUSTRIES

III. 1. Towards a definition

The great diversity of their products makes it difficult to give a simple definition of the engineering and metal-processing industries.

Their products are found in the equipment of factories, laboratories, offices, hospitals, the construction of thermal and hydroelectric power stations, petroleum refineries, ports, railway stations and the supply of agricultural implements. There

is not a single area of the economy in which they do not play a part. No single image can cover them all. However, the term denotes all the industries which, using as their main raw material metal, and more particularly steel, but also non-ferrous metals - as well as glass (in optics) and plastics - and processing them by broadly similar techniques, provide products ranging from the simplest devices of every-day use to the most delicate and complex machinery and mechanisms.

They constitute the main family in the vast area of metallurgy, together with electrical and electronic engineering, the automotive industry, shipbuilding, the aeronautical industry, agricultural machinery, the iron and steel industry and foundries.

If this definition is adopted, the main sectors within the engineering and metal-processing industries are as follows:

III.1.1 Equipment

III.1.1.2 General industrial equipment. This extends from sheet-metal working, pipe-work, the construction of steam generators, thermal and hydro-electric turbines, penstocks, valves, internal combustion engines, pumps, compressors, etc., to machine tools and diamond-based products.

III.1.1.3 Equipment for specialized industries

Metalworking and woodworking machine tools;
Welding equipment;
Handling equipment;
Metal-processing and iron and steel equipment;
Railway fixtures;
Mining equipment, etc.;
Equipment for chemistry, plastics and so on.

III.1.2 Metal-processing

General mechanical engineering, cutting, stamping;
Heavy stamping, heavy forging, embossing;
Die-stamping of non-ferrous metals, screw-cutting;
Surface treatment and heat treatment of metals, moulds;
Nuts and bolts;
Springs;

Hard metal carbides;
Flanges and connectors;
Metal packaging and sealing, etc.

III.1.3 Consumer goods and light equipment

Agricultural and horticultural tools;
Hand tools, ironmongery;
Galvanized and tinned articles;
Tinplate;
Rolling of metals;
Cutlery, metal furniture, etc.

III.1.4 Precision work

Optical precision work, gauges;
High-precision mechanical engineering;
Laboratory equipment;
Photographic and cinematographic equipment;
Weighing and measuring equipment;
Motors for water, gas and hydrocarbons;
Control equipment;
Surgical equipment, office machinery.

III.1.5 Agricultural machinery

Tractors and agricultural machines.

III.1.6 Related industries

Metal industries;
Railway rolling stock.

This compilation will give us an over-all view of the various engineering activities in Benin so that we can get some idea of the levels attained. It should make us aware of the extent of deficiencies in the sector while enabling us to define what our choices and orientations should be in our discussions.

III. 2. The engineering industries in Benin
(concrete experience)

In Benin the activities of the engineering industries cover all the main sectors listed and detailed above. But the level is not high - indeed rather low.

III.2.1 For instance, under the heading of general industrial equipment we find undertakings engaged in producing metal hollow ware, gears and transmission elements and machine-tool items.

However, the metal hollow ware produced is limited to tanks and vats, containers for animal feedstock grain, and casings for industrial machinery, e.g. the casings of the centrifuges and sterilizers used in the oils and fats industry.

III.2.2 In the metal-processing sector, there are a multiplicity of so-called general mechanical engineering enterprises, but the predominant activities are repair and assembly and the construction of mild steel articles for temporary repairs to broken transmission shafts or warped pulleys, and of alloy articles such as wearing rings, sleeves, etc.

There are forging units in which rough forgings can be produced.

Machine-welding is used in the production of machine frames and coupling plates, large pulleys and the main frames of some machine tools designed by some workshops for their own use.

In the nuts, bolts and nails area, there are two units producing nails.

III.2.3 In the consumer goods and light equipment area we have:

One unit making agricultural implements;

One unit for shaping sheet metal and making aluminium utensils;

One tin-plating unit.

III.2.4 In precision engineering we are one of the countries most conspicuous by their absence. This is not surprising since this branch presupposes a highly developed technology.

III.2.5 Agricultural machinery

We shall limit ourselves to indicating pro memoria that projects do exist, but their immediate implementation is not to be expected.

III.2.6 As regards related industries, there are an appreciable number of small and medium concerns producing metal manufactures. Most of them are concerned with structural work.

III.2.7 Motor vehicle and bicycle construction are the activities of three of the largest concerns; the State has a large participation in two of them, SOCAB and MABECY.

III.2.8 The undertakings of the sector vary widely in physical size and finances, but total turnover does not exceed 1,000 million CFA francs. Structures and forms of management vary very widely.

III.2.9 Criteria are needed to define concerns which can be considered to be industrial concerns.

We consider industrial concerns to be those concerns in the engineering and metal-processing sector having a turnover of more than 10 thousand million and employing at least 10 people.

Concerns meeting this criterion appear in the attached list entitled "Short guide to engineering companies".

The main units

Quincafric industriel: Industrial nail-making

SBPG: Société béninoise de pointes galvanisées. These two companies produce galvanized and assorted nails. They are of very recent origin and their first year's production was 700 tonnes, in 1975.

MABECY: Manufacture béninoise de cycles.

This concern assembles bicycles and motor cycles and makes tyre inner tubes. Its production rose from 10,000 units in 1971 to 26,000 units in 1975.

SOCAB: Société de construction automobile du Bénin.

This is a motor vehicle assembly concern. Its output in 1975 was 600 units. Output has been decreasing from 1971, in which year it produced 825 units. The company is simply disinvesting every year.

Oscar Industrie

This concern is active in general engineering, mainly sheet-metal working, and the production of tinware. It is a fairly recently founded concern and has well-trained personnel. It is a great innovator and is capable of diversifying its activities to cover aeronautical, shipbuilding and motor vehicle construction.

It makes tanks and vats complete with all valve equipment, utensils and installations for poultry farming, galvanized buckets, etc.

Its equipment is conventional:

Lathes, milling machines, compressors

Arc welding unit

Gas welding unit

Oxycutting installations

Roller, bending machine, manual and hydraulic shears, etc.

Like most private concerns in this sector, Oscar Industrie still has no stock records system enabling it to keep track of its output.

MECANELEC

A private company active in the same areas as Oscar Industrie.

In general engineering, it manufactures and repairs a large number of machine-tool parts.

It also makes trailers for agricultural tractors.

In metal structural work, MECANELEC constructs sheds with quite a wide span - from 40 to 60 metres. It also builds metal silos.

In shipbuilding, it undertakes hull repairs and it is at present building a trawler of 2.5 metres draught and several hundreds of tonnes burden, and a 20-tonne load-carrying ferry for work in the valley of the Ouémé.

Its equipment is varied and in some cases even excessive, e.g. in the case of welding, (where it has 12 unused rotary SOCOMIE sets). It has the following machine tools:

6 old lathes (2,000 mm between-centres distance)

1 Clovis 200 lathe with a hydraulic copy attachment

1 semi-automatic MAXIMAT V 10 precision lathe

1 radial drill

Sensitive drills

Large combined shears and punching machine (30 mm, mild steel, 25 x 19 - 30 x 8)

Hydraulic presses, 20 tonnes and 55 tonnes

IPN shaping shears, capacity IPN 140

Compressors

Electricity generating set for workshop, etc.

This undertaking also shows excessive diversification and is making no effort at structural organization or developing a system of management enabling it to keep track of its production.

Forges et ateliers d'Adjaha

High-pressure argon welding for stainless steel, pipe work, sheet-metal work and locksmithery.

Making and assembling metal structural work.

Design office.

The company employs 70 people at present and carries out a very active on-site training programme.

It is also diversifying its activities and plans to make rail freight vehicles.

Mechanical engineering maintenance shops

Large concerns (industrial, agro-industrial, transport and other) must, if they are to remain operative, have their own workshops for maintaining and repairing their equipment. The function of most of these workshops is to provide logistical back-up for the rational operation of a park of rolling stock, groups of machines processing raw materials, etc.

This is the case inter alia with the Joint Benin-Niger Organization (OCBN).

This inter-State body runs the railway network and must have rolling stock available which can cope efficiently with heavy traffic - so heavy, indeed, that it often outstrips the capacity of the rolling stock.

To keep the rolling stock in working order, OCEN has had to organize a series of inspections and a systematic maintenance programme determined by:

The nature of the rolling stock: (locomotives, rail car, vehicles and trailer).

Distance intervals: (5,000, 20,000, 125,000 km and so on up to 750,000 km).

The age of the equipment.

Inspections are carried out at well-defined regular intervals with a tolerance of only - 10 per cent \pm 0 (theoretically, of course).

OCEN has therefore installed a central workshop at Cotonou and workshops at the main railway stations.

The OCBN workshops at Cotonou

These workshops carry out all the maintenance work just referred to. They also subcontract work to other local concerns. The OCBN workshops are as follows:

Machino-tool shop having: Parallel lathes, up to 3,000 mm between centres;
Precision lathes;
Grinders;
Drilling machines;
Punching and slotting machines;
Shapers;
Cylindrical gear-cutting machine;
Guillotining shears;
Bending machine.

Welding, sheet-metal working and forging shop: equipment, fixed and rotary welding unit.

Oxycutting with electronically controlled table.

Rolling-stock shop: Fitted with heavy equipment;
Ten-tonne travelling crane.

Electrical and electro-mechanical shop: (for locomotive engines, rail cars and trailers)

General electricity: Buildings;
Electrical control of machine tools;
Rewinding;
Repair.

Major repair shops: Traction motors;
Main generators;
Sub-assemblies.

Test benches: For servo-motors.

Diesel unit shops: Engine shop;
Pneumatic and hydraulic shop;
Bogie shop;
Assembly shop;
Test bench for injection pumps.

Garages: Does normal work and body work.
A surface plate for straightening chassis may be installed.

Foundry: Oil-fired furnaces for aluminium alloy (for casting propellers and other articles);
Oil-fired furnaces for bronze alloys;
Cupola, 2 tonnes pouring capacity, for cast-iron.

The system of setting up similar workshops, but on a smaller scale, has been followed by other concerns including:

SONICOG: Palm kernel oil mill at Cotonou
Palm oil mill at Bohicon
SOBEPALH: Palm oil mills: Agonvi
Hinvi
Houin-Agamey
Avrankou
Gbada
Ahozon
Porto-Novo -
Central workshop.

IRHO: Pobè oil mill

STI: This is the Industrial Techniques Sub-Division, concerned with equipment for public works, the administrative services and various clients.

Like the CCEN, all these units have their stock control policy. Control is based on the programming of inspections at the end of the production season, and on defining minimum stock levels. The reason for this is the long delivery terms for parts, which are ordered from Europe and even further afield.

3. Share of the engineering industries in industry as a whole and the national economy

The results under this head do not relate to the workshops just studied, whose activities appear in the balance-sheets of the services or undertakings running them.

3.1 Investment

The average rate of capital accumulation in the engineering industries is low. Investment development between 1971 and 1974 was due to MABECY, and in 1975 to Oscar Industrie, MECANELEC, and SBPG which was starting up.

MECANELEC invested at a rate of 1 million francs per annum from 1971 to 1974. SOGAB disinvested.

3.2 Employment

There is a fairly high rate of employment growth. However, MABECY, after maintaining its manpower unaltered at 50 in its early years, almost tripled the figure to 146 in 1975, although the increase was due to temporary or occasional working.

As regards SOCAR, the decrease in its manpower corresponds to the reduction in its investment and its sales (from 62 in 1974 to 41 in 1975).

Quinecafric Industriel employed 21 people in 1974 and 30 in 1975.

SEPG began with 8 employees in 1975.

OSCAR employed 27 people in 1975.

3.3 Production

Production fell between 1971 and 1975 for vehicle assembly and increased by 2.30 per cent for bicycles and motor cycles.

3.4 Raw materials

They are virtually all imported.

3.5 Turnover

The rate of growth of turnover was high in 1972 and dropped considerably in 1973 and 1974.

The drop in SOCAR's turnover was particularly severe:

Turnover,
millions of francs

1971	242
1972	116
1973	93
1974	68
1975	83.5

Turnover of Quinecafric Industriel

1974	75
1975	73

MABECY

Turnover dropped between 1971 and 1973.

Like SOCAR, MABECY exports to Nigeria, which made it decide to increase its production capacity.

3.6 Wages

The wages rate is fairly high, being two points above the national average rate. The increase in this wages rate is due in some cases to the application of social measures.

3.7 Taxes

Half of the concerns enjoy various forms of exemption (approval (agrément) under the Investment Code). However, they had to pay very heavy taxes in 1973 as a consequence of non-payment of previous taxes.

In 1971 SOCARB made a profit of 10 million on a turnover of 242 million. It paid taxes of 1.5 million.

3.8 Profit

In the period 1971-1975 the industries under consideration ran at an over-all loss for four years. The reason for the losses, in addition to reduced turnover and to the fact that some units are starting up, is the excessive cost of raw materials. This is the case at MECANELEC, where raw materials account for 33.6 per cent of costs. Average raw materials costs throughout the sector were 77.44 per cent of turnover in 1975.

3.9 Productivity

The productivity of capital is fairly high despite the fluctuations in the turnover of some concerns.

PERFORMANCE TABLE FOR THE BRANCH

Tables A, B and C.

A. STATE OF INDIA - THE INDUSTRIES DEPARTMENT

ITEMS	1971	1972	1973	1974	1975	TOTAL
Capital investment	142 224 621	151 182 691	156 660 104	187 867 556	202 150 604	202 150 604
Turnover	550 991 547	464 760 050	304 003 901	449 930 451	966 554 056	2 736 240 005
Local sales	501 991 543	442 760 050	268 853 901	318 961 292	479 851 056	2 012 417 846
Exports	49 000 000	22 000 000	35 150 000	130 969 159	486 703 000	723 822 159
Peak total production capacity						
Vehicles	825	825	525	600	600	600
Bicycles	10 000	10 000	12 000	12 000	26 000	26 000
Utilization of production capacity	575	240	80	315t (63 %)	354t (47.71 %)	354.5 (54.08 %)
or				101	123	243.8 (average)
Total production in terms of quantity	10 966	10,223	9 985	11 991	27 767	14 186.4
Amount of raw materials	408 603 944	347 081 720	153 647 044	474 869 501	734 943 692	2 119 145 901
Labour force	136	136	124	151	297	297
- Business	132	132	121	147	294	294
- Expatriates	4	4	3	4	3	3
Gross profit	122 762 231	90 756 212	81 451 597	107 227 684	222 333 804	624 534 528
Net profit	35 735 513	-3 475 775	-35 471 164	-16 338 857	-17 985 652	-37 535 935
Taxes and levies	2,905 956	1 662 785	14 449 326	12 133 111	23 627 717	54 978 895
Amortization	11 201 218	13 647 470	17 198 464	33 137 507	48 524 132	38 524 132
Financial charges	9 062 430	7 597 081	13 117 172	16 338 145	30,528 243	76 643 111
New jobs created						
- Business			-12	27	146	161
- Expatriates			-11	26	147	162
Wages/salaries						
- Business	44 303 279	43 429 955	43 404 379	34 554 855	106 764 296	292 536 761
- Expatriates	36 355 502	35 855 198	34 700 454	43 542 666	95 821 998	245 475 004
Total value added	7 947 777	8 374 768	8 783 925	11 012 195	10 942 298	47 060 960
	94 453 470	51 660 298	39,130 787	82 626 297	158 521 229	426 392 000

B. STATISTIC TABLES OF THE ECONOMICS INDICATORS

RATIOS (%)	1971	1972	1973	1974	1975	OVER-ALL
Productivity coefficient	66.41	34.18	24.97	43.98	78.41	210.92 (71/75)
Rate of expansion/volume	Vehicles	- 64.44	- 66.93	- 25.41	- 22.03	- 20.92 (average)
	Bicycles	- 6.96	- 2.32	- 20.08	131.56	55.59
Rate of expansion/turnover		- 15.65	- 34.58	48	114.02	29.78
Rate of taxes and levies	0.52	0.35	4.35	2.69	2.46	2.00
Rate of tax increase		0	5.02	21.77	96.68	118.38 (75/71)
Wages ratio	8.04	9.34	14.30	12.12	11.04	10.69
Capital accumulation rate		6.24	3.67	19.92	7.60	11.25
Ratio of profits	6.48	- 0.74	- 11.66	- 3.63	- 1.86	- 1.37
Ratio of exports	8.89	4.73	11.56	29.10	10.35	26.45
Rate of expansion of exports		- 55.10	- 59.77	272.60	271.61	137.22

C. THE SHARE OF INVESTMENTS IN INDUSTRY IN INDIA

YEARS	1971	1972	1973	1974	1975	TOTAL
<u>ITMS</u>						
<u>Capital Investment</u>						
Engineering Industry	142 224 621 4 425 474 498	181 102 691 5 012 230 270	156 660 104 6 047 536 838	187 967 550 10 320 915 113	202 150 604 13 520 458 629	202 150 604 13 920 458 629
Percentage share	3.21 %	3.01 %	2.59 %	1.82 %	1.45 %	1.45 %
<u>Turnover</u>						
Engineering Industry as a whole	550 901 547 8 975 500 038	464 760 056 9 385 640 286	304 003 901 10 058 437 471	449 930 451 12 986 597 468	966 554 056 18 537 054 451	2 736 240 005 59 943 229 714
Percentage share	6.15 %	4.95 %	3.02 %	3.46 %	5.21 %	4.56 %
<u>Number of jobs</u>						
Engineering Industry as a whole	136 2 119	136 2 472	124 2 636	151 3 056	297 3 519	297 3 519
Percentage share	6.41 %	5.50 %	4.70 %	4.94 %	8.43 %	8.43 %
<u>Value added</u>						
Engineering Industry	94 493 470 1 833 613 363	51 660 298 2 677 789 113	39 130 707 2 645 059 121	82 626 297 3 370 314 609	158 521 229 4 427 265 970	426 392 001 15 254 072 176
Percentage share	5.15 %	1.92 %	1.47 %	2.25 %	3.58	2.79 %

I.M.S.A.E

Source: Ministry of Industry and Artisanal Production

IV. THE SHARE OF MECHANICAL ENGINEERING IN INDUSTRY AND NATIONAL INCOME

Table C is an attempt to determine, by comparison with the whole of industry, the share of the engineering and metalworking industries with regard to:

Capital investment;

Turnover;

Number of jobs;

Value added.

The ratios are very low. In Benin, the share of industry in GDP was only 8.7 per cent in 1975. In a country with a fairly well-balanced economy, the engineering and metal-processing industries account for 10-12 per cent of industry.

It is therefore necessary to define a strategy for the country in this branch of the economy.

V. THE PRESENT SITUATION AND PROSPECTS

The development of the engineering and metal-processing industries is part of the development of industry, which is our greatest concern in the secondary sector.

In Benin, the trend in the secondary sector from 1976 to 1980 will be as follows:

1976	14%	of GDP
1977	17%	"
1978	19%	"
1979	22%	"

Out of an over-all capital investment programme amounting to 117,000 million CFA francs, the share of the engineering and metal-processing industries will be 450 million CFA francs during the period 1977-1979.

As a result the following projects can be implemented:

Mechanical engineering plant (Study and implementation)	350 million
Manufacturing plant for agricultural machinery and implements (Study and implementation)	100 million

These projects lie within the State sector. Private initiative will also be able to make a contribution.

The principal purpose of these projects is, primarily:

To improve agricultural production, which is the basis of our national economy, through the introduction of mechanization;

Then to raise the technological level of the country.

VI. DISCUSSION AND CONCLUSION

Stagnation and regression in industrial activity are among the factors that explain the depressed economic condition of the developing countries. Among these factors, the following should be noted as applying to the People's Republic of Benin:

1. Until our national liberation programme was proclaimed on 30 November 1972, our country lived under the yoke of economic alienation imposed by foreign domination.
2. Capital reserves are practically non-existent and the range of articles that we can export, or capital equipment or raw materials that we can import, is extremely small.
3. No serious evaluation of our economic potential has been made.
4. The terms for the financing of capital investment are always too rigorous.
5. There is some lack of capacity for the preparation of investment project submissions.
6. Unemployment and underemployment are becoming more and more serious.
7. In the field of education, there has never been a serious policy with well-defined objectives in regard to technical specialization.
8. In the specific area of the engineering and metal-processing industries, policy has been confined to maintenance and repair. That explains the proliferation of "mechanical workshops" even within the public services and agencies.

To remedy this state of affairs, the following approach should be borne in mind.

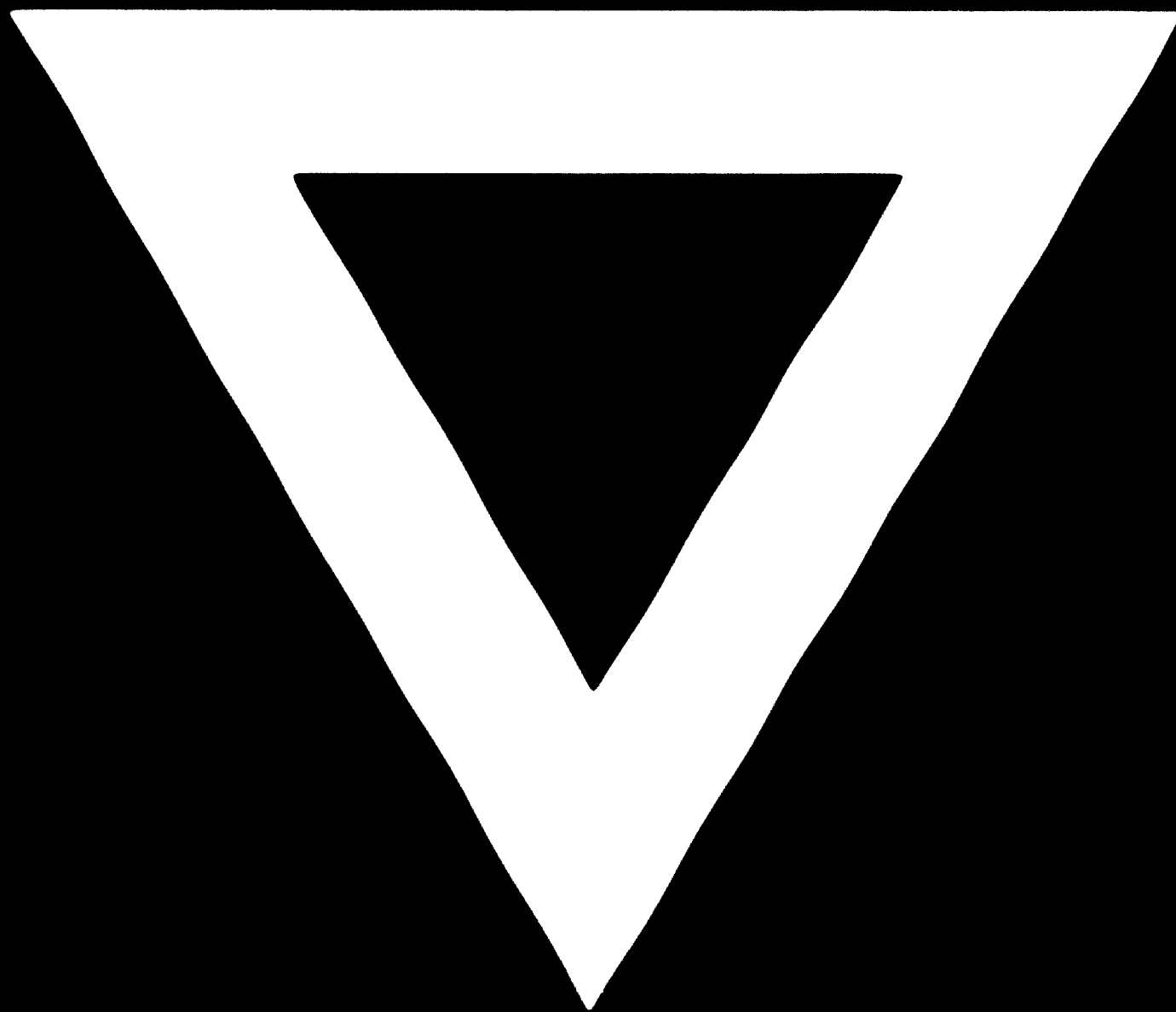
The development of the engineering industries is an essential condition for a country's industrialization and is extremely important for national defence. Therefore, particular attention should be devoted to the development of the engineering industries. On the one hand, it is necessary to import a large number of machine tools

and on the other hand it is necessary to make them oneself. In the mechanical engineering industry the accent should be placed on the production of lathes, milling machines, drilling machines, shapers and rotors and on the production of the machines necessary for the construction and development of new factories producing agricultural machines and implements, transport equipment, mining equipment, spares for transport equipment, electro-mechanical equipment, etc. The development of equipment maintenance should be emphasized, through reorganization and modernization of repair workshops.

SHORT GUIDE TO ENGINEERING COMPANIES

<p>A Bénin-Métaux Registered capital Registered office Site of factory Address Telephone Telex</p>	<p>B 15 million CFA francs C D PK 13 P.N. Cot. E 2766 F 31.27.66 G</p>	<p>Shaping of sheet metal Metal doors and window frames Aluminium utensils Miscellaneous</p>
<p>A LABICY B 35 million CFA francs C PK 4 Route P.N. D 31.22.33 Cotonou II B.P. 1228</p>	<p>Bicycles and motor cycles Inner tubes</p>	
<p>MECANELC 26 million CFA francs Zone Industrielle Tel. 31.32.58</p>	<p>General engineering Metal structural elements Shipbuilding Trailers</p>	
<p>Quinoafric Industrielle Capital not declared Cotonou II Tel. 31.22.92</p>	<p>Nail-making</p>	
<p>Osoar Industrie Capital 25 million CFA francs Cotonou II 31.25.40</p>	<p>General engineering Sheet metalworking Vats and tanks Tinware (Galvanized buckets, seed bins, cages and feeding troughs for poultry, etc.) Applied research (aeronautical and naval)</p>	

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