

Distr:
LIMITED

ECA/INR/WA/Eng./I/WP.1/Add.1
1 December 1983

UNITED NATIONS ECONOMIC COMMISSION FOR AFRICA

Multinational Programming and Operational
Center of ECA for West Africa
(Niamey MULPOC)

Sixth Meeting of Committee of Experts, 21-26 March 1983

Sixth Meeting of Council of Ministers, 28-31 March 1983

Cotonou, Benin

DEVELOPMENT OF ENGINEERING INDUSTRIES IN
THE WEST AFRICAN SUBREGION

DEVELOPMENT OF ENGINEERING INDUSTRIES IN
THE WEST AFRICAN SUBREGION

I. INTRODUCTION

1. The report on the Development of Engineering Industries in the West African Subregion (ECA/INR/WA/Eng/I/WP.1) was presented to the First Meeting of Experts of West African Inter-governmental Organizations and the Sixth Meeting of Committee of Experts of the Niamey MULPOC held in Cotonou in March 1983.

2. The report examined the existing situation of the engineering industries and the projected demand for selected engineering goods and suggested an approach to the integrated development of the engineering subsector in the West African Subregion. It made proposals for the integrated development of core and priority engineering industries. Finally it were summarized these proposals by country, into subregional and national projects.

3. The above-mentioned meetings, after examining the report, proposed that it should be examined by an Inter-governmental Committee of Experts on Engineering Industries whose creation then recommended. The meetings also recommended that the ECA should examine other subregional projects, where they exist, in order to integrated them into the same document. These recommendations were approved by the South meeting of the Council of Ministers of the Niamey MULPOC.

4. This addendum, therefore, attempts to identify subregional projects proposed by other institutions as well as give additional information on the proposals contained in the document referred to above.

II. PROJECT PROPOSALS

5. The existing situation of engineering industries in the subregion is basically confined to the manufacture of hand tools and animal drawn implements and, in some countries, the assembly of tractors and transport equipment (cars, lorries, buses, bicycles and mopeds). Production of parts and components for transport equipment and tractors is limited to silencers, exhaust systems, radiators, and batteries.

6. The establishment of multinational manufacturing units is justified basically by the need for complementary factor inputs, consideration of the market size and the economies of scale to be derived from the manufacturing units. This will no doubt improve the subregion's self-reliance in terms of agricultural and transport machinery and equipments and related spare parts whose production are beyond the capacity of individual countries. The development of iron and steel industry will provide the major raw material for the engineering subsector.

7. Project proposals dealt with relate to the manufacturing of (1) agricultural machinery and equipments, (2) transport equipment, including railway equipment, road transport equipment, and river transport equipment, (3) telecommunication equipment, (4) building materials, and (5) energy generating and transmitting. These proposals are described in the following pages.

III. CONCLUDING REMARKS

8. All the above-mentioned proposals were examined by a Joint ECA/OAU/UNIDO Committee which drafted the "Initial Integrated Industrial Programme for the West African Subregion," and which decided to submit the proposals Nos. 1 to 11 to the West African Subregional Committee on Industrial Development Decade for African scheduled to meet in Abidjan from 12 to 16 December 1983. The other proposals namely proposals Nos. 12 to 14 were not retained by the Joint ECA/OAU/UNIDO Committee. It however included the project proposal No. 4 which has been proposed by the Nigerian Government as a subregional project.

9. It will be seen that project proposals No. 2 and 5 emanated from inter-governmental organizations (IGO's) namely the Mano River Union (MRU) and the Communauté Economique de l'Afrique de l'Ouest (CEAO) respectively. They are the only proposals received from IGO's although officials of various IGO's had expressed their respective organization's interest in some engineering projects to the ECA mission of July 1982. These were: (i) manufacture of aluminium and steel products (OMVS), (ii) manufacture of agricultural tools and implements (CEAO and Liptako-Gourma); and (iii) manufacture of spare parts and components (Liptako-Gourma). However, no official intimation had, so far, been received on these projects and they could thus not be included in the submission to the above-mentioned meeting.

PROJECT PROPOSAL NO. 1SUBSECTOR: EngineeringSUBREGION: West Africa

OBJECTIVES: To develop agricultural machinery manufacture

1. Project title	4. Project status	6. Raw materials	9. Projected demand by product	11. Capacity by product	13. Additional information including collaboration arrangements already made and type of participation by member States sought
2. Promotor/sponsor	5. Immediate follow-up activities	7. Energy	10. Market	12. Total investment	
3. Location		8. Physical infrastructure			
1. Manufacture of four-wheeled tractors	4. Conceptual	6. To be imported pending the supply of grey cast iron/malleable cast iron, forging quality steel, sheet metals and sections from local projects or from the metallurgical projects proposed for subregion.	9. 23,000 units p.a. (1990) 50,000 units p.a. (2000)	11. Senegal plant: 5,000 Nigeria plant: 10,000	13. (a) 50 per cent of basic investment to be provided by equity shareholding and balance by loans.
2. This proposal was examined by the Sixth Meeting-based MULPOC Council of Ministers which referred it to the first meeting of the Intergovernmental Committee of Experts on Engineering Industries for West Africa which will meet early next year.	5. Further in depth studies	7. Available, primarily electrical energy	10. Agricultural sector in the subregion	12. (a) Pre-investment studies US\$ 200,000 (b) Total basic investment: US\$ 70 million (excluding investment for engine production and ancillary industries)	(b) Ancillary industries to be set up at national level to provide ancillary parts and components.
3. (a) Senegal (b) Nigeria		8. Adequate in both locations proposed.			

SUBSECTOR: Engineering (agricultural machinery)SUBREGION: West Africa

OBJECTIVES: To develop manufacture of agricultural machinery

1. Project profile	4. Project status	6. Raw materials	9. Projected demand by product	11. Capacity by product	13. Additional information including collaboration arrangements already made and type of participation by member States sought
2. Promotor/sponsor	5. Immediate follow-up activities	7. Energy	10. Market	12. Total investment	
3. Location		8. Physical infrastructure			
1. Manufacture of agricultural tools and implements	4. Pre-feasibility study available	6. To be imported pending the supplies from the metallurgical projects proposed for the subregion	9. (for the sub-region) <u>1990</u> Handtools: 41 million pieces Agricultural machinery: 475,000 units	11. Handtools: 1.5 million pieces Agricultural machinery: 3,700 units	13. Not available
2. Mano River Union	5. Further in-depth studies, including a feasibility study	7. Available primarily electrical energy	<u>2000</u> Handtools: 48 million pieces Agricultural machinery: 538,000 units	12. Not available	
3. Sierra Leone		8. Very good	10. Farmers in the subregion		

SECTOR: Engineering (Agricultural machinery)SUBREGION: West Africa

OBJECTIVE: To develop agricultural machinery and energy equipment manufacture

Project title	4. Project status	6. Raw materials	9. Projected demand by product	11. Capacity by product	13. Additional information including collaboration arrangements already made and type of participation by member States sought
Promotor/sponsor	5. Immediate follow-up activities	7. Energy	10. Market	12. Total Investment	
Location		8. Physical infrastructure			
<p>Manufacture of diesel engines for irrigation pumps and generators</p> <p>This proposal was examined by Sixth Meeting of the Niamey-based MULPOC Council of Ministers which referred it to the first meeting of the Intergovernmental Committee of Experts on Engineering Industries for West Africa which will meet early next year.</p> <p>Guinea.</p>	<p>4. Conceptual</p> <p>5. Further in-depth studies</p>	<p>6. To be imported pending supplies from the metallurgical projects proposed for the subregion</p> <p>7. Available, primarily electrical energy</p> <p>8. Adequate</p>	<p>9. 100,000 units p.a. (1990) 200,000 units p.a. (2000)</p> <p>10. National manufacturing units irrigation equipment and small generators in the subregion</p>	<p>11. 100,000 units/year</p> <p>12. US\$ 50 million (including investment on national pump and generator assembly plants)</p>	<p>13. (a) 50 per cent of basic investment to be provided by equity shareholding and balance by loans.</p>

SUB-SECTOR: _____

SUB-REGION: _____

. Project Title: _____

. Objective: To establish a plant to manufacture agricultural implements and equipment.

. Promotor/ Sponsor . Location	5. Project status 6. Immediate follow-up activities	7. Raw Material 8. Energy 9. Physical Infrastructure	10. Projected demand by product 11. Market	12. Capacity by product 13. Total Investment	14. Additional information including collaboration arrangements already made and type of participation by member states sought
. Government of Nigeria. . Nigeria. Information about the site in Nigeria is not avail- able,	5. Feasibility study conducted in 1980 is avail- able 6. Information not available.	7. No information available on whether the steel required will be locally produced or imported. 8. No information available about project requirements 9. Information not available.	10. Information not available. However, present subregional demand amounts to: 10,000 small tractors; 30,000 hand-held imple- ments and 10,000 various other implements. 11. Subregional.	12. Information not available. 13. Estimated at N 31 million including pre- investment costs fixed capital and working capital.	(a) It is not known whether Nigeria has invited other countries in the subregion to participate in the project (b) Potential problems during implementations might include the lack of investment funds

SUBSECTOR: EngineeringSUBREGION: West Africa

OBJECTIVE: To develop manufacture of transport equipment

1. Project profile	4. Project status	6. Raw materials	9. Projected demand by product	11. Capacity by product	13. Additional information including collaboration arrangements already made and type of participation by member States sought
2. Promotor/sponsor	5. Immediate follow-up activities	7. Energy	10. Market	12. Total investment	
3. Location		8. Physical infrastructure			
1. Manufacture of railway wagons	4. Feasibility study available	6. To be imported pending the supplied from the metallurgical projects proposed for the subregion	9. 10,000 units p.a. (1990) 25,000 units p.a. (2000)	11. Not available	13. (a) Togo and Benin have expressed interest in the project.
2. CEAO (Economic Community for West Africa)	5. Further in-depth studies required to take into account sub-regional demand	7. Information not available		12. Not available	(b) Ancillary industries to be set up at national level to provide ancillary parts and components
3. Senegal and Upper Volta		8. Information not available			(c) Subcontracting arrangements are needed in order to make full use of existing railway workshops in the subregion for the supply of parts and components to the railway manufacturing units

Project Proposal No. 6

UBSECTOR: Engineering

SUBREGION: West Africa

OBJECTIVE: To develop manufacture of agricultural machinery and transport equipment

1. Project title	4. Project status	6. Raw materials	9. Projected demand by product	11. Capacity by product	13. Additional information including collaboration arrangements already made and type of participation by member States sought
2. Promotor/sponsor	5. Immediate follow-up activities	7. Energy	10. Market	12. Total investment	
3. Location		8. Physical infrastructure			
<p>Manufacture of diesel engines for tractors, trucks, lorries and buses.</p> <p>This proposal was examined by the sixteenth meeting of the Libreville-based MUPFC Council of Ministers which referred it to the first meeting of the Intergovernmental Committee of Experts on Engineering Industries for West Africa, which will meet early next year.</p> <p>Nigeria, Senegal</p>	<p>4. Conceptual</p> <p>5. Further in-depth studies</p>	<p>6. (i) To be imported pending the realisation of the proposed metallurgical projects in the subregion and/or to be supplied by the Nigerian steel projects (ii) Aluminium to be imported from Ghana/Guinea.</p> <p>7. Available, primarily electrical energy</p> <p>8. Adequate</p>	<p>9. 154,000 units p.a 1990) 387,000 (2000)</p> <p>10. Supplies to tractor factory and lorries/trucks/chassis factories proposed for the subregion</p>	<p>11. 100,000 units p.a</p> <p>12. US\$ 150 million (excluding investment for ancillary industries)</p>	<p>13. (a) 50% of basic investment to be provided by equity share holding and balance by loans.</p> <p>(b) Ancillary industries to be set up at national level to provide ancillary parts and components</p> <p>(c) Supply/purchase arrangements to be worked out in respect of raw materials and engines</p>

Project Proposal No. 7

FOR: Engineering

IVES: Develop manufacture of transport equipment

SUBREGION: West Africa

Project title	4. Project status	6. Raw materials	9. Projected demand	11. Capacity by	13. Additional information
Motor/sponsor	5. Immediate	7. Inergy	by product	product	including collaboration
ation	follow-up	8. Physical infra-	10. Market	12. Total	arrangements already made
	activities	structure		investment	and type of participation
					by member States sought
<p>Manufacture of</p> <p>-mounted chassis</p> <p>ucks/buses/</p> <p>s.</p> <p>s proposal was</p> <p>ed by the sixth</p> <p>g of the Niamey-</p> <p>MULPOC Council</p> <p>isters which</p> <p>ed it to the</p> <p>meeting of the</p> <p>overnmental</p> <p>tee of Experts</p> <p>ineering</p> <p>ries for West</p> <p>, which will</p> <p>ext year.</p> <p>eria</p>	<p>4. Conceptual</p> <p>5. Further in-</p> <p>depth studies</p>	<p>6. To be impor-</p> <p>ted pending sup-</p> <p>plies from local</p> <p>projects or the</p> <p>metallurgical</p> <p>projects proposed</p> <p>for the subregion</p> <p>7. Available,</p> <p>primarily elec-</p> <p>trical energy</p> <p>8. Adequate.</p>	<p>9. 131,000 units</p> <p>p.a (1990)</p> <p>337,000 units</p> <p>p.a (2000)</p> <p>10. All countries</p> <p>of the subregion</p> <p>for vehicle body</p> <p>building at the</p> <p>national level.</p>	<p>11. 30,000 units</p> <p>p.a (1 ton</p> <p>chassis)</p> <p>(25,000 unit</p> <p>p.a (2 ton</p> <p>chassis)</p> <p>20,000 units</p> <p>p.a.</p> <p>(6-10 ton</p> <p>chassis)</p> <p>12. US\$ 40</p> <p>million for</p> <p>each chassis</p> <p>type i.e.,</p> <p>US\$ 120</p> <p>million for</p> <p>all these</p> <p>types</p>	<p>13 (a) 50% of basic invest-</p> <p>ment to be provided</p> <p>by equity share-</p> <p>holding and balance</p> <p>by loans</p> <p>(b) Ancillary industries</p> <p>to be set up at</p> <p>national level to</p> <p>provide ancillary</p> <p>parts and components.</p>

Project proposal No. 8

CTOR: To Engineering

SUBREGION: West Africa

FIVES: To develop manufacture of transport equipment suited to the rural needs.

Project title	4. Project status	6. Raw materials	9. Projected demand by product	11. Capacity by product	13. Additional information including collaboration arrangements already made and type of participation by member States sought
Promotor/sponsor	5. Immediate follow-up activities	7. Energy	10. Market	12. Total investment	
Location		8. Physical infrastructure			
<p>Manufacture of cost vehicles</p> <p>This proposal was presented by the Sixth Meeting of the Niamey-MULPOC Council Ministers which referred it to the meeting of Intergovernmental Committee of Experts Engineering Countries for West Africa, which will meet early next year.</p> <p>(i) Guinea</p> <p>(ii) Ivory Coast</p>	<p>4. Conceptual</p> <p>5. Further in-depth studies</p>	<p>6. To be imported pending the supplies from the proposed metallurgical projects for the subregion</p> <p>7. Available, primarily electrical energy</p> <p>8. Adequate</p>	<p>9. 180,000 units p.a (1990)</p> <p>500,000 units p.a (2000)</p> <p>10. Whole subregion</p>	<p>11. 50,000 units p.a in each country</p> <p>12. Total investment US\$ 82 million (Excluding investments for assembly of bodies at the national level)</p>	<p>13. (a) 50% of basic investment to be provided by equity shareholding and balance by loans.</p> <p>(b) Ancillary industries to be set up at national level to provide ancillary parts and components</p>

Project Proposal No. 9

SECTOR: Engineering

SUBREGION: West Africa

OBJECTIVES: Development of energy supply equipment manufacture

Project title Promotor/sponsor Location	4. Project status 5. Immediate follow-up activities	6. Raw materials 7. Energy 8. Physical infrastructure	9. Projected demand by product 10. Market	11. Capacity by product 12. Total investment	13. Additional information including collaboration arrangements already made and type of participation by member States sought
<p>Manufacture of aluminium conductors cables</p> <p>This proposal examined by the 1st Meeting of Niamey-based EC Council of Ministers which referred it to the 1st meeting of Intergovernmental Committee of Experts Engineering Industries for West Africa, which will meet early next year in Ghana and Guinea</p>	<p>4. Conceptual</p> <p>5. Further in-depth studies</p>	<p>6. Aluminium available in both countries</p> <p>7. Electricity available, primarily electrical energy</p> <p>8. Physical infrastructure adequate in both locations</p>	<p>9. 50,000 tons p.a (1990)</p> <p>100,000 tons p.a (2000)</p> <p>10. Electricity enterprises in the subregion</p>	<p>11. 25,000 tons p.a in each location</p> <p>12. US\$ 25 million (for rod rolling mill and cables and conductors manufacturing units).</p>	<p>13. (a) 50% of basic investment to be provided by equity shareholding and balance by loans</p> <p>(b) Given the availability of aluminium in the subregion, the use of that material proposed instead of copper.</p>

Project Proposal No. 10

SECTOR: Engineering

SUBREGION: West Africa

OBJECTIVE: To develop manufacture of energy supply equipment

Project title	4. Project status	6. Raw materials	9. Projected demand by product	11. Capacity by product	13. Additional information including collaboration arrangements already made and type of participation by member States sought
Promotor/sponsor	5. Immediate follow-up activities	7. Energy	10. Market	12. Total investment	
Location		8. Physical infrastructure			
<p>Manufacture of power transformers</p> <p>This proposal was examined by the 4th Meeting of the Lomey-based MUIPOC Council of Ministers which referred it to the first meeting of the Intergovernmental Committee of Experts Engineering Industries for West Africa, which will meet early next year</p> <p>Togo</p>	<p>4. Conceptual</p> <p>5. Further in-depth studies</p>	<p>6. To be imported pending the supplies from metallurgical projects proposed for the sub-region</p> <p>7. Available primarily electrical energy</p> <p>8. Adequate</p>	<p>9. 2000MVA p.a each of large, medium and distribution transformers (1990)</p> <p>5000 MVA p.a each of large medium and distribution transformers (2000)</p> <p>10. Electricity enterprises in the subregion</p>	<p>11. 3000 MVA</p> <p>12. US\$ 20 million</p>	<p>13. (a) 50% of basic investment to be provided by equity share, holding and balance by loans.</p> <p>(b) It is proposed that the plant starts with the manufacture of distribution transformers, to be followed by the manufacture medium and large power transformers</p>

R: Engineering

E: Development of energy supply equipment manufacture

Project title Motor/sponsor Location	4. Project status 5. Immediate follow-up activities	6. Raw materials 7. Energy 8. Physical infrastructure	9. Projected demand by product 10. Market	11. Capacity by product 12. Total investment	13. Additional information including collaboration arrangements already made and type of participation by member States sought
Manufacture of steel towers The proposal was examined by the Sixth Meeting of the Niamey- based MULPOC Council of Ministers which referred it to its first meeting of the Inter- governmental Committee of Experts on Engineering Industries for West Africa which will meet early next year. Ghana	4. Conceptual 5. Further in- depth studies	6. Available 7. Available, pri- marily electri- cal energy 8. Adequate	9. 50,000 tons p.a. (1990) 100,000 tons p.a. p.a (2000) 10. Electricity enterprises in the subregion	11. One 50,000 tons p.a rolling mill to serve up to five 10,000 tons p.a manufacturing plants 12. US\$ 100 million (for one rolling mill and five manufacturing plants)	(a) 50% of basic inves- tment to be provided by equity share- holding and balance by loans. (b) The manufacturing unit could start by installing one 10,000 tons p.a plant which could then be expanded.

Project proposal No 12

ECTOR: Engineering

CTIVE: To develop capital goods manufacture

SUBREGION: West Africa

project title promotor/sponsor location	4. Project status 5. Immediate follow-up activities	6. Raw materials 7. Energy 8. Physical infrastructure	9. Projected demand by product 10. Market	11. Capacity by product 12. Total investment	13. Additional information including collaboration arrangements already made and type of participation by member States sought
<p>Manufacture of machine tools and metal working machinery</p> <p>This proposal was examined by the Sixth Meeting of the Niamey-based MULFOC Council of Ministers, which referred it to the first meeting of the Intergovernmental Committee of Experts on Engineering Industries for West Africa which will meet early next year</p> <p>Nigeria (machine tools); Upper Volta (wood working machinery); Guinea (power operated hand tools)</p>	<p>4. Conceptual</p> <p>5. Further in-depth studies</p>	<p>6. Pig iron would be available. Other raw materials to be imported pending their supply from metallurgical projects prepared for the subregion</p> <p>7. Available</p> <p>8. Available</p>	<p>9. 1990 3,000 units p.a. lathes etc, 2,500 units p.a. woodworking machinery, 150,000 units p.a. power operated handtools.</p> <p>10. All metal and wood work, large, medium, and small scale industries in the subregion</p>	<p>11. 4000units p.a (lathes and drilling, shaping and milling machines, 3000 units p.a universal sawing machines wood working lathes, band saws kiln drying equipment etc. 200,000 units p.a power operated hand tools</p> <p>12. US\$200,000 for preinvestment studies and US\$70 million total basic investment</p>	<p>(a) This project figures on chart No.1 of document ECA/INR/WA/Eng/5/MP.1 mentioned in 2</p> <p>(b) Major ancillary industries would have to be set up at the National level to supply motor, switch-gear, accessories, measuring, equipment etc. proposed for Nigeria, Mauritania and Togo.</p>

Project Proposal No. 19

(1970-1971)

R: Engineering

E: To develop capital goods manufacture

SUBREGION: West Africa

Project title Motor/sponsor Location	4. Project status 5. Immediate follow-up activities	6. Raw materials 7. Energy 8.. Physical infrastructure	9. Projected demand by product 10. Market	11. Capacity by product 12. Total investment	13. Additional information including collaboration arrangements already made and type of participation by member States sought
<p>Manufacture of consumable metal cutting tools</p> <p>The proposal was submitted by the 1st meeting of the Niamey-based ECOC Council of Ministers which referred it to be discussed at the first meeting of the Inter-governmental Committee of Experts on Engineering Industries in West Africa which will meet in 1971.</p>	<p>4. Conceptual</p> <p>5. Further in-depth studies</p>	<p>6. Raw materials to be imported pending their supply from metallurgical projects prepared for the subregion</p> <p>7. Available</p> <p>8. Adequate</p>	<p>9. 2.5 million pieces (1990)</p> <p>10. All metal work industries in the subregion</p>	<p>11. 1 million pieces p.a. in each location</p> <p>12. US\$ 1.5 million for each plant</p>	<p>13. (a) This project figures on chart No.1 of document ECA/INR/WA Eng/5/Wp.1 mentioned in 2.</p> <p>(b) This project is based on the project for the manufacture of ferro and silico-management in Ghana which would serve a quality steel manufacturing unit to supply the two consumable tools manufacturing unit.</p>

TOR: Engineering
 IVE: To develop capital goods manufacture.

Project proposal No. 14

SUBREGION: West Africa

Project title Motor/sponsor ation	4. Project status 5. Immediate follow-up activities	6. Raw materials 7. Energy 8. Physical infra- structure	9. Projected demand by product 10. Market	11. Capacity by product 12. Total investment	13. Additional information including collaboration arrangements already made and type of parti- cipation by member States sought
<p>Manufacture of tools, molds and dies The proposal was approved by the 1st Meeting of the Niamey-based ECLA Council of Experts which referred it to its first meeting of the Inter- governmental Committee of Experts on Engine- ering Industries in West Africa which will meet in 1965 this year. Bamako, Mali.</p>	<p>4. Conceptual 5. Further in- depth studies</p>	<p>6. Pig iron avail- able in the subregion Other raw mate- rials to be imported pen- ding their supply from metallurgical projects pre- pared for the subregion 7. Available 8. Adequate</p>	<p>9. 3,000 tons p.a. 10. All engineering industries including enterprises in the subregion</p>	<p>11. 1,500 tons p.a. in each location 12. US\$ 2.5 million for each plant</p>	<p>13. (a) This project figures on chart No.1 of docu- ment ECA/INR/WA/ENG/5/Wp.1 mentioned in 2. (b) This project is based on the project for the manufacture of ferro- silico-manganese in Ghana which would serve as a quality steel manufac- turing unit to supply the two consumable tools manufacturing unit.</p>