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International Science and Technology Institute, Inc.

**Report and Recommendations on Industrial
Food Processing in the
Economic Community of West African States**

By

Thoung Van Lam, Ph.D.

International Science and Technology Institute, Inc.

Submitted to:

**The United States Agency for International Development
(Contract No. AID/afr-C-1728)**

November 1980



International Science and Technology Institute, Inc.

November 26, 1980

Ms. Susan J. Owens
Agency for International Development
AFR/RA 3325
Washington, D.C. 20523

Subject: Final Report and Recommendations on Industrial
Food Processing in the ECOWAS Region
(Contract No. AID/afr-C-1728)

Dear Ms. Owens:

The International Science and Technology Institute, Inc. (ISTI) is pleased to submit the original and nine (9) copies of the final report in fulfillment of the terms of the contract. We trust the findings of Dr. T. Van Lam will be of great utility to USAID and the ECOWAS Secretariat in addressing sectoral developments in food processing.

We thank AID/Washington for giving us this opportunity to become part of this common endeavor.

Sincerely,



Nihal H. Goonewardene
Director
International Operation

NWG/mab

I. BACKGROUND ON ECOWAS MEETINGS ON REGIONAL INDUSTRIAL POLICY AND PROGRAM

The Economic Community of West African States (ECOWAS) or Communauté Economique des Etats de l'Afrique de l'Ouest (CEDEAO) was established in Lagos, Nigeria on 28, 1975 with the signing of the Treaty of ECOWAS by fifteen West African States. Of the sixteen member nations, nine are Francophone: Benin, Guinea, Ivory Coast, Mali, Mauritania, Niger, Senegal, Togo and Upper Volta; five are Anglophone: Gambia, Ghana, Liberia, Nigeria and Sierra Leone; and two are Lusio-
phone or Portuguese speaking: Cape Verde and Guinea Bissau.

The supreme governing body of ECOWAS is known as the Authority which is comprised by the Heads of States and Governments of the Member States. Under the Authority is the Council of Ministers, consisting of two Ministers representing each Member State. The Council is responsible for keeping under review the functioning and development of the Community, and for directing all subordinate institutions of the Community, including the ECOWAS based in Lomé, Togo. The Executive Secretariat based in Lagos, Nigeria, is responsible for coordination, and for ensuring that the decisions of the Council are implemented.

The Community was established with the specific aims of promoting regional co-operation and development in all fields of economic activity. ECOWAS has undertaken policies and programs leading to free movement of goods, capital and people in the Community. ECOWAS has initiated development programs in transportation, communication, agricultural resources and industry.

1. During their meetings held in Dakar, Senegal from 26 to 28 November, 1979 and in Lomé, Togo from 22 to 25 May, 1980, the Council of Ministers of the ECOWAS have passed a resolution relating to the formulation of Regional Industrial Policy and Program.

2. The Council of Ministers directed the ECOWAS Executive Secretary to ensure:

- a) The formulation of a draft
 - ° legal framework for the definition, status, and operation of regional industries;
 - ° legal regime governing community enterprises.
- b) The formulation of policy guidelines for the selection and location of regional industries;
- c) The identification of regional industrial sectors and the drawing-up of master-plans for development and cooperation at Community level in the selected industries;
- d) The preparation of pre-feasibility studies on any projects identified.

3. There are a total of ten (10) selected industries:

- ° Building and Construction Materials Industries;
- ° Agricultural Implements Industries;
- ° Agro-Related Chemical Industries;
- ° Food Processing Industries;
- ° Wood Processing Industries;
- ° Iron and Steel Industries;
- ° Automobile and Related Industries;
- ° Telecommunication and Electronics Industries;
- ° Petro-Chemical Industries; and
- ° Pharmaceutical Industries.

4. United Nations Industrial Development Organization (UNIDO) has been requested by the ECOWAS Secretariat on behalf of ECOWAS member states, for assistance in formulating of the regional Industrial Policy and Program and in identifying multinational industrial projects.

5. Within that framework, a meeting of experts was organized in Lagos, Nigeria from 2 to 15 October, 1980 to study and formulate methodology for handling sectoral studies, project identification and feasibility studies.
6. Experts from the United Nations Development Program (UNDP), the International Telecommunication Union (ITU), the Economic Commission for Africa (ECA) and member states were represented at the meeting.
7. As a donor agency, the United States Agency for International Development (U.S. AID) detailed one expert on Petro-Chemical Industries, and one, on Food Processing Industries.
8. This second expert, Dr. T. Van Lam, was responsible for the Food Processing Industries sector at the meeting. His activities schedule is shown as Appendix 'A' of this report.
9. There was a change in the scope of the meeting from the original agenda which is attached as Appendix 'B' in this report. Because of incomplete information on selected industries, experts were requested to formulate only detailed methodology for handling sectoral studies and project identification.

II. FOOD PROCESSING IN THE ECOWAS REGION

Food Processing is an agriculture-based industry. It involves the application of different handling and processing methods and techniques in the transformation of agricultural commodities into semi-finished and finished products for human consumption.

In many countries of the ECOWAS region, food processing industries have been accepted as basic industries, and a starting point along the path towards industrialization.

The establishment and growth of food processing industries involve the interplay of many factors that need to be examined before any decision can be made on the choice of product lines, technology, size etc. In the case of the ECOWAS, this choice should be made even more carefully because most member countries inherited food processing industries that were designed to meet the demands of world markets rather than the needs of the region, and they were competitive rather than complementary to each other.

Therefore, in order to achieve the expected benefits--in particular the objectives concerning the needs of the region, it is essential that any identified food processing projects must not only be regional in character but also be complementary to each other. In order to promote food processing industries that are both regional and complementary in character, certain definitions need to be clarified before any project studies are undertaken.

What is a region-oriented industry?

Although no definition can claim to be entirely satisfactory or proper for all circumstances, in line with the objectives of the ECOWAS' industrial program a region-oriented industry may be thus defined as:

- ° an industry using processing technology which can be universally applied to most countries of the region, e.g. Fish and Seafoods processing industries for the coastal states of ECOWAS; or
- ° an industry that may answer the needs of a number of countries in the region, e.g. Meat processing industries set up in Upper Volta or in Niger may answer the needs of Ivory Coast and Nigeria.

How can two industries be called complementary to each other

The complementarity of two industries can be described as the establishment and growth of one industry that is being supported by the activities of the other. In other words, two industries can claim to be complementary to each other when

the outputs of one industry can be used as intermediate inputs by the other, e.g. a margarine processing plant is said to be complementary to a groundnut processing plant because it uses refined oil produced by the latter in the processing of margarine.

Conventionally, two industries that complement each other should be established near each other and within a country. However, when an industrial program is planned for a region, it would be more logical in terms of regional trade if one industry is set up in one country and another, in the other country.

What are the practical arrangements for an industry being called regional and complementary in character?

On the basis of the above definitions, the following arrangement may likely be made:

- Arbitrarily divide the ECOWAS region into different industrial zones. Each zone would cover a number of neighboring countries.
- Within each zone, determine candidate industries on the basis of availability of agricultural commodities (or outputs of existing industries) and market demands (needs).
- Use inputs or outputs of existing industries as the basic requirements in planning for complementarity.

With such an arrangement, an industry set up in a zone would serve a cluster of neighboring countries. There would be no undue repetition of a same product, and, the products of one industry can be used as intermediate inputs for the other/s.

The division of the ECOWAS region into zones may be based on

- population;
- locations of raw materials;
- economic indications;

- transportation networks;
- sources of energy; or
- a combination of these factors.

III. PROPOSED STEPS FOR CONDUCTING STUDIES AND PROJECT IDENTIFICATION OF FOOD PROCESSING INDUSTRIES

A thorough investigation on food-processing-industries sector requires not only studies of the structure of the particular industry but knowledge of several factors relating to the establishment, activities and growth of the industry as well.

A. BASIC STEPS

1. Study of Structure of Demands

- a) Insofar as food processing industries are concerned, the population of a defined zone must first be known in order to estimate potential market demands (needs):
 - The population should be classified as (1) urban vs. rural; (2) high-income vs. low-income fractions to help determine scopes of the industry and estimated purchasing power.
 - Rates of population increase as well as rates of migration from rural to urban areas should be accordingly recorded to facilitate any urban development project or program.
- b) Eating habits and pattern of food consumption should be studied bearing in mind that industrialization and the urbanization process would induce not only the migration of population but also a shift in the pattern of food utilization.
- c) Statistics on imported and convenient foods would be a good indication of this shift.

2. Study and Appraisal of Available Raw Materials

Studies on raw materials should include in addition to agricultural commodities, the semi-finished or finished products of existing food processing industries.

- a) As a rule of thumb, the potential raw materials must exist within the zone. Bear in mind that agricultural resources are not petroleum or mineral deposits. They are dispersed throughout the zone and are perishable.
- b) Loss of raw materials due to mishandling and poor storage in the farms should be taken into consideration.
- c) The inventory of raw materials should include in addition to types and magnitudes, an analysis of the rate of production and utilization as well as the measures to be taken to increase them whenever needed.
- d) Nutritive values of food should not be overlooked although it is not necessary to study them in detail at the moment.
- e) In investigating the availability of certain commodities, it is necessary to be aware of the difference between statistical figures and the actual quantity of commodities that can be made available to the industry. It is a normal practice in the farms that some crops--especially food crops--are being reserved for seeds and/or for emergencies.

Although is not always the case, the most abundant commodity would most likely be the first candidate material for the industry to be identified.

3. Study and Evaluation of Structure and Performance of Existing Industries

Studies on structure of existing food processing industries requires besides a knowledge of the number; size (large vs. small scale), nature (capital-intensive vs. labor-intensive) and the scopes of these industries which may be classified as:

- a) export-oriented industries - which aim to earn foreign exchange for the country;
- b) import-substitution industries - which aim to satisfy existing domestic markets on the basis of imported foods. These industries use imported ingredients or raw materials to process needed products;
- c) local resource-based industries - which aim to meet the demands of domestic markets with expectations of export if possible. The term local resource is self-explained; and
- d) local-market oriented industries - which aims to serve markets that locally exist either in urban or rural areas. They are usually small in scale, labor-intensive and require relatively small financial outlays.

As far as evaluations on the performance of existing industries are concerned, emphasis should be put on (1) varieties of products available on the market; (2) market share; (3) quality; (4) cost, etc. When a physical survey can take place at these industries attention should be directed to (1) process technology; (2) utilization of resources; and (3) utilization of capacity of the plants. Such investigations and appraisals would help detect possible measures to diverge or expand a process along the lines of processing.

Up to this step, a number of commodities may be chosen as candidate raw materials for industries to be identified. The screening and selection of these commodities can be done on the basis of market demands, availability and potential use as intermediate inputs.

4. Exploration and Evaluation of Product Lines

Selected raw materials are subjected to a technological investigation to explore possible product lines from a single commodity or input. All available processing techniques ranging from simple to sophisticated would involve in such an investigation e.g. Corn.

- Corn on the cob - fresh or frozen
- Whole kernel Corn .. canned, frozen
 - corn grit
 - corn flour....bread
 - tortilla
 - corn chip, etc.
- Treated kernel Corn - feed
 - oil
 - corn starch - corn syrup
 - glucose
 - MSG etc.

Usually flow charts for products and process are prepared at this stage to facilitate the evaluation and selection of products and technology.

B. ADDITIONAL CONSIDERATIONS

The choice of a product (to be processed) and the choice of a technology (to be applied) are not final steps but a beginning one instead. A number of additional information and factors are needed to be investigated:

- Manpower;
- Material supplies to the industry - water, food ingredients, packaging materials;
- Infrastructure facilities available to the industry - electricity, energy, telecommunication, construction facilities;
- Economic considerations - cost/benefit analysis; foreign currency saving due to domestic value added; taxes in comparing domestic costs and import costs, etc.

IV. AREAS OF PROJECT OPPORTUNITIES

In most countries of the ECOWAS region, present structure of demand, pattern of food production as well as structure of the industry itself exhibit a total of five areas of project opportunities, namely (1) import area; (2) export-oriented industries area; (3) import-substitution industries area; (4) local-resource-based industries area; and (5) local-market-oriented industries area.

1. In the Import Area, statistics on imported goods would suggest a number of projects. Industries to be promoted would have an import-substitution orientation.

e.g. In order to substitute imported soluble (instant) coffee, a coffee processing plant can be set up (Ivory Coast).

To substitute imported black tea, a plant that process green black tea by "fermentation" can be proposed (Nigeria).

To substitute imported frozen orange juice, jelly marmalade etc., a citrus processing plant may be considered.

Furthermore, a guava processing plant can be promoted in place of a citrus processing plant because guava juice can substitute orange or grapefruit juices as far as breakfast drinks are concerned.

The abundance of by-products of existing industries would also provide opportunity for some projects.

e.g. Molasses, a by-product of the sugar manufacturing industry can be processed into rum (e.g. Puerto Rico)

By-products of pineapple canning plants can be used for bromeline extraction and the residue can be used for feeds.

Water-extract of tea leaves in the processing of black tea can be used for caffeine extraction.
etc.....

5. In the Local Market-Oriented Industries Area, projects can be identified by taking into account the food-eating habits of the people.

e.g. Cassava - instant-fufu, gari (e.g. Ghana)
- attic'ke' (e.g. Ivory Coast)

Fish - smoked, salted, dried, and canned

Several projects can also be identified when patterns of food utilization according to religious belief are examined.

e.g. Processing of lamb and goat meat into different products for the Muslim population.

Potential uses of vegetable proteins in the Muslims' diet, etc.

V. FINDINGS AND PROPOSED INITIATIVES

1. In most countries of ECOWAS region, food processing industries are heavily concentrated in exporting of semi-finished products and in import substitution. Processing of foods and food products for domestic consumption have been less emphasized, if not neglected.

Proposed Initiatives

There is a need to formulate a more national policy which would i) encourage the development of industries that aim (a) to satisfy the needs of the population (b) to increase values added for existing exported commodities; while 2) discouraging the importation of products and food ingredients to be processed into consumer-oriented products low in nutritive values, e.g. liquors, soft drinks, etc.

It seems easy to correct the situation by such a policy as everyone may think. In reality, present structure of demands make it difficult to induce any drastic shifts towards such a restructuring arrangement. The fact is industrialization and urbanization processes cause a shift in patterns of food utilization. People prefer convenient imported foods (bread, preserved and canned foods) to traditional ones (cassava, yam) which require not only more time to prepare but are difficult to preserve their wholesomeness.

And, as there is an increase in imports there is always the need to finance this section. To earn the necessary foreign exchange, most countries must emphasize export-promotion industries.

Two measures may be taken:

- ° Establish industries that aim to transform traditional foods into convenient forms, e.g. instant fufu (e.g. Ghana) while gradually establishing industries that can use local resources to produce intermediate inputs that are used by existing import-substitution industries, e.g. millet, flour to substitute wheat flour in bread making; cassava, in biscuits etc.
- ° Establish industries that can process local resources or outputs of existing industries into import-equivalent goods.

e.g. rum, from molasses to substitute imported liquors.

margarine, from groundnut oil to replace imported butter.

cheese, from goat milk to replace imported cheese.

etc.

Only when the need to finance imports could be relieved would the structure of export oriented industries be rearranged from present situation of exporting of semi-finished products to the production of high-valued finished products.

2. Local resources-based industries appear to have a problem with economies of scale as there is an underutilization of capacity of processing plants
e.g. Mali, Ghana.

Proposed Initiatives

While expecting a more adequate supply of raw materials from the agricultural sector, these industries may diversify their operations to closely related raw materials.

e.g. A meat processing plant may add a line of fish processing.
etc.

3. Most countries of the ECOWAS region have surpluses in certain agricultural commodities such as cassava, yam, sweet potatoes.

Proposed Initiatives

While emphasis will be put on research and development of marketable products, it may explore the possibilities to produce non-food intermediate inputs for other industries.

- e.g. Cassava - Alcohol (e.g. Brazil)
 - Sizing agent for textile industries
Sweet potatoes - Canotene extraction

4. Above all, the biggest problem that the industry is facing appears to be the supply of raw materials.

An inadequate supply can be the cause of (1) low agricultural production; (2) mishandling of the commodities in the farm and during storage; (3) lack of transport system; or (4) combination of these factors. It may also be caused by an inefficient collection, distribution and marketing system.

Proposed Initiatives

There is a need to design an integrated system which would help 1) to market agricultural commodities and finished products; 2) to secure a steady supply of raw materials; 3) to stimulate the production.

A two-way integrated system of marketing-processing-production may be arranged as follows:

- ° At village level, a mini-center can be set up with the purpose to collect (buy) agricultural commodities for the industry and to help farmers to market their local fruits and products. Farmers and housewives are hired to prepare commodities for shipping to center located at nearby district. Preparations of commodities may include in addition to washing, trimming and drying, the sorting, sizing and fumigation, if needed.
- ° At district level, a larger center may be built to serve the purpose of supplying raw-material to centers located in the province. At this level, agricultural commodities are properly stored (silos, if needed) and subjected to various preparation steps of food processing operations which include peeling, shelling, hulling, milling, etc.

- At province level, a medium-scale center may be built to process the prepared raw materials into semi-finished products. The center would also perform packing and/or packaging operations, if needed.
- At city level, a large-scale center can be set up with modern equipment using sophisticated technology, etc. At this level, semifinished products will be processed into finished ones.

The finished products can be packed either into retail or wholesale products. Retail-packed products can be directly shipped from city back to province, then district and village-level centers which may act in this case, as distribution centers.

In either case, there would be opposite flows of raw materials and products which make the system being called a two-way system for each commodity.

With such arrangements, it is expected that:

- Agricultural commodities can be efficiently collected and stored. Loss due to storage (and rodents) is minimized. Adequate supply of raw materials is envisioned.
- Agricultural production is stimulated because the farmers can market their commodities.
- There would be an overall increase in skilled manpower and income because farmers and housewives are "learning by doing" and "earning while learning".
- Rate of unemployment can be reduced as created centers can absorb idle manpower throughout the country, etc.

The City and Province levels are already in existence in some countries. Emphasis therefore should be put on the establishment of those centers that are located at district and village levels.

VI. GENERAL COMMENTS AND RECOMMENDATIONS

The meeting was successful in the sense that its revised objectives had been met. Experts were able to furnish the ECOWAS Secretariat with papers on methodology for conducting studies and project identification of selected industries.

The following steps are suggested as virtually beneficial means to get the most out of experts and specialists in future activities envisioned by the ECOWAS Secretariat:

1) The ECOWAS Secretariat could organize orientation sessions before the meeting take place:

A brief presentation on the ECOWAS' organization, objectives, policies, programs, etc. will provide needed information.

2) If the ECOWAS Secretariat could provide the experts with necessary information on selected industries:

As a matter of fact, the ECOWAS Secretariat had sent two-man teams to member countries to gather needed information; however, these teams could not return on time to make these findings available to this meeting.

To collect data on ten (10) selected industries from 3 or 4 countries is a time-consuming and difficult job especially, when time is a limiting factor. It would be more helpful to the field experts if each member country prepared the requested information beforehand.

Furthermore, each member country could furnish the ECOWAS Secretariat with the country's maps, books and materials describing its geography, history, cultures, agriculture, industries, etc. to help build a library for the region. Such a library would be a good information resource center for foreign experts and Secretariat staff to learn about the region and/or about a certain member country.

3) The ECOWAS Secretariat could assign counterparts to foreign experts:

Counterparts can be either individual or a committee of experts on related industries.

As far as food processing industries are concerned, a foreign expert could be made more effective if he had as counterparts local experts in the fields of (1) meats and meat products; (2) fish and seafoods; (3) milk and milk products; (4) fruits and vegetables; (5) root crops; and (6) plantation crops, with whom he might discuss and exchange his points of view on products and process technologies.

How can USAID help the ECOWAS Regional Industrial Program in Food Processing Industries Sector?

It is recommended that assistance be provided for (1) strengthening activities of existing food processing industries and (2) providing Food Technology Consultancy Services for ECOWAS.

1. Strengthening Activities of Existing Food Processing Industries

Assistance may be provided in the areas of (1) reduction of food losses;

(2) improvement of food marketing and distribution systems; (3) improvement of efficiency and productivity of existing plants.

Assistance would include visits by U.S. experts, and sponsored visits to the U.S. and to developing countries of food technologists, engineers, and other managers from the ECOWAS region to:

- observe techniques on the control of food losses, and systems of food marketing and distribution;
- attend symposia at which techniques for improving efficiency and productivity are presented, and
- discuss and consult on individual plants, supply, and production problems, etc.

2. Establishment of Food Technology Consultancy Services

These services would be channeled through the existing network of USAID field offices and a central regional management mechanism at REDSO/WA which could:

- amass and disseminate knowledge on food processing industries;
- commission state of the art studies on food technology in a given country or countries;
- act as collection and distribution points for data on technology;
- facilitate activities such as workshops, training center on process technology, equipment selection, food industry management, etc.

The central management function could be undertaken by the Capital Development Officer at REDSO/WA or appropriate USAID Mission. The best possible location would be proximity to an industrial research and development center in the ECOWAS region that has engineering, marketing, and management know-how as well as technical information and data useful to the industry. In the absence of some of these

capabilities, an existing institution could receive USAID or ECOWAS assistance to upgrade the deficient elements.

ACTIVITIES SCHEDULEA. WASHINGTON, D.C. (25 Sept. - 27 Sept)

International Science and Technology Institute, Inc.
 2033 M. Street, N.W.
 Washington, D.C. 20036

- Reported to Mr. W. Copeland, President of ISTI
- Discussed the assignment with Mr. N.W. Goonewardene, Director of International Operations.

USAID/Washington
 Department of State
 Washington, D.C. 20523

- Presented to Dr. R. Gray, Agriculture Officer
 Mr. N.R. Marsh, Snr. Project Officer
 Ms. S. Owens, Project Officer
 to learn about ECOWAS.
- Discussed itinerary and scope of assignment.

B. ABIDJAN, IVORY COAST (27 Sept. - 30 Sept.)

REDSO/WA (AID)
 BICICI Building, 12th Floor

- Reported to Mr. G.W. Evans, Director of REDSO/WA
 Mr. R. Wagner, Program Manager, Entente Fund/ECOWAS
 Management Staff
 Mr. R. Rogers, Project Officer, Entente Fund/ECOWAS
 to be briefed on ECOWAS organization.
- Met Dr. H.E. Smith, Chief, Program Analysis Development Staff,
 Dr. T.K. Mukherjee, Regional Agricultural Economist
- Briefed by Dr. T.K. Mukherjee on food problems in West African countries.

CONSEIL DE L'ENTENETE
 01 Boite Postale 3734

- Accompanied by Mr. R. Rogers to meet
 Mr. W.S. d'Epagnier
 Mr. L.H. Rasmussen
 to learn about Entente programs.

C. LAGOS, NIGERIA (30 Sept. - 17 Oct.)

ECOWAS Secretariat
6 King George V Road
PMB 12745
Lagos, Nigeria.

- Presented to Dr. J. Nti, Deputy Executive Secretary (Administration)
- Meetings:

Chairman and Co-Chairman: Dr. D.T. Sakho, Deputy Executive Secretary and Mr. S.A. Tebele, Director of Industries, Agriculture and Mineral Resources.
 - a) Chairman reported the problems of field experts and requested to change scopes of the meetings.
 - b) Experts were requested to present papers on how to design a project to be regional in character.
 - c) Experts were requested to present papers on detailed methodology for conducting studies and project identification of selected industries.

UNDP (UNIDO) Office
P.O. Box 2075
Lagos, Nigeria.

- Visited with Mr. E.R. Lethmayer,
Senior Industrial Development Field Advisor

to learn about the food industries in Nigeria.

World Bank Resident Mission
30 McCarthy St.
P.O. Box 127
Lagos, Nigeria.

- Visited W.B. Mission to do literature research on food industries of the ECOWAS region.

U.S. Embassy/Economic Division
2, Eleke Crescent, Victoria Island
Lagos, Nigeria.

- Met Mr. C. Cundiff, Economic Counsellor.
Ms. J. Fichte, Economic Officer.

to report on the progress of the meeting.

D. ABIDJAN, IVORY COAST (17 Oct. - 23 Oct.)

REDSO/WA (AID)
BICICI Building, 12th Floor

- ° Met Mr. G.W. Evans, Director of REDSO/WA
Dr. T.K. Mukherjee, Regional Agricultural Economist
Ms. S. Owens, Project Officer, USAID/W
Mr. R. Rogers, Project Officer, Entente Fund/ECOWAS Project
Mr. R. Wagner, Program Manager, Entente Fund/ECOWAS Management Staff

to report on the result of the meeting.

ECONOMIC COMMUNITY OF WEST AFRICAN STATES
INDUSTRY, AGRICULTURE AND NATURAL RESOURCES COMMISSION

MEETING OF EXPERTS

LAGOS, OCTOBER 2 - 15, 1980

PROVISIONAL AGENDA

- I ECOWAS INDUSTRIAL PROGRAM (Revised Project Document)
- Objectives of the Program
 - Contents of the different Phases
 - Work Program (Project Activities within the Phases)
 - Inputs (UNDP, ECA, ECOWAS)
- II FORMULATION OF METHODOLOGY FOR HANDLING SECTORAL STUDIES,
PROJECT IDENTIFICATION AND FEASIBILITY STUDIES.
- Special discussion of UNIDO "Manual for the preparation of Industrial Feasibility Studies".
- III PRIORITY INDUSTRIAL SECTORS: ECOWAS INDUSTRIAL PROGRAM
- Food Processing Industries
 - Agro-related chemical industries
 - Wood processing industries
 - Agricultural implements industries
 - Building and construction materials industries
 - Iron and steel industries
 - Telecommunications and electronics industries
 - Pharmaceutical industries
 - Petrochemical industries
 - Automobile industries
 - Training

ECONOMIC COMMUNITY OF WEST AFRICAN STATES

ECOWAS INDUSTRIAL, AGRICULTURE AND NATURAL RESOURCES COMMISSION

MEETING OF EXPERTS

LAGOS, OCTOBER 2 - 15, 1980

PROGRAM

THURSDAY OCTOBER 2, 1980

- 10 a.m. - Official Opening: Welcoming of experts and opening remarks by Dr. J. NTI, Deputy Executive Secretary (Administration)
- Election of Officers
- Presentation of Revised Project Document: "ECOWAS Industrial Program" by Mr. S.A. Tebele, Director of Industries, Agriculture and Mineral Resources, assisted by Mr. Loth (UNIDO Expert).
- 12 noon - Lunch Break
- 3 p.m. - Discussion of Revised Project Document.

FRIDAY OCTOBER 3, 1980

- 9 a.m. - Discussion on Formulation of Methodology for handling Sectoral Studies, Project Identification and Feasibility Studies.
 - a) Project Identification
 - b) Sectoral Studies
 - c) Feasibility Studies - Special discussion of UNIDO "Manual for the preparation of Feasibility Studies."
- 12 noon - Lunch Break
- 3 p.m. - Discussion on Methodology (continued)

- 23 -
- 1 -

MONDAY OCTOBER 6, 1980

- 9 a.m. - Summary of discussion of Methodology with particular reference to the ECOWAS Industrial Program.
- 12 noon - Lunch Break
- 3 p.m. - Discussion on Priority Industrial Sectors of the ECOWAS Industrial Program (to be led by UNIDO/ECA experts)
1. Food Processing Industries.

TUESDAY OCTOBER 7, 1980

- 9 a.m. - Discussion of Priority Industrial Sectors (continued)
2. Agro-related chemical industries (to be led by UNIDO/ECA experts)
- 12 noon - Lunch Break
- 3 p.m. - 3. Wood Processing Industries,

WEDNESDAY OCTOBER 8, 1980

- 9 a.m. - Discussion of Priority Industrial Sectors (continued)
4. Agricultural implements industries (to be led by UNIDO/ECA experts)
- 12 noon - Lunch Break
- 3 p.m. - 5. Building and construction materials industries (to be led by UNIDO/ECA experts)

THURSDAY OCTOBER 9, 1980

- 9 a.m. - Discussion of Priority Industrial Sectors (continued)
6. Iron and Steel Industries (to be led by UNIDO/ECA experts)
- 12 noon - Lunch Break
- 3 p.m. - 7. Telecommunications and electronics industries (to be led by UNIDO/ECA experts)

FRIDAY OCTOBER 10, 1980

- 9 a.m. - Discussion of Priority Industrial Sectors (continued)
8. Pharmaceutical industries (to be led by UNIDO/ECA experts)

MONDAY OCTOBER 13, 1980

- 9 a.m. - Discussion of Priority Industrial Sectors (continued)
9. Petrochemical Industries (to be led by UNIDO/ECA experts)
12 noon - Lunch Break
3 p.m. - 10. Automobile industries (to be led by UNIDO/ECA experts)

TUESDAY OCTOBER 14, 1980

- 9 a.m. - Discussion on Training Requirements of the ECOWAS Industrial Program (to be led by UNIDO/ECA experts)
12 noon - Lunch Break
3 p.m. - Adoption of Final Report
- Closing Ceremony: Closing remarks by Dr. Aboubakar Diaby-Ouattara, Executive Secretary of ECOWAS.