



TOGETHER
for a sustainable future

OCCASION

This publication has been made available to the public on the occasion of the 50th anniversary of the United Nations Industrial Development Organisation.



TOGETHER
for a sustainable future

DISCLAIMER

This document has been produced without formal United Nations editing. The designations employed and the presentation of the material in this document do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Industrial Development Organization (UNIDO) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries, or its economic system or degree of development. Designations such as “developed”, “industrialized” and “developing” are intended for statistical convenience and do not necessarily express a judgment about the stage reached by a particular country or area in the development process. Mention of firm names or commercial products does not constitute an endorsement by UNIDO.

FAIR USE POLICY

Any part of this publication may be quoted and referenced for educational and research purposes without additional permission from UNIDO. However, those who make use of quoting and referencing this publication are requested to follow the Fair Use Policy of giving due credit to UNIDO.

CONTACT

Please contact publications@unido.org for further information concerning UNIDO publications.

For more information about UNIDO, please visit us at www.unido.org



17064-E

Distr.
LIMITED

ID/WG.477/5(SPEC.)
10 October 1988

ORIGINAL: ENGLISH

United Nations Industrial Development Organization

Follow-up Subregional Meetings on the
Promotion of Intra-African Industrial Co-operation
within the Framework of the Industrial
Development Decade for Africa (IDDA)*

Harare, Zimbabwe, 31 October - 4 November 1988

SUPPLEMENTARY BACKGROUND DOCUMENT

ON

**ACTIONS TAKEN BY THE
PREFERENTIAL TRADE AREA FOR EASTERN AND SOUTHERN AFRICAN STATES (PTA)
WITH THE SUPPORT OF UNIDO IN THE PROMOTION OF INDUSTRIAL
CO-OPERATION AMONG ITS MEMBER STATES****

Prepared by the Secretariat of the
Preferential Trade Area for Eastern and Southern African States (PTA)

* Organized by UNIDO, in co-operation with the Secretariat of the Preferential Trade Area for Eastern and Southern African States (PTA), the Southern African Development Co-ordination Conference (SADCC) and the Government of Zimbabwe.

** The designations employed and the presentation of material in this document do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Industrial Development Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. This document has not been edited.

CONTENTS

<u>Chapter</u>	<u>Page</u>
I. INTRODUCTION	2
II. METAL AND ENGINEERING INDUSTRIES	2
(a) Iron and steel sector	2
(b) Engineering industries	3
III. CHEMICALS AND FERTILIZERS	5
(a) Fertilizers	5
(b) Pesticides and pharmaceuticals	6
IV. HUMAN RESOURCES DEVELOPMENT	7
V. CEMENT	8
VI. INSTITUTIONAL SUPPORT	9

PREFERENTIAL TRADE AREA
for Eastern and Southern African States

**INDUSTRIAL PROJECTS FOR FINANCIAL AND/OR TECHNICAL
ASSISTANCE TO THE PTA FROM THE UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION (UNIDO)**

ASSISTANCE REQUIRED FOR IMPLEMENTING SPECIFIC INDUSTRIAL PROGRAMMES

I. INTRODUCTION

1. Implementation activities of the industrial programmes conceived by the PTA commenced in earnest. UNIDO has provided invaluable assistance in the formulation of various projects in the sectors of metals and engineering industries; chemicals and fertilizers including building materials and in the manpower training. Recently, UNIDO assisted PTA in formulating projects for funding under the Fourth Regional Cycle for Africa. It is hoped that UNIDO on its part could also assist through the Industrial Development Fund in a number of specific areas as indicated in this document.

II. METAL AND ENGINEERING INDUSTRIES

(a) Iron and Steel Sector

2. The PTA has prepared a sectoral strategy for the development of iron and steel industry. The three-pronged strategy comprises:

- First, backward integration, initially making use of billets and blooms from Zimbabwe in the national rolling mills for the manufacture of bars, rods, beams, channels, sections, as well as rehabilitation and rationalization of the existing steel plants.
- Second, the production of sponge iron (DRI) to feed electric-arc-furnaces to produce billets for the rolling mills; and
- Third, integrating rolling/electric-arc-furnaces to iron making when demand justifies.

3. Through technical assistance provided by UNIDO in conjunction with the Commonwealth Secretariat, indepth studies were carried out and, on the spot remedial assistance, where possible, was provided to the twenty-three (23) rolling mills in Angola, Ethiopia, Kenya, Mauritius, Mozambique, Tanzania, and Uganda.

4. As a result of the indepth studies, the PTA initiated supply/purchase of ZISCOSTEEL billets with the various national steel plants. Consequently, Ethiopia, Kenya, Mauritius, Uganda and Zambia are now sourcing their feedstocks from Zimbabwe. A feasibility study was undertaken for the establishment of a rolling mill in Zambia, based on locally available scrap and imported billets from Zimbabwe.

5. However, pricing of billets and other iron and steel products continue to pose problems and it is alleged that this is due to dumping in the PTA subregion by major steel producers and/or lack of competitiveness of the ZISCOSTEEL. The PTA Council of Ministers has directed that a study be undertaken in order to identify the factors responsible for this state of affairs and also to enable the PTA to adopt a pricing policy for iron and steel products for intra-PTA trade. A market study has been commissioned with the assistance of the World Bank.

6. With the assistance of UNIDO, a study was undertaken on the training needs of the Iron and Steel industries of the PTA subregion. As a result of the study, programmes on Maintenance Engineering have been organized at ZISCOSTEEL with financial assistance provided by the British and Austrian Governments. Because of the success of the two programmes it is intended that additional programmes be organized. The Austrian Government and Commonwealth Secretariat have indicated that they would fund two training programmes in 1988.

7. Concurrently, in the implementation of the programmes the iron and steel sector, the need for a Metallurgical Technology Centre became obvious. As there is already a Centre of excellence of iron and steel making and rolling in the subregion at ZISCO, it is logical that technology should be transferred from ZISCO to other plants. In turn, however, ZISCO would need to obtain know-how from outside the subregion.

8. The Metallurgical Technology Centre would provide technical services through its data bank and library documentation facilities and in addition, assist in the adaptation and transfer of technology. The Metallurgical Technology Centre would also carry out research and development and undertake investigatory work on evaluation and assessment of local iron and non-ferrous ore bodies, and carry out studies on local coal, fluxes, and on materials for refractory manufacture are flexible in terms of economies of scale.

9. In the production of sponge iron, particular attention is given to the possibility of utilizing Direct Reduction (DR) processes which make use of non-coking coal and because DRI plants are flexible in terms of economies of scale. The need for sponge iron derives from the fact that the subregional steel rolling - capacity exceeds the liquid - steel making capacity by about 50%. And most of the meltshops in the PTA are based on scrap which is fast running out of supply. There is need, therefore, to supplement scrap with sponge iron. Countries with potential for the production of sponge iron include Mozambique, Tanzania, Uganda and Zambia. All these countries have iron ore reserves and hydro-electric power and, except for Uganda, they also have coal.

Assistance Required

10. Assistance is required to implement a Metallurgical Technology Centre in the PTA subregion. Specifically to train personnel for the Metallurgical Centre and organise a study tour for the steering team that has been established to implement the project. This project has already been submitted to UNIDO.

11. Establishment of a pilot demonstration plant for the manufacture of sponge iron in Tanzania.

12. A study on the pricing of iron and steel products traded within the PTA. The study will, among other things, seek to establish whether dumping of steel products is taking place and establish a mechanism for monitoring steel production costs.

(b) Engineering Industries

13. The immediate objective is to assist the PTA Member States in developing and promoting integrated subregional projects for manufacture of machine tools, agricultural machinery and equipment, transport equipment and the production of spare-parts.

(I) Machine Tools

14. Machine tools production in PTA region started only in 1983 with the establishment in Tanzania of a Machine Tool Manufacturing Company with the collaboration of Machinexport of Bulgaria based on imported SKD/CKD. The problems inhibiting the development of machine tool industry in the subregion, are identified as follows:

- fragmented market;
- lack of engineering infrastructure;
- limited resources of skilled manpower;
- lack of foreign exchange to meet the high cost of inputs and technical assistance; and
- low return to investment.

15. Projects have been identified for the manufacture of simple general purpose metal cutting and woodworking machines in Tanzania, Kenya and Zimbabwe. However, full-fledged feasibility studies have not been undertaken.

(II) Agricultural Machinery and Equipment, Irrigation Equipment, Transport Equipment and Spare-parts

16. There are thirteen (13) enterprises which manufacture animal drawn implements and manually operated machines with installed capacity of 357,000 units per annum. With regards to tractor drawn implements, only Kenya and Zimbabwe have facilities to manufacture these implements. Cane-loaders are manufactured in most of the countries of the subregion. Total installed capacity of all units is 14,000 units per annum.

17. The region has two tractor assembly plants, one in Ethiopia and the other in Tanzania with current production of 1000 and 500 units, respectively. Zambia and Zimbabwe have plans to assemble tractors in the near future.

18. There are a number of plants which assemble/manufacture bicycles but they are faced with problems of technology transfer in improving local value added component.

19. Kenya, Tanzania and Zimbabwe have facilities for the manufacture of irrigation equipment such as centrifugal pumps, submersible pumps and windmill operated pumps.

20. However, there is need to upgrade the quality of the products and also to look into the pricing aspect.

(iii) Spare-parts

21. The requirements of spare-parts to cater for the needs of a variety of industries in the region is generally met through imports. However, there are a number of units which manufacture spare-parts in the subregion. The spare-parts required are mostly for mining, sugar, cement, textile industries, transport and agricultural machinery. The major constraints hindering local manufacture include acute shortage of raw materials, standardization of production and process levels, non-availability of design processes, inadequate manufacturing facilities and lack of skilled personnel in the PTA subregion. A number of foundries, forgeshops and general machine shops which are capable of meeting a significant part of subregional requirements have been identified. However, most of the units need to be upgraded to take up the challenge of manufacturing a wide range of spare parts of high quality and at competitive prices. A study is underway in Kenya, Malawi, Zambia and Zimbabwe on identifying the units which if assisted would be able to produce spare parts required. The same study will identify imported spares and which could be produced by these enterprises.

22. The study is about to be completed in Zambia, while in Kenya, Malawi and Zimbabwe it is hoped that the studies will be completed in July/August.

Assistance Required

23. A prefeasibility study for the manufacture of agricultural machinery and equipment. In the first instance the study could focus on reducing the number of models/types of equipment and machinery imported or to be assembled in the PTA on the basis of their suitability and also in order to facilitate the development of ancillary industries.

III. CHEMICALS AND FERTILIZERS

(a) Fertilizer

24. In 1985 the PTA, with the assistance of UNIDO, Commonwealth Secretariat, and ECA, prepared a master plan on the production of nitrogenous, phosphate and potash fertilizers by utilizing indigenous resources such as natural gas, phosphate rock etc., all of which are available in the PTA subregion. One of the aspects of the master plan was that specific projects with multinational component were identified. These included:

- (a) A nitrogenous fertilizer plant in Rwanda based on methane gas from Lake Kivu to supply Burundi, Uganda and Zaire.
- (b) A nitrogenous fertilizer plant project in Tanzania to supply Urea/Ammonia to Ethiopia, Kenya, Malawi and Mozambique.
- (c) A Single-Super Phosphate plant in Burundi which would utilize sulphuric acid from Zambia, to supply Rwanda, Zaire and Western part of Tanzania.

- (d) A Single-Super Phosphate plant in Uganda to supply Kenya, Tanzania and Sudan.
- (e) Phosphate fertilizer plant in Zambia to supply the Southern States of the PTA.
- (f) Potassic plant in Ethiopia to supply the PTA subregion.

25. In addition, projects which require rehabilitation to increase their capacity utilization were identified. These include:

- (a) The phosphatic fertilizer plant in Tanga, Tanzania.
- (b) Nitrogenous fertilizer plant in Zambia.
- (c) A Phosphatic fertilizer plant in Zimbabwe
- (d) A Nitrogenous fertilizer plant in Zimbabwe.

26. As a result of the study project ideas emerged for the establishment of fertilizer in:

- (a) Ethiopia for the manufacture of Nitrogenous fertilizers, and
- (b) The manufacture of NKP/DAP compound fertilizers.

27. Most of these projects are at various stages of implementation. Feasibility studies are underway for some, while others are at implementation stage.

28. One of the projects which is at implementation stage is the Uganda Phosphate. However, at a Ministerial Meeting between Kenya, Tanzania and Uganda convened to agree on the implementation, a number of issues could not be resolved. One of the issues was on whether the plant should produce SSP or TSP. UNIDO has approved a project to re-appraise the feasibility study with a view to assessing whether the manufacture of TSP is viable. The exercise is scheduled to commence next month.

29. It is hoped that this will enable the PTA and the individual Governments, to make investment decisions regarding the establishment of the phosphate fertilizer plant in Uganda.

(b) Pesticides and Pharmaceuticals

30. In 1987 the Commonwealth Secretariat assisted the PTA in preparing a master plan for the development of pharmaceutical and pesticides industries. The long term objective in these two sub-sectors is to promote the production of active ingredients in the subregion. In the short-term, the priority is to rehabilitate and upgrade existing units, to encourage intra-PTA trade and to rationalize the development of industries.

Assistance Required

31. A feasibility study on the production of malathion.

32. Promotion of the potential fertilizer projects which have been approved the PTA Policy Organs in terms of assisting the promoters to secure funding, technology.

IV. HUMAN RESOURCES DEVELOPMENT

33. One of the objectives is to prepare an inventory of training facilities and training needs of the PTA Member States with a view to organizing training programmes in the following areas:

- (a) Cement industry;
- (b) Foundries and Forges for spare-parts manufacture;
- (c) Agro-industries;
- (d) Energy sector; and
- (e) Fertilizer industry.

34. In assessing the training needs it would be necessary to determine professional, technical and managerial requirements for the PTA, to forecast future requirements; and to identify where new training institutions need to be established.

35. The development of human resources is important if the envisaged industrial programmes have to be realized. The PTA's immediate needs are to undertake:

- (a) Inventory of subregional training facilities and training needs and to take into consideration programmes which are under implementation/promotion;
- (b) Develop industrial consultancy and management capabilities; and
- (c) Develop local entrepreneurship.

36. In this regard, there is need for an industrial training expert to co-ordinate with other agencies such as SADCC, ESAMI, COMSEC., etc., which are involved in industrial training; to mobilize financial and technical resources for implementing the training programmes and to facilitate exchange of students.

The main objective is to:

- (a) minimize expenditure on overseas training;
- (b) maximize the relevance of training through organizing training within the PTA subregion; and
- (c) maximize use of training institutions in the PTA.

37. The development of human resources is important if the envisaged industrial programmes have to be realized. The PTA's immediate needs are to undertake:

- (a) Inventory of subregional training facilities and training needs and to take into consideration programmes which are under implementation/promotion;
- (b) Develop industrial consultancy and management capabilities; and
- (c) Develop local entrepreneurship.

Assistance Required

38. To undertake a survey of manpower requirements and training facilities available in the PTA subregion in the following sub-sectors:-

- (a) Chemicals and fertilizers industry;
- (b) Cement Industry
- (c) Energy sector
- (d) Textiles industries

39. To reorganize training programmes in accordance with the identified needs in each of the sub-sectors.

40. To assist in the mobilisation of resources to organize training programmes and/or to strengthen the training activities as well as training institutions.

V. CEMENT

41. There are about twenty (20) cement plants in the PTA subregion which have been established primarily to supply domestic and export markets.

42. The total installed capacity is about 8 million tons whereas production is about 3.5 million tons per annum which is about 40 per cent of the installed capacity. The subregion exports about 1 million tons and imports similar amount from outside the subregion.

43. Kenya has the largest available capacity for producing cement and Swaziland the smallest. At the moment the Swaziland factory is not in production because of problems of supply of clinker from Mozambique. Cement plants in Mozambique which were based on clinker from South Africa are also faced with problems. All the countries import refractories while all except Zimbabwe import grinding media. Although Gypsum is available in the subregion, a large proportion has to be imported because the locally produced gypsum is inadequate.

44. The most seriously affected cement plants are those in Tanzania, Angola, Mozambique, and Zambia. If the capacities of the cement plants were fully utilized it would not be necessary to establish new cement production capacities in the subregion at least for the next five years.

Assistance Required

45. Rehabilitation of selected cement plants in the PTA Member States.

VI. INSTITUTIONAL SUPPORT

46. Since the commencement of the Operational Phase, there has been need to supplement the resources of the PTA by strengthening the capacity and capability of the Secretariat. To-date the Industry Division has only three members of staff. In view of the wide range of activities including identifying projects and programmes for co-operation through sector studies and assisting in promoting these programmes as well as liaising with Governments, there is need to strengthen the PTA Secretariat in terms of capacity and capability of identifying and promoting projects in the chemicals and fertilizers sector.

47. Immediate assistance is required to identify, formulate promote projects in the agro-industries sub-sector.

Assistance Required

48. To strengthen the PTA Secretariat in the identification, formulation and promotion of industrial projects.

STANDARDIZATION AND QUALITY CONTROL

49. The PTA has prepared a master plan for the implementation of the Protocol on Standardization and Quality Control whose main objective is to develop a common regime of standards and quality control procedures. A recent meeting of the Sub-Committee on Standardization and Quality Control decided that standards for products traded within the PTA especially those affecting safety, health and environmental aspects be made mandatory. The Sub-Committee also agreed that the PTA co-ordinate the harmonization of standards and quality control procedures. In the implementation of this programme the following are the priority have been identified, namely: establishment of:-

- National Standard Bodies (NSB's) where they do not exist;
- Harmonization of certification as well as laboratory accreditation;
- Establishment of documentation and information system to serve the needs of exporters, producers, traders, and standard bodies; and
- Training of manpower.

Assistance Required

50. UNIDO is requested to provide technical and financial assistance to the PTA in order to:

- 1. Establish National Standard Bodies (NSB's) in countries where they do not exist i.e., Djibouti, Somalia, Uganda, Swaziland, Burundi, Rwanda and Comoros.**
- 2. Strengthen the present nucleus of NSB's in Zambia, Lesotho, and Swaziland.**
- 3. Provide an expert on Standardization and Quality control to be stationed at the PTA Secretariat for a period of 1 year to assist in:**
 - (i) initiating co-ordinating activities;**
 - (ii) train PTA - co-ordinator who will be recruited to carry out the functions of co-ordination;**
 - (iii) help plan training activities i.e., workshops, seminars, study tours;**
 - (iv) prepare inventory of testing facilities as well as study testing and certification practices on sector by sector basis, and to work out a scheme, for co-operation in the harmonization of the procedures;**
 - (v) study procedures for drug registration, General Manufacturing Practices and trading practices in the PTA; and**
 - (vi) help documentation and information on the PTA.**