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REPORT

on the

MISSION TO THE DEMOCRATIC REPUBLIC OF THE SUDAN RELATING
TO THE PROJECT "ADAPTATION OF TECHNOLOGY IN THE
MECHANICAL INDUSTRIES SECTOR IN THE
DEVELOPING COUNTRIES" ^{2/}

(VC/INT/76/113).

Khartoum, 10-14 March 1978. ¹

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PROJECT : Adaptation of Technology in the Mechanical Industries Sector in the Developing Countries

PURPOSE : To ascertain to the extent possible through discussions with high governmental officials and other related authorities of the concerned countries, their interest regarding the possibility of establishing a production unit in the metal working industries sector, on basis of a study carried out by the UNIDO consultants to scale down and adapt the most modern technologies to the conditions and environment of developing countries.

The Mission had a schedule to visit 3 countries: Sudan, Cameroon and Ghana. Due to local inconvenience in Ghana, the Mission was only able to visit the first two of the 3 countries. This time it was considered necessary that a one-week mission, including travel days, should be organized possibly in April/May 1978.

The present report covers the results of the work of the Mission in SUDAN.

SPECIFIC

OBJECTIVES :

1. On basis of the findings of the techno-economic surveys carried out by a technical mission of the consultants during September/October 1977, explain the aims and objectives of the project to high government officials and to discuss about the pre-identified priority sector emerging from the survey;
2. To identify the priority areas within the scope of the national plans and industrial development plans, and to ascertain the degree to which the project could be integrated into such overall plans of the country;
3. To exchange views concerning the available possibilities of securing funds required for the follow-up action of the project (construction of the production unit), as well as the means of securing such funds;
4. To contact other offices and representatives in the countries visited, such as the UNDP Resident Representative, the Representative of EEC and Lome Convention, etc..

MISSION MEMBERS : The mission was composed of four members as mentioned below, who in certain cases operated in two groups: a political and a technical group.

Political Group : - Mr. W.H. TANAKA, Acting Head, Development and Transfer of Technology Section
UNIDO (Mission leader)
- Mr. G. d'AURIA, Promotion Manager
FIAT Engineering (Project Manager)

TECHNICAL GROUP : - Mr. E. MORETTO, Engineer, FIAT Engineering
- Mr. L. BORASI, Engineer, FIAT Engineering

The Mission was supported by the following person during its activities in Sudan :

- Mr. Peter QUENNELL, Assistant Resident Representative,
UNDP Office, Khartoum

RESULT OF DISCUSSIONS

- (1) After having paid a courtesy visit to the UNDP Office, the Mission proceeded with the initial appointments arranged by Mr. Quennell, Assistant Resident Representative, who was also kind enough to receive the Mission at the airport on its arrival on the previous evening.
- (2) In order to cover as many contacts as possible during the short stay, the Mission divided itself into a political level group and a technical level group. Visits made are listed up in Annex "A".
- (3) At the first meeting with the Undersecretary of the Ministry of Industry, Mr. Abdel Latif Wida, the wishes of the Mission to meet high governmental authorities concerned with the project were expressed and complied with by appointments organized during the following two days as per Annex "A".
- (4) At the beginning of each meeting, Mr. Tanaka made a general introduction of the project in which he emphasized among others the following points :
 - (a) that the project originated from the serious considerations by UNIDO concerning the need of developing and transferring modern technologies adapted appropriately to the circumstances and environment of the developing countries;
 - (b) that the metal working industry could be considered as the development core of the industrialization efforts in the developing countries;

- (c) that it was the desire of UNIDO and the aim of the project not only to prepare a study of an adapted modern technology on a theoretical basis, but to establish a small production unit to prove and test the theoretical study on the one hand, and also to contribute to the industrialization process in the country on the other;
- (d) that in doing this it was important that such plans be closely co-ordinated with the national efforts already going on in the country and the national development plans under implementation, in order to avoid duplication and ensure the maximum impact;
- (e) that a preliminary techno-economic study was carried out in September - October 1977 in three countries, i.e. Sudan, Cameroon and Ghana, in which a certain priority identification was made concerning the four technical units, i.e.

- cast iron foundry
- aluminium alloy foundry
- iron forge shop
- sheet metal stamping

and it was the objective of the present mission to discuss and exchange views to ensure that the second phase of the project would be in line with the needs and the situation of the country;

- (f) at this stage, Mr d'Auria as project manager, explained about the technological aspects of the project as well as the exercises undertaken by the consultants in identifying the priority areas which in the case of Sudan turned out to be in the order of - first priority: sheet metal stamping; second - cast iron foundry; third - iron forge shop; fourth - aluminium alloy foundry;
- (g) following this explanation, the tentative work schedule of the project was explained, namely,
- to receive expression from the government as to their interest in the project, and any indication of the priority

(6) The Ministry of Planning through Mr. Mirgani, Undersecretary for Loans, expressed their readiness to support the project and further mentioned that there was no problem of incorporating it into the national development plans. He referred to the timing of the project and the size of the financial means required for establishing the production unit in order that appropriate steps could be taken vis-à-vis Brussels or eventually other sources of finance. He promised to be in close contact with the Ministry of Industry in connexion with the further development of the project.

(7) At the Industrial Research and Consultancy Institute (IRCI), Mr. Ahmed Babakir, Director, and Mr. Moavia Siddiq Elsheikh, Deputy Director, informed the Mission that they were interested in all four cases of the project. They mentioned that since it was already considered as a top priority to strengthen the metal and mechanical engineering sector to serve all industries that certain actions have already been initiated on its own.

Dr. Ahmed Babakir expressed his view that the Ministry of Industry would most probably appoint the IRCI to carry out the local counter-part activities of the project once it is approved for implementation.

(8) At the National Council for Research (NCR) Dr. Mohamed Osman Khider, Secretary General, expressed his view that the project seemed very interesting for Sudan, and that it would fit into the general development plan programmes of the country.

(9) Whilst the meetings, at a political level were being held, the technical group started a series of visits to industrial and technical locations in order to complete its documentation concerning the mechanical products more sought after by the internal market and to examine the possibility of their production in loco.

The list of companies and persons visited is shown in Annex A.

It appears that the Sudanese industrial infrastructure has an insufficient rhythm of production that can, nevertheless, be improved with better work organization, more accurate quality control by reviewing the

plants' layout with possible renewal of some facilities and finally with a more careful and accurate maintenance of the existing equipment.

It has also been reconfirmed that among the basic technologies (cast iron foundry, aluminium foundry, forge, sheet metal stamping) the sheet metal stamping is that which is felt to be lacking the most. The utility of placing a factory of this type in the country is therefore re-confirmed.

A proposal of what was said during the meetings at a political level by the Minister of Industry concerning the necessity of a multipurpose mechanical centre specially designed to provide maintenance and spare parts, the technical group has verified that this type of initiative is really of high priority.

This problem is, however, co-lateral to the project in course, but it should be carefully considered when the aim is to stimulate the synergies of the existing industrial apparatus.

In order to provide opportune follow-up to the indications of the minister of industry and on the assumption that there are no plans for the establishment of a separate multipurpose mechanical centre, the opportunity to study a plant that integrates the scope of this project (application of the adapted technologies) with the necessity of supplying maintenance and spare parts to the existing industry could be envisaged.

The direct rentability of this type of plant may result less immediately but it may be extremely useful to improve the overall results of the whole industrial system.

(10) At the final wind-up meeting at the Ministry of Industry, Mr. Abdul Latif Wida, Undersecretary of Industry, agreed to send about their strong interest of the project in a letter to UNIFCO, with a view that the project document should be ready by the end 1978/ first quarter 1979. This was particularly important, he emphasized, since the deadline for requests of 1980 fundings by the FED (European Development Funds of EEC - Lome Convention) was made in May of the preceeding year when an EEC mission was expected to visit the country, and by that time all requests from the Government should have been officially submitted to Brussels for inclusion in the

indicative programme. It was agreed that most probably around July/August 1978, a follow-up mission to the present one would be visiting the country in case Sudan was selected among the three countries, in order to finalize the direction towards which the project document was to be prepared.

CONCLUSIONS

(1) It was agreed that UNIDO would approach the Government during April with copies of the mission report including the techno-economic assessment report, requesting the Government to express their readiness for accepting and supporting the future development of the project.

(2) Based upon their response a third mission would visit the country to make the final decisions together with the Government on basis of which the project document would be prepared for submission by early 1979. It was planned that representatives from EEC/CID should also participate in this mission in view of the follow-up action expected after the submission of the project document.

Annex "A"

Mission Schedule and Persons Met

1978

10 March (Friday)

Departure Vienna / Rome
Arrival Khartoum via Cairo
(Hotel Meredien)

11 March (Saturday)

a. UNDP Resident Representative's Office
(P.O. Box 913. Tel. 73121, 73123
Telex 970214).

Mr. Charles-Henri La Muniere (Res. Representative)
Mr. Peter Guennell (Assistant to Res. Rep)

b. Industrial Research and Consultancy Institute
(P.O. Box 268, Tel. 77448)

Mr. Moawia Siddig Elsheikh (Deputy Manager)
Mr. Mohamed Osman Abdura (Manager Engineering Dept)
(Tel. 76253)
Mr. Ibrahim Bernos (Manager Workshop)

c. Ministry of Industry (Tel. 77770)

Mr. Abdul-Latif Wida (Under Secretary)
(Tel. 77157)
Mr. Ahmed Erdawi (Director, Planning)
(Tel. 77603).

d. Irish Management Institute

Mr. W.N. Harrison (Consultant for Management
Development)

12 March (Sunday)

a. Ministry of Industry

Mr. Ahmed Erdawi
Mr. Ahmed Hassan (Staff Planning Department)

b. Industrial Research and Consultancy Institute

Dr. Ahmed Babakir (Director)
Mr. Moawia Siddig Elsheikh
Mr. Mohamed Osman Abdura
Mr. Ibrahim Bernos
Mr. Ahmed Hassan (Ministry of Industry)

c. Ministry of Planning

Mr. Mirgani (Under Secretary (Loans))
Mr. Habbani (Director, Industrial Planning)
Mr. Saegayran (Head of Technical Assistance)

d. Ministry of Industry

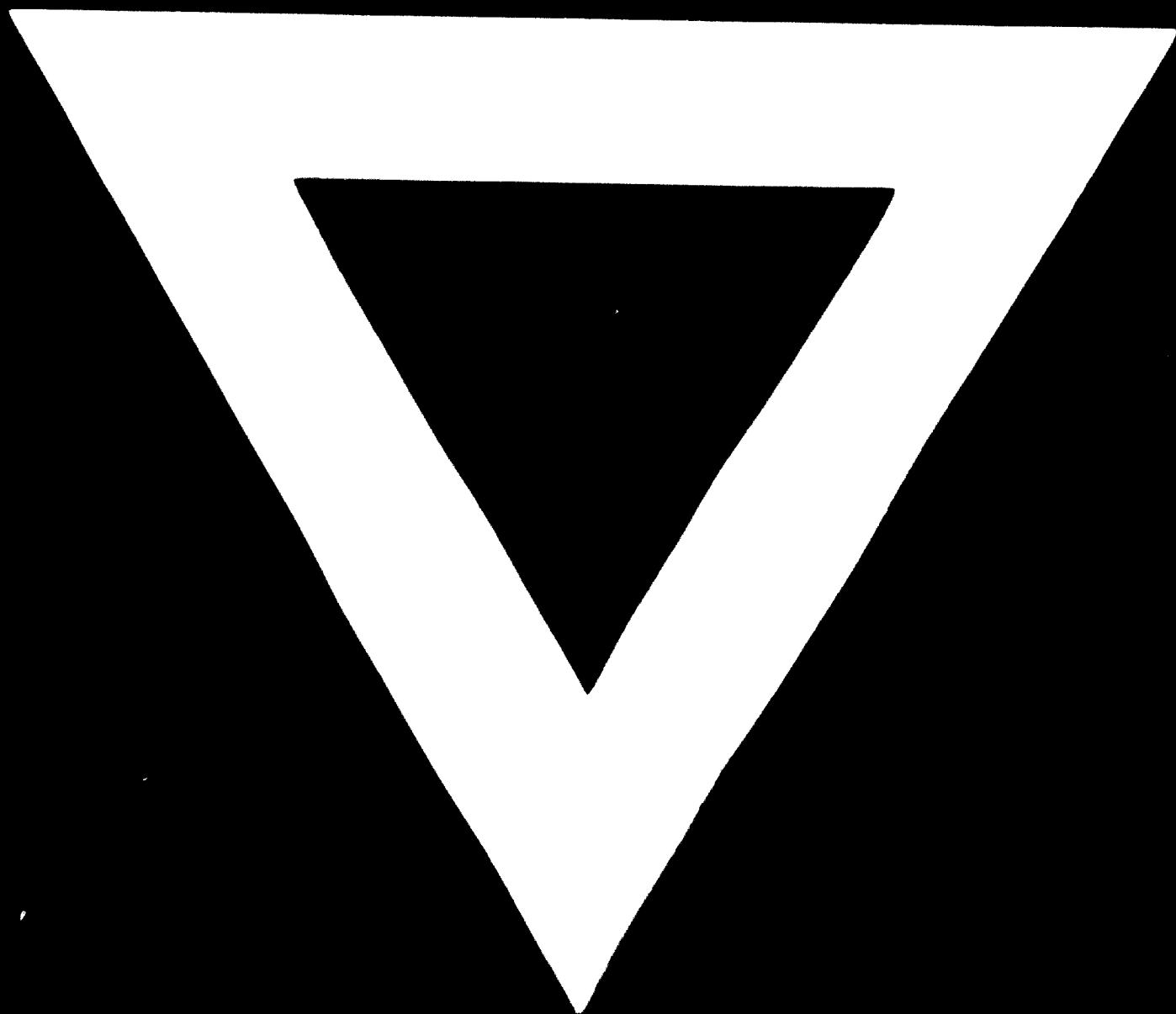
H.E. Dr. Beshir Abbadi (Minister of Industry)
Mr. Abdul Latif Wida (Under Secretary)
Mr. Ahmed Erdawi

- e. Khartoum Central Foundry
Mr. Abdel Rauf Abdel Atti (General Manager)
- f. Public Corporation For Building and Construction
(Attabara Cement Factory)
Mr. Yousif el Zubair (Project Manager)
Mr. Osman Fadul (Chief Engineer)
- g. Metal Melt Engineering
- h. Oil Corporation - Khartoum North
Mr. Kamal Ismail Ahmed (Chief Engineer)

13 March (Monday)

- a. Ministry of Industry
Mr. Abdul Latif Wida
Mr. Ahmed Erdawi
- b. National Council for Research
Mr. Mohamed Osman Khider (Secretary General)
Mr. Ibrahim Hassan Mohamed (Assistant Director,
Council for Scientific and Technological
Research)
- c. Ministry of Industry
Mr. Abdul Latif Wida
Mr. Ahmed Erdawi
Mr. Ibrahim Hatoani (Ministry of Planning)
Mr. Abdel Gadir Suliman (Director,
Industrial Control Department)
- d. Sudan Railways Corporation
Mr. Zaki Boutros (Manager)
- e. River Transport Corporation
Mr. Gaafar Ali Mohamed (General Manager)

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