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Meeting on Co-operative Arrangements
among Developing Countries on
Agricultural Machinery

Algiers (Algeria), 5-7 October 1987

REPORT*

1/88

* This document has not been edited.

Explanatory notes

Besides the common abbreviations, symbols and terms, the following have been used in this report:

- ECDC Economic Co-operation among Developing Countries
- ENMTP Entreprise Nationale des Matériels de Travaux Publics
- ENPMA or
PMA Entreprise Nationale de Production de Matériel Agricole
- TCDC Technical Co-operation among Developing Countries
- UNDP United Nations Development Programme

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CONTENTS

| <u>Chapter</u> | <u>Page</u> |
|--|-------------|
| INTRODUCTION..... | 4 |
| I. ORGANIZATION OF THE MEETING..... | 5 |
| II. SUMMARY OF STATEMENTS DELIVERED AT THE PLENARY SESSIONS..... | 12 |
| III. BILATERAL AND MULTILATERAL DISCUSSIONS ON CO-OPERATION PROJECTS.. | 13 |
| IV. CONCLUSIONS AND RECOMMENDATIONS..... | 21 |

Annexes

| | |
|---|----|
| Annex I: List of participants..... | 22 |
| Annex II: Timetable of participants' visits to Constantine and Sidi bel Abbès..... | 26 |

INTRODUCTION

The Second General Conference of the United Nations Industrial Development Organization (UNIDO), held at Lima, Peru, in March 1975, stressed the importance of economic and technical co-operation among developing countries (ECDC/TCDC) by calling on the international community to make concerted efforts in support of the developing countries' endeavours to gain greater share in world industrial output through increased co-operation. The Caracas Plan of Action adopted by the High-Level Conference on Economic Co-operation among Developing Countries, held at Caracas, 13 to 19 May 1981, reaffirmed the pertinent recommendations contained in the Buenos Aires Plan of Action for promoting and implementing TCDC. It further recommended that in supporting ECDC/TCDC efforts, priority attention should be placed on the utilization of technology, skills and resources available in the developing countries.

The Round-Table Ministerial Meeting to develop co-operation projects in a specific sector is one of the activities organized by UNIDO within the framework of ECDC/TCDC. The first one was held in Novi Sad, Yugoslavia, in the food-processing industry, where the participants discussed 109 projects of mutual interest and a major recommendation was made by the meeting that UNIDO should continue to convene this type of meeting in view of the results achieved and the innovative character of the meeting.

In response to the recommendation, UNIDO in co-operation with the Government of Argentina organized a Round-Table Ministerial Meeting on co-operation among a selected group of developing countries in the agricultural machinery industry in Buenos Aires, Argentina, from 3 to 7 November 1986.

Since this sector is of utmost importance for developing countries because of its role in attaining their food security and self-sufficiency, it seems that it was urgently required to optimize the vast opportunities which exist in this area for co-operation among developing countries. Algeria had all the potential by hosting this meeting to contribute to the achievement of successful results.

This meeting on a specific industrial sector was organized on the basis of mutual benefit under the general guidelines of ECDC/TCDC.

I. ORGANIZATION OF THE MEETING

The meeting was attended by participants from 19 countries apart from the host country.

The list of participants is given in Annex I.

Opening addresses

The meeting was opened on 5 October 1987 by the Resident Co-ordinator and Resident Representative of the United Nations Development Programme (UNDP) in Algeria.

In his opening address, the Resident Co-ordinator said that the contribution of UNDP underlined the importance which was attached by UNDP to the success of this important meeting and he took this occasion to convey to the participants the friendly regards and encouragement from the UNDP Administrator as well as his closest collaborators who would closely follow the work of the participants during the meeting and who would diligently examine the conclusions and recommendations of the meeting.

The Resident Co-ordinator pointed out that the Chief of the Special Unit for Technical Co-operation among Developing Countries (TCDC) of UNDP was available to examine the role that UNDP could play in the realisation of joint programmes of technical co-operation.

In his function as Resident Co-ordinator, he praised the efforts of all concerned in bringing about specific negotiation agreements in the field of South-South co-operation, as a result of the traditional link between developed and developing countries to promote agricultural mechanization in all its forms.

The Resident Co-ordinator hoped that the work of this meeting - in the light of the discussions and recommendations of the Maghreb Workshop on agricultural machinery which had just been held at the same location - would also back up the current pre-occupation of the whole international community.

He explained that in this way, the meeting could contribute to the development of evolutionary and appropriate mechanization combining the strengthening of industrial production activities and their adaptation to the socio-economic specifications of each country or region concerned, with particular reference to the needs of small farmers who play an important role in food production.

He also mentioned that while the participants would search for formulas to increase soil productivity, manpower and machines, without jeopardizing delicate ecosystems, their debates would be even more appreciated.

Finally, the Resident Co-ordinator expressed the hope that the general information sessions and the visits would be complemented by the fruitful bilateral and/or multilateral discussions and negotiations leading to a genuine network of permanent exchanges of processes, products, know-how and ideas. He said that this would be an efficient contribution to the development of agricultural mechanization, which was a key element in achieving collective self-sufficiency and a sustained food security.

In his opening address, the head of the UNIDO delegation and Chief of the Section for Economic Co-operation among Developing Countries of UNIDO extended his sincere thanks to the Government and people of Algeria - on behalf of the Director-General of UNIDO - for having contributed so generously to the convening of this Meeting on Co-operative Arrangements among Developing Countries on Agricultural Machinery. He expressed his thanks to the United Nations Development Programme for the support it had lent to this important meeting. The financial contribution of UNDP and the cost-sharing formula adopted by the host country were a stirring example of effective co-operation and augured well for future ECDC/TCDC activities.

He went on to say that the ECDC/TCDC programme of UNIDO was composed of a series of discrete but mutually supporting components. It encompasses the organization of Solidarity Ministerial meetings in least developed countries as well as the organization of round-table ministerial meetings. It also includes the promotion and the development of joint programmes for specific industrial sectors, and particular emphasis is placed on follow-up to the conclusions and recommendations of UNIDO Consultation Meetings that are held to discuss ways and means of overcoming problems related to the industrialization of the developing countries in priority sectors. The programme also devises support measures for the implementation of the Caracas Programme of Action, furthers the promotion of multinational production enterprises, and launches initiatives for enterprise-to-enterprise co-operation among developing countries.

He said that the agricultural machinery industry was one of the priority sectors in the technical assistance that UNIDO provides to the developing countries. UNIDO assistance covers the whole gamut of agricultural machinery and equipment, ranging from hand-tools and animal-drawn equipment to power machinery.

UNIDO, in co-operation with the Government of Yugoslavia organized the Third Consultation on the Agricultural Machinery Industry last October in Belgrade.

Within the framework of its ECDC/TCDC programme, UNIDO also joined forces with the Government of Argentina in organizing a round-table ministerial meeting on co-operation among developing countries in the field of agricultural machinery last November in Buenos Aires. The meeting identified a large number of co-operation projects for implementation among the co-operating partners.

He concluded by saying that the present meeting was a direct sequel to the meetings held in Belgrade and Buenos Aires. It would provide a unique opportunity for the participants - government officials, entrepreneurs and agricultural machinery experts, from Asia, Africa and Latin America - to establish contacts, discuss matters of common interest and conclude co-operative arrangements to their mutual benefit.

In his opening address, the representative of the Ministry of Heavy Industry of Algeria said that this meeting on agricultural machinery organized by ENPMA in co-operation with UNDP and UNIDO was already a success due to the number, quality and diversity of the participants. He said that co-operation agreements among developing countries in the field of agricultural machinery was the subject of the participants' work and that it was a vital and pressing subject.

The representative of the Ministry of Heavy Industry of Algeria continued by saying that Algeria gives higher priority to the development and promotion of the agricultural sector; in particular, the local production of machines, and this explained the fact that the first great industrial undertakings of independent Algeria were oriented towards the agricultural machinery sector. He mentioned that the participants would be visiting some of these installations and that they would be able to question those responsible in PMA about their experiences, the problems faced, the successes and try to obtain some advice from these industrial experiences which had been perfected through the problems overcome and apply them in their own countries. It was the objective of ENPMA to provide all its experience in order to develop South-South co-operation in a concerted manner.

He continued by expressing his gratitude to all those who had helped make this project a reality and expressed his appreciation to the experts for their competence, quality and seriousness in carrying out their mission. He referred to the fact that the visits which ENPMA had foreseen had been planned in order to give participants the possibility of meeting and becoming informed before discussing the different technical co-operation projects in the field of agricultural machinery.

In conclusion, the representative of the Ministry of Heavy Industry of Algeria expressed his optimism regarding the development of agricultural machinery in the respective countries despite the difficulties they faced (national debt, the slowing down of investment programmes, catastrophic climatic conditions, political conflicts, etc). These difficulties forced them to alleviate the deficiencies while forming the basis for food self-sufficiency and to ensure independent progress by enforcing South-South relations. He mentioned that these subjects were of primordial importance for the highest authorities of Algeria. As developing countries had common interests, they knew how to fortify them by the exchange of experiences, dialogue and co-operation. He said that the meeting would contribute to the strengthening of the links between developing countries themselves and between developing countries and UNIDO, and wished the participants all success in their work and in the consultations foreseen during the visits, as well as a pleasant stay in Algeria. He then declared the meeting open.

During the opening session of the meeting, the representative from PMA made the following presentation:

Just after independence, great importance was given to agriculture and this was how in 1967 the quantity of tractors was increased to 39,700. This equipment was mainly imported because of the lower local production. With the launching of the first Four-Year Plan (1970-1973), Algeria had set up its industrial policy. This policy rejected any idea of simple assembling and favoured national integration - the only means of realizing technological transfer.

Due to this fact, two complexes were established; one in the eastern part of the country, with the object of producing motors and tractors, and another in the western part of the country to produce harvesting machines, soil preparation machines, seeding and fertilization material.

The rate of integration of the products produced in these two complexes varied between 60 and 85 per cent. Today, the agricultural production in Algeria had been taken care of by these two complexes and some small and medium sized units, which belonged either to the public or private sector.

The global value of the agricultural machinery production in Algeria was around 280 million dollars.

PMA provided the following material every year for Algerian agriculture:

- Harvesting material
 1. 800 combine harvesters
 2. 3,000 balers
 3. 3,000 mowers
 4. 3,000 rakes/hay-makers.
- Traction equipment
 1. 7,500 tractors
- Soil preparation tools
 1. 20,000 units
- Transport equipment
 1. 15,000 trailers and tanks.
- Seeding and fertilizer equipment
 1. 2,000 units

A research programme was being developed in view of particular new needs (alfalfa, dates, soil improvements, etc). Today, Algeria was willing to discuss with the invited countries the different means of co-operation. This co-operation might concern the following items:

1. Production

At first, with countries which were producing agricultural equipment. Algeria was ready to search for complementarity in the production of parts, main parts and finished products. This form of co-operation already existed with some countries like Tunisia, Libya and Syria.

2. Commercialization

This co-operation could take several aspects:

- Selling PMA products.
- Possibilities of creating import-export joint ventures.
- Creating distribution units (PMA representatives).
- Developing trade between Algeria and other countries through compensation.

3. Development

In this field, Algeria could handle entirely small and medium industrial projects: Supply of soil preparing implements, transport equipment and sub-contracting projects.

4. Research and Training

Algeria offered training facilities in different centres in the following fields:

- Industrial training
- After sales service training.

Concerning research, Algeria was ready to study with different developing countries various areas of research in agricultural machinery.

Election of officers

Habib Mekhalef, Export Manager of PMA was elected Chairman. Israel Mahler, Managing Board Adviser of the National Institute of Industrial Technology of Argentina was elected Vice-Chairman. Udayan Sen, Directorate General of Technical Development, Ministry of Industry of India was elected Rapporteur.

Adoption of the agenda

The meeting adopted the following agenda:

Opening of the meeting
Election of the Bureau
Adoption of the agenda
Statements by the representatives of each country
Bilateral and group discussions of co-operation projects
Adoption of the report
Closure of the meeting

Adoption of the report

The meeting adopted the draft report at its last plenary session on 7 October 1987.

Closure of the meeting

At the closing session of the meeting, the Chief of the Section for Economic Co-operation among Developing Countries of UNIDO thanked the Algerian authorities in general and PMA in particular for having hosted such a meeting and referred to the excellent organization on all levels. He then referred to the fact that the participants from developing countries and the Algerian counterpart were happy with the results achieved which was, in his opinion, the most important aspect of the event. He further stated that the main responsibility for implementing the agreements reached during the meeting remained with the participants themselves. However, he continued, UNIDO - within its limited resources - was ready to assist whenever possible with the effective follow-up action to be taken after the meeting by the countries concerned.

He finally referred to the fact that the optimism felt by the participants in this meeting should not be an end in itself since there was still a lot to be done in order to establish effective co-operation among developing countries.

Several participants took the floor to thank the Algerian authorities in general and PMA in particular, as well as UNIDO, not only for the excellent arrangements made, but also for the efforts undertaken by the Algerian authorities to bring about fruitful results, taking into account the true spirit of co-operation which prevailed during all the discussions.

One participant referred to the fact that he was very grateful to UNIDO for promoting this type of event through this mechanism of bringing

participants together to discuss complementary areas of co-operation, which was fully optimized and concrete results were achieved. The participant reminded those present that there still was a long way to go with numerous constraints in order to increase the economic development of developing countries, and he suggested that in order to avoid the continuous dependence of the developing countries, they should organize themselves in the following ways:

- a) They should optimize other areas of economic and industrial complementarity;
- b) They should optimize the existing technological developments within the developing countries;
- c) They should build up the prosperity of their countries on the basis of the development of agricultural machinery and hand tools;
- d) They should establish multi-purpose production units to cover the range of necessary products to the greatest extent possible;
- e) Co-operation should be undertaken on the basis of a free of charge transfer of technology among developing countries, as in the case of Algeria.

Finally, the Chairman of the meeting referred to the fact that the Algerian officials were very happy with the concrete results achieved during this meeting. He said that this event was again proof that the problem of food self-sufficiency in developing countries could be greatly diminished by using the resources existing in the developing countries themselves. He thanked UNIDO for the valuable co-operation and exhorted the participants to actively seek the follow-up of the contacts and the agreements established during the meeting, and once more referred to the fact that Algeria in general and PMA in particular would do its best to always find a solution for finalizing co-operation arrangements with the participating countries.

II. SUMMARY OF STATEMENTS DELIVERED AT THE PLENARY SESSIONS

All participants had the opportunity of presenting a short summary of the situation of the agricultural machinery industry in their countries. Some of the presentations highlighted the difficulties encountered in the development and strengthening of this sector in the respective countries. At the same time, the participants listed some of the areas and projects required from potential partners which would be the subject of discussion during the subsequent days of the meeting. Other participants described the potential available in their countries and their desire to put these potentials at the disposal of some of the countries present at the meeting.

Areas of complementarity were also highlighted whereby the optimization of resources could be attained among countries of the same level of development. Most of the participants presented a short paper on the situation of the agricultural machinery industry in their countries and these papers were distributed to all the participants in the meeting. Extracts of these papers were the subject of the short presentations by the participants.

Due to the nature of the meeting and its main objective of discussing, through bilateral contacts, concrete opportunities and projects for co-operation, the presentations had to be reduced to very short summaries, taking into account the limited time available.

III. BILATERAL AND MULTILATERAL DISCUSSIONS ON CO-OPERATION PROJECTS

During this meeting, participants had the opportunity to visit different agricultural machinery production units. One group of participants visited the PMA factory in Constantine which specializes in the production of tractors as well as the ENTP factory specializing in the production of public works machinery. The second group visited two factories in Sidi bel Abbès, specializing in the production of harvesting equipment and electronic equipment respectively (ENIE). The timetables of the participants' visits are provided in Annex II.

These visits allowed the participants to become acquainted with the Algerian developments and diversifications in the above fields. They undertook these visits with great interest, not only because of the level achieved by the Algerian enterprises, but also because the bilateral and multilateral discussions were held on the premises of PMA. This innovative approach was very successful since it allowed the parties concerned to make their arrangements while being able to see the products they were discussing.

Discussions between Algeria and Argentina

The representative of Argentina informed the Algerian counterpart of the agricultural machinery produced in Argentina as well as the time schedule for initiating the exchange of information between the two countries. The following procedure was agreed upon:

1. Technical catalogues and information regarding Argentinian production would be sent immediately (about 30-45 days).
2. The Algerian authorities would select which type of machines they were interested in assembling in the country. Information would be submitted to the Argentine operator (the National Institute of Industrial Technology or the Argentine Metallurgical Industry Association).
3. The Argentine operator would prepare visits from Algerian technicians to plants of the manufacturers selected in step 2. The visits would include:
 - Technical information about manufacturing processes, quality control, testing conditions and external purchasing.
 - Operation of the machines in the field (depending on the season).
 - Reports from users.
4. Final arrangement.

Discussions between Algeria and Burundi

The representative of Burundi informed PMA that Burundi would be interested in the following types of equipment: Animal traction equipment, manual implements and tractor accessories. The quantities mentioned for the latter were 600 units and 5000 manual implements. It was agreed that PMA would provide all the training assistance requirements. This and other aspects would be discussed at a follow-up meeting before the end of the year to discuss the details including the possibility of compensation arrangements, which Algeria would be in favour of in principle.

Discussions between Algeria and Cameroon

The discussions between the representative of Cameroon and PMA focused on the possibility of PMA supplying tractors, machinery for potatoe processing, mowing machines, pulverisers, seeding machines, trailers and water tanks. The flow of co-operation would be commercial co-operation to start with, and a list of quantities required was handed to PMA to be followed by a pro forma invoice. It was agreed that the payment to be made by the Etablissements de Devoir Camerounais (COGECO) would be made through an irrevocable letter of credit, payable within 30 days. Finally, PMA agreed to provide, free of charge, the training of a Cameroon technician in tractor maintenance.

Discussions between Algeria and China

The discussions between China and PMA were centered around commercial, industrial and research and development areas. The Algerian counterpart was very interested in the mini tractors produced in China and as an initial step of co-operation, the acquisition of around 1000 mini tractors was mentioned. The Chinese side informed that the prices (FOB) would be more or less as follows:

- 12 HP - US\$ 870
- 15 HP - US\$ 1,100
- 50 HP - US\$ 2,243
- 50 HP with 4-wheel drive - US\$ 3,500.

Discussions took place on the possibility of establishing buy-back agreements and both parties would look into this matter. Moreover, since these small tractors could also be interesting for Tunisia, the possibility of adapting the machines produced by PMA through SAKMO Tunisia was also envisaged and the Department of Research and Development of PMA would look into this matter.

Another area of co-operation was the possibility of China furnishing the necessary equipment for the expansion of a foundry and a metal working unit and engine testing facilities. In this connection, a feasibility study should be undertaken and the modalities of payment would be worked out either through buy-back agreements or credit facilities. In addition, the possibility of joint co-operation in studying the production of machinery for alfa reaping was also discussed and it was agreed that some Chinese technicians would visit PMA in the near future.

Discussions between Algeria and Côte d'Ivoire

Both parties concentrated their discussions on the possibility of establishing a unit for the manufacture of simple agricultural machinery products, trailers and water tanks in Côte d'Ivoire. PMA was informed that 200 pieces of the different products would be required per year. Côte d'Ivoire would provide local civil engineering services and PMA would take care of the know-how and technical assistance required. It was agreed that it would be necessary to start the preparation of a study for the establishment of this unit as well as to design a training programme for 7 persons to secure the day-to-day functioning of this unit. It was

further agreed that a training programme for an after-sales programme would have to be designed and PMA would forward a detailed offer on this matter.

Discussions between Algeria and India

Both parties exchanged views on the level of development of production of agricultural machinery in their respective countries. A matter of immediate interest was the exchange of components and parts between PMA and KIRLOSKAR Pneumatics Ltd., India, which is producing the same type of equipment.

Discussions between Algeria and Iraq

The type of co-operation discussed between the two parties was mainly in the commercial field. The following products were of interest to the representative from Iraq: Balers, rakes, ploughs, pulverisers (12/24), spare parts for combine harvesters. The representative of Iraq promised to send a detailed list of requirements, and PMA would co-operate directly with an after-sales service programme. Moreover, a loan for a period of at least two years from PMA was required by Iraq.

Discussions between Algeria and Kenya

The representative of Kenya stressed the requirements of Kenya for a comprehensive training programme to be provided at this stage by PMA. In view of the different areas required, a detailed list of requirements would be forwarded to PMA in order to design such a comprehensive programme.

Discussions between Algeria and Madagascar

Several areas of co-operation and interest were identified between PMA and the different representatives of Madagascar. One representative was interested in establishing a long-term arrangement with PMA in the area of tractors and ploughs, and around 200 tractors per year were required. The representative would extend his stay in Algeria to discuss in detail this matter. In addition, assistance was required for three agricultural machinery production units in Madagascar which were not in operation. As a follow-up, PMA would send some of its experts to Madagascar to undertake a full analysis of the situation and propose a concrete plan of action.

Discussions between Algeria and Mali

The representative from Mali addressed his needs to PMA in the area of agricultural machinery implements. He would like to be the exclusive distributor of PMA products in Mali. The after-sales service would be undertaken by the enterprise in Mali, but two persons would be trained by PMA in this field after signing the contract for the exclusive distribution. The representative of Mali extended his stay to prepare the detailed list of the products to be distributed in Mali as well as to discuss the basis of the contract mentioned above.

Discussions between Algeria and Morocco

During the meeting, a contract for mutual co-operation was signed by the President of PMA and the representatives of Morocco. This was the result of the discussions initiated by the President of PMA one year ago with the Vice Minister of Industry of Morocco during their participation in the Round-Table Ministerial Meeting on agricultural machinery held in Buenos Aires (Argentina) in November 1986.

Discussions between Algeria and Niger

The representative of Niger expressed his interest in the acquisition of 60 HP tractors and the relevant implements. An initial request from the Ministry of Agriculture to PMA would be sent after his return to Niamey. Moreover, the representative of Niger was interested in animal traction material, manual pumps and post harvesting equipment (grinders, etc). A technical assistance programme would be required for the rehabilitation of four existing units in Niger. PMA would be requested to assist in the preparation of a training programme for after-sales service and maintenance, which was agreed upon including a visit to Niger after receiving additional information such as the number of persons to be trained and other economic details.

Discussions between Algeria and Senegal

The representative of Senegal made an interesting proposal to the PMA officials regarding the wish to sign a contract for representing PMA products in Senegal. The company represented by the participant from Senegal, AGROPRODUCTION, would locate a place to store the material sent with the first delivery of products to be defined in the contract. The same firm would inform PMA of the details of the definitive agreement on the part of SONABANK Senegal to purchase the material agreed upon between the two parties. PMA would co-operate in exhibiting this material in Senegal as soon as the contract for representation came into effect.

Discussions between Algeria and Tunisia

The main interest of both parties lay in harvesting material produced by PMA. During the bilateral discussions, both parties concentrated on the above aspect in addition to the tripartite arrangement between China, Algeria and Tunisia on the production of mini tractors. Other areas of co-operation were discussed during the two-day workshop which preceded this Round-Table meeting.

Discussions between Algeria and Turkey

The representative of Turkey expressed some ideas on the possibility of providing technical assistance from Turkey to PMA, and facilities for offering technical personnel were also discussed. The possibility of establishing a joint venture with the major objective of exporting products for a value of US\$ 50 million per year was discussed by both parties. Further discussions on this very important matter would be undertaken by both parties after the meeting.

Discussions between Algeria and Zimbabwe

The representative of Zimbabwe expressed great interest in the acquisition of diesel motors of the type F4L912 produced by PMA and requested that prices of irrigation pumps as well as technical details of the pumps and possible combinations with the diesel motor be sent to Zimbabwe by PMA. Thereafter, quantities and requirements would be communicated to PMA. The possibility of developing this co-operation through compensation arrangements was also discussed among the two parties.

Discussions between China and Madagascar

The two parties discussed matters concerning the rehabilitation of the enterprise Société Toly in Toliara, Farangana and Maintirano producing ploughs, hand tools, spades and milling machines, for the provision of a loan from China.

Discussions between Côte d'Ivoire and Zimbabwe

Discussions took place regarding the immediate delivery to Côte d'Ivoire of two manual groundnut shelling machines as well as ox carts with metal wheels. This would allow Côte d'Ivoire to experiment with these machines and to later on define an appropriate follow-up for co-operation.

Discussions between Kenya and Yugoslavia

Both parties concentrated their discussions on the following areas:

- a) The preparation of a comprehensive industrial training programme;
- b) The possibilities of marketing agricultural machinery products from Yugoslavia, for which the provision of information on the Kenyan market was required;
- c) The establishment of a centre for the testing of agricultural products.

Moreover, the possibility of Yugoslavia providing some fellowships to Kenyan officials was discussed and information on this matter would be exchanged.

Discussions between Kenya and Zimbabwe

The main interest of Kenya lay in the offer made by Zimbabwe regarding planter cultivators. Arrangements were made for Zimbabwe to supply some samples of the relevant machinery to initiate tests in Kenya. Future co-operation would be decided upon after the results of these tests.

Discussions between Madagascar and Burundi

The participant from Burundi was interested in receiving some units of machinery for animal traction, in particular ploughs. Later on, a study would be made to define the market needs for which some financial resources would be required. The counterpart in Madagascar would be SIDEMA and the follow-up would be undertaken jointly by UNIDO and SIDEMA (Société Industrielle pour le Développement du Machinisme Agricole).

Discussions between Madagascar and Cameroon

The participant from Cameroon was interested in receiving some units of machinery for animal traction, in particular ploughs. Later on, a study would be made to define the market needs for which some financial resources would be required. The counterpart in Madagascar would be SIDEMA and the follow-up would be undertaken jointly by UNIDO and SIDEMA.

Discussions between Madagascar and Côte d'Ivoire

The participant from Côte d'Ivoire was interested in receiving some units of machinery for animal traction, in particular carts with metal wheels. Later on, a study would be made to define the market needs for which some financial resources would be required. The counterpart in Madagascar would be SIDEMA and the follow-up would be undertaken jointly by UNIDO and SIDEMA.

Discussions between Madagascar and Mali

The participant from Mali was interested in receiving some units of machinery for animal traction, in particular ploughs. Later on, a study would be made to define the market needs for which some financial resources would be required. The counterpart in Madagascar would be SIDEMA and the follow-up would be undertaken jointly by UNIDO and SIDEMA. The training for after-sales service would be provided by Madagascar.

Discussions between Madagascar and Niger

The participant from Niger was interested in receiving some units of machinery for animal traction, in particular ploughs. Later on, a study would be made to define the market needs for which some financial resources would be required. The counterpart in Madagascar would be SIDEMA and the follow-up would be undertaken jointly by UNIDO and SIDEMA. The training for after-sales service would be provided by Madagascar.

Discussions between Niger and Zimbabwe

The representative of Niger was interested in receiving all the information available on harnesses for animal-drawn ploughs (one or two oxen and donkeys), as well as the possibility of preparing a study for the adaptation of different harnesses for animal-drawn machines. The representative of Zimbabwe invited Niger to attend the next exhibition of agricultural machinery in Bulawayo.

Discussions between Tunisia and Yugoslavia

Discussions between the two parties concentrated on the supply by Yugoslav firms of self-loading trailers (SIP firm), front-end loaders (RIKO and POBEDA firms), and fork lift trucks and compressors (14 October firm). These types of materials and other hand tools would be delivered after quotations had been received and accepted in order to start the possible industrialisation of the same in Tunisia by HUARD Tunisie.

Discussions between Yugoslavia and Ethiopia

The participant from Yugoslavia provided information to the participant from Ethiopia regarding the possibilities of using technical documentation on agricultural equipment of IMT, Belgrade. He informed that the documentation was available through the African Regional Centre located at Ibadan, Nigeria.

The Ethiopian participant pointed out that he was informed that a number of tractors located at various state farms and at the Peasant Association previously supplied by a Yugoslav firm were not in use due to an apparent lack of spare parts. He promised to obtain the relevant information on this matter from the Agricultural Equipment Technical Service Corporation, and would forward it to the participant from Yugoslavia.

Discussions between Yugoslavia and Tanzania

The participant from Yugoslavia informed the participant from Tanzania that there was a possibility of obtaining, free of charge, technical documentation from IMT Belgrade on agricultural equipment and steel pipe scaffoldings. He informed that the documentation was available through the African Regional Centre located at Ibadan, Nigeria.

The Yugoslav participant promised to send technical and other information to Tanzania regarding specific wheel, crawler and garden tractors. The Ethiopian participant promised to inform the Yugoslav participant on the state of crawler and wheel tractors supplied by Yugoslavia for the Dakawa oil seed project in Tanzania.

Discussions between Morocco, Tunisia and Algeria

Extensive discussions took place during the workshop that preceded this Round-Table meeting between the three countries. The discussions at the Round-Table meeting focused mainly on the establishment of a multinational production enterprise between Morocco, Tunisia and Algeria to produce mini tractors and motorized cultivators, using motors from SAKMO (Tunisia) as a basis. A market as well as a feasibility study would have to be prepared and it was decided to organize a high-level tripartite meeting between the three countries to follow-up this matter.

Discussions between Morocco, Argentina and UNIDO

The three parties concerned discussed quality control and the creation of a metrology laboratory under the project DP/MOR/86/015. The National Institute of Industrial Technology of Argentina could co-operate by giving advice and providing its experience to Morocco. Contacts should be established by UNIDO within the framework of the above-mentioned project between Morocco and Argentina in this respect. The backstopping officer of the project was to be approached in order to request him to organize field trips of Argentinian experts to the Moroccan metrology laboratory.

IV. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

1. Through the exposés of the representatives of the different countries, the meeting recognized the similarity of the situations and problems faced. It was also recognized that the various countries wish to contribute to food self-sufficiency through co-operation in the development of an effective implement manufacturing industry in the developing countries. This should be done by using the existing capabilities within the more advanced developing countries.
2. In order to support and continue this development, there is a need to manufacture locally machines and agricultural material adapted to the ecological and socio-economic conditions of each country.
3. Taking into account the similarities in their agricultural structures as well as their needs for technology, it is desirable that developing countries co-operate in a concerted manner in the search for common solutions to their problems, so that they can achieve better productivity in agricultural production.

Recommendations

1. UNIDO should prepare an inventory of manufacturing possibilities in developing countries in order to facilitate the circulation of information among them in the field of agricultural machinery.
2. To follow and support its programme of organizing similar meetings based on the identification of technical and economic co-operation projects so that by their implementation, these countries may achieve a more rapid industrialization.

Annex I

LIST OF PARTICIPANTS

Algeria

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Rabah Hadid, Sous-Directeur au Ministère des Affaires Etrangères, Alger.

Mohamed Khodja, Chef, Département d'export, Entreprise Nationale de Production de Matériel Agricole, Route de Tenira, Sidi bel Abbès.

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Aissa Mestar, I.N.M.A., Chemin du Paradon Hydra.

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Cameroon

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China

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Côte d'Ivoire

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Ethiopia

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India

Idayan Sen, Directorate General of Technical Development, Ministry of Industry, New Delhi.

Iraq

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Kenya

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Madagascar

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de la Production Agricole et de la Reforme Agraire, Antananarivo.

Romuald Harijas Rabe, Directeur des Affaires Economiques, Ministère de la
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Ramanantsoa Tsimindry, Conseiller d'Ambassade, Ambassade de Madagascar en
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Mali

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Morocco

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Niger

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Senegal

Abdoulaye Diack, Directeur, Agro-Production, 10, rue des Essarts, Dakar.

Tanzania

Mussa Hassan, Assistant Commissioner for Agriculture (agromechanization),
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Tunisia

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Tunis.

Mahmoud Ramel Ban Hamouda, Directeur Général, HUARD Tunisie - Sodex,
62, Avenue de Carthage, Tunis.

Tunisia

Mohamed Ben Habib Loukil, Président Directeur Général, Ets. M. Loukil - HUARD, 62, Avenue de Carthage, Tunis.

Mohamed N. Messedi, Directeur des projets agricoles au Ministère du Plan et Finances, Place Ali Zauaouie, Tunis.

Turkey

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Yugoslavia

Mita Jovanovic, Director, Joint UNIDO-Yugoslavia Centre, Novi Sad.

Mija Milosevic, RUDNAP Algiers, RUDNAP, Department of Agricultural Equipment, Belgrade.

Zimbabwe

François Viljoen, General Manager, ZIMFLOW Ltd., P.O. Box 1059, Bulawayo.

Annex II

TIMETABLE OF THE VISIT TO CONSTANTINE

VISIT TO CONSTANTINE : Co-ordinator - Mr. Khodja

| <u>COUNTRY/ALGERIAN CO-ORDINATOR FOR DISCUSSIONS</u> | <u>TIMETABLE OF DISCUSSIONS</u> | <u>TIMETABLE OF VISITS AND PLACES TO BE VISITED</u> | <u>ALGERIAN CO-ORDINATOR FOR THE VISITS</u> |
|--|-------------------------------------|---|---|
| <u>M. OURADANE (M. Bentar)</u> | | | |
| Chine | 1400 - 1500 | 1500 - 1800: ALMO, ATEC, UCC | M. Ramoul |
| Inde | 1515 - 1615 | 1400 - 1500: ALMO 1615 - 1800: ATEC, ferme pilote, UCC | M. Hanoun M. Hanoun |
| Somlie | 1630 - 1730 | 1400 - 1630: ALMO, ATEC, UCC | M. El-Gouassem |
| <u>M. REZOUK (M. Boussedjera)</u> | | | |
| Argentine | 1400 - 1500 | 1500 - 1800: ALMO, ATEC, UCC | M. Ramoul |
| Ethiopie | 1515 - 1615 | 1400 - 1500: ALMO 1615 - 1800: ATEC, ferme pilote, UCC | M. Hanoun M. Hanoun |
| Kenya | 1630 - 1730 | 1400 - 1630: ALMO, ATEC, UCC | M. El-Gouassem |
| <u>M. KHODJA (M. Khebbeb)</u> | | | |
| Congo | 1400 - 1500 | 1500 - 1800: ALMO, ATEC, UCC | M. Ramoul |
| Irak | 1515 - 1615 | 1400 - 1500: ALMO 1615 - 1800: ATEC, ferme pilote, UCC | M. Hanoun M. Hanoun |
| Maroc | 1630 - 1730 | 1400 - 1630: ALMO, ATEC, UCC | M. El-Gouassem |
| <u>M. CHEBTA (M. Chellaghmia)</u> | | | |
| Madagascar | 1400 - 1500 | 1500 - 1800: ALMO, ATEC, UCC | M. Ramoul |
| Sénégal | 1515 - 1615 | 1400 - 1500: ALMO 1615 - 1800: ATEC, ferme pilote, UCC | M. Hanoun M. Hanoun |
| Mali | 1630 - 1730 | 1400 - 1630: ALMO, ATEC, UCC | M. El-Gouassem |
| <u>M. BENA-SIK (M. Chenouf)</u> | | | |
| Tunisie | 1400 - 1500 | 1500 - 1800: ALMO, ATEC, UCC | M. Ramoul |
| Tunisie | 1515 - 1615 | 1400 - 1500: ALMO 1615 - 1800: ATEC, ferme pilote, UCC | M. Hanoun M. Hanoun |
| Yougoslavie | 1630 - 1730 | 1400 - 1630: ALMO, ATEC, UCC | M. El-Gouassem |

TIMETABLE OF THE VISIT TO SIDI BEL ABBES

VISIT TO SIDI BEL ABBES : Co-ordinator - Mr. Daoud

| COUNTRY/ALGERIAN CO-ORDINATOR FOR DISCUSSIONS | TIMETABLE OF DISCUSSIONS | TIMETABLE OF VISIT TO IDGC PILOT PLANT SBA | DISCUSSIONS IN THE MEETING ROOM (Messrs. Fettouhi and Khieri)** | ALGERIAN CO-ORDINATOR FOR THE VISITS (Messrs. Ben Saad, Masser et Malti) |
|---|--------------------------|--|---|--|
| <u>M. BOUHADJARI (M. Terrah)</u> | | | | |
| Burundi | 1300 - 1345 | 1600 - 1730 | 1400 - 1445 | |
| Cote d'Ivoire | 1400 - 1445 | 1600 - 1730 | 1300 - 1345 | |
| Irak | 1500 - 1545 | 1600 - 1730 | 1300 - 1445 | |
| Turquie | 1600 - 1645 | 1300 - 1530 | 1700 - 1730 | |
| Tanzanie | 1700 - 1745 | 1300 - 1530 | 1545 - 1645 | |
| <u>M. BELFRID (M. Attouchi)</u> | | | | |
| Burkina Faso | 1300 - 1345 | 1600 - 1730 | 1400 - 1445 | |
| Moroc | 1400 - 1445 | 1600 - 1730 | 1300 - 1345 | |
| Tunisie | 1500 - 1545 | 1600 - 1730 | 1300 - 1445 | |
| Niger | 1600 - 1645 | 1300 - 1530 | 1700 - 1730 | |
| <u>M. DAUD (M. Abdellaoui)</u> | | | | |
| Madagascar | 1300 - 1345 | 1600 - 1730 | 1400 - 1445 | |
| Yougoslavie | 1400 - 1445 | 1600 - 1730 | 1300 - 1345 | |
| Zambie | 1500 - 1545 | 1600 - 1730 | 1300 - 1445 | |
| Zimbabwe | 1600 - 1645 | 1300 - 1530 | 1700 - 1730 | |
| Congo | 1700 - 1745 | 1300 - 1530 | 1545 - 1645 | |

** For multilateral discussions