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Regional Preparatory Meeting
on Animal Feed and
Related Industries in Africa

Banako, Mali, 15-17 December 1992

REPORT*

* This document has not been edited.

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CONTENTS

	<u>Paragraphs</u>	<u>Page</u>
PREFACE.....		3
INTRODUCTION.....	1-6	4
AGREED CONCLUSIONS, RECOMMENDATIONS AND ISSUES.....	7-10	5

Chapter

I. ORGANIZATION OF THE MEETING.....	11-19	8
II. SUMMARY OF DISCUSSIONS.....	20-45	9
III. CLOSURE OF THE MEETING.....	46-48	12

Annexes

I. List of Participants.....		13
II. Agenda.....		16
III. List of Documents.....		17

PREFACE

The System of Consultations is an instrument through which UNIDO serves as a forum for developed and developing countries in their contacts and consultations directed towards the industrialization of developing countries. Consultations permit negotiations among interested parties at their request, at the same time as or after the meeting. Participants of each member country include representatives of governments, industry, labour, consumer groups and others, as deemed appropriate by each government.

Benefits emerging from this activity include the identification of obstacles to industrial development in developing countries, monitoring trends in world industry in order to identify action-oriented measures for increasing the share of developing countries in world production; determination of new forms of international industrial co-operation in North-South and South-South relations including joint ventures, technical co-operation and investment opportunities.

INTRODUCTION

1. The ninth meeting of the Conference of African Ministers of Industry in its Decision 9(IX), para. 3 recommended the organization of consultation meetings in Africa especially in priority industrial sub-sectors as contained in the African Memorandum on Industrial Development. It is in this context and in the light of the considerations outlined above that the Regional Consultation on Animal Feed and Related Industries in Africa was proposed.

2. The Industrial Development Board of UNIDO, at its sixth session in May/June 1990, decided to include the Regional Consultation on Animal Feed and Related Industries in Africa in the programme of consultation meetings for the biennium 1992/1993.

3. In accordance with the above-mentioned decision and the established work programme, the Regional Consultation will be convened in Vienna, Austria, from 5-8 October 1993.

4. In preparation for the Consultation, the Secretariat of UNIDO convened a Regional Preparatory Meeting in Bamako, Mali, from 15 to 17 December 1992, at the invitation of the authorities of that country.

5. The basic objective of the meeting was to advise UNIDO on the selection of priority issues, based on the needs of the African countries, to be submitted to the Consultation. To this end, the meeting:

- (a) discussed the present situation of the animal feed production industry in the African region and how best to increase production of livestock, poultry, derivatives and dairy products through improving the availability of animal feeds;
- (b) identified common and specific constraints which hamper the development of this industry in African countries such as raw material supply, utilization of agro-industrial by-products, technology, equipment, and marketing;
- (c) identified the role of the small- and medium-scale enterprises in animal feed and related industries;
- (d) examined and proposed ways and means for strengthening regional co-operation at all levels among African countries;
- (e) selected specific issues to be discussed at the Consultation with the view of fostering international industrial co-operation.

Preparatory activities carried out by UNIDO

6. In preparation for the Consultation, UNIDO has prepared background papers and studies analysing the situation of the sector and defining the problems and constraints to the development of the animal feed production industry in Africa, making specific recommendations for their solution.

AGREED CONCLUSIONS, RECOMMENDATIONS AND ISSUES

7. The following Conclusions and Recommendations as well as the Issues selected for the Regional Consultation were adopted by the Preparatory Meeting at its afternoon session on 17 December 1992.

Conclusions

8. The major constraints and problems affecting the animal feed industry in Africa are:

1. irregular and inadequate supplies of raw materials;
2. high and unstable prices of feed raw materials as well as high level of dependence on imports for some critical ingredients;
3. difficulty in recovering, processing and utilizing local agricultural and industrial by-products and wastes in feed formulation and production;
4. inadequate utilization by the industry of non-conventional locally-available feed ingredients due to lack of information on their availability, locations, compositions, processing requirements for locally available ingredients, by-products and wastes;
5. dearth of information on the compositions, modalities of utilization and processing requirements for locally-available ingredients, by-products and wastes;
6. absence of institutional support and inadequate attention, by raw materials and feed producers to product quality and standards;
7. inadequate technical and managerial expertise;
8. inadequate and often inefficient infrastructure and utilities;
9. over-dependence on importation for machines, equipment, spare-parts and processing know-how due, largely, to the under developed status of the local capital goods and engineering industries;
10. weakness and instability of national policies in support of the development of the sector;
11. low levels of regional co-operation in such areas as trade, technology and know-how, joint ventures and information exchange.

Recommendations

9. The following recommendations were made:

1. All aspects of a country's private and public animal feeds production and utilization sector should be given the support of the authorities in the form of beneficial taxation policies.
2. In rural development policies, priority should be attached by the authorities to the production of animal feeds utilizing local raw materials.
3. Agro-industrial enterprises should benefit from a favourable financial environment (e.g. credit, fiscal, monetary, interest rate, etc.) which would facilitate the rehabilitation of existing units and the establishment of new enterprises particularly in the sector of medium- and small-scale units utilizing alternative ingredients, by-products and wastes as raw materials for animal feeds.
4. Inventories should be prepared on the production and utilization of animal feeds. In this context, animal holding structures should be reformed. Animal feed producers should be advised of local agricultural and industrial by-products and wastes, and the potential of local agricultural and industrial raw materials should be assessed.
5. Appropriate technologies should be developed for industrial and artisanal use with special emphasis on the utilization of local, non-conventional ingredients, agro-industrial by-products and wastes in the production of animal feeds.
6. Existing capital goods industries in Africa should be strengthened and new enterprises established to design and fabricate machinery, equipment and spare parts, and to provide maintenance services to the animal feed production industry.
7. At the production level, there is a need for the establishment and strengthening of facilities equipped to analyse the nutritional properties of raw materials in order to assist producers on the composition and quality control of animal feeds.
8. UNIDO should consider the preparation of a study on "Information Sources on the Animal Feed Production Industry" to facilitate international contacts and information dissemination.
9. International organizations (ITC, ILCA, FAO) should prepare and update selected studies in the area of animal feeds ingredients with special attention to feed supplements (minerals, vitamins, antibiotics, amino-acids, premixes, etc.).

Issues

10. Arising from the above, the following specific issues are proposed for consideration at the Regional Consultation on Animal Feeds:

1. Promotion of the use of local agricultural and industrial raw materials, by-products and wastes, including research and information on the composition, modalities of utilization and processing requirements as well as quality control;
2. Promotion of small- and medium-scale enterprises with special emphasis on adequate technologies and training;
3. Development of regional co-operation, especially in:
 - Marketing;
 - Exchange of processing know-how;
 - Equipment and technology;
 - Information.

I. ORGANIZATION OF THE MEETING

11. The Regional Preparatory Meeting on Animal Feed and Related Industries in Africa was held in Bamako, Mali, from 15 to 17 December 1992.

12. The meeting was attended by 34 participants and 4 consultants from 17 countries, and representatives of the Food and Agriculture Organization of the United Nations (FAO), the Organization of African Unity (OAU) and the Economic Commission for Africa (ECA). (See Annex I for List of Participants).

Opening of the meeting

13. The Meeting was opened by the Minister of Industry and Energy, His Excellency Mr. Kadari Bamba. In his opening speech Mr. Bamba welcomed the participants to the meeting and expressed his gratitude to the United Nations Industrial Development Organization (UNIDO) for taking the initiative to organize this meeting in his country, covering a subject which is of particular importance to the African region.

14. The representative of UNIDO, on behalf of the Director of the System of Consultations, expressed his thanks to the Government of Mali for its hospitality and thanked the experts for their participation and co-operation in assisting UNIDO in defining the issues for the Regional Consultation.

15. He also explained the origin and scope of the System of Consultations and stressed that, as food self-sufficiency and security were of primary concern to African countries, the animal feed industry, which is a key component of the agro-industry, should be strengthened, particularly in the development of technology for the utilization of agricultural products, by-products and wastes.

16. In that connection, he pointed out that discussions should focus on the analysis of the present situation, the identification of constraints which hamper the animal feed production industry and its contribution to the production of livestock, poultry derivatives and dairy products through increasing the availability of animal feed. In the discussions all factors such as raw material supply, utilization of agro-industrial by-products, technology, equipment, marketing, the role of small- and medium-scale enterprises and regional co-operation should be taken into account.

Election of the Bureau

17. Mr. Ernest Roland Ela Evina (Cameroon), Director, Centre National d'études et d'expérimentation du Machinisme Agricole (CENEEMA), was elected Chairman of the meeting and Mr. Basil Igwe (Nigeria), was elected Vice-Chairman. Mr. René Grengbo Sanzia-Sazin (Central African Republic), and Mr. Joseph P. Magadi (Kenya), were elected Rapporteurs.

Adoption of the agenda

18. The agenda which was adopted is given in Annex II.

Documentation

19. The documents prepared for the meeting are listed in Annex III.

II. SUMMARY OF DISCUSSIONS

20. The representative of UNIDO briefed the participants on the activities of UNIDO in the field of agro-industries and in particular on the activities of the System of Consultations. He informed the participants that the UNIDO Agro-based Industries Branch concentrates mainly on the increased valorization of agricultural raw material in developing countries and the improvement of the quality of products in accordance with market demands. Common topics in the agro-based industries such as transfer of technology, quality control, environment protection, and energy conservation including, among others, industrial effluent treatment, development of cleaner technologies, processing of industrial wastes and utilization of by-products were also mentioned as main UNIDO activities.

21. The System of Consultations has, in accordance with the policy of UNIDO, given priority to the food-processing sector. In particular during the biennium 1988/1989, out of the six Consultations held, four dealt with food processing or related sectors (sugar-cane, fruits and vegetables, rural transport equipment, and phosphatic fertilizers and pesticides).

22. A UNIDO consultant outlined the situation in the animal feed industry. He noted that the animal feed industry stimulated agroindustrial development and had a key position in the future animal-based food production sector of developing countries. He concluded by indicating that co-operation is needed in the strengthening of links between feed producers, the raw material supply organizations and the users of the feedstuff produced.

23. Another UNIDO consultant presented a paper on utilization of local raw materials for animal feed production in sub-Africa. He highlighted the situation in this field in three African countries: the Central African Republic, Mali and Rwanda.

24. The consultant pointed out that all three countries are faced with a number of constraints, such as lack of technology, know-how and expertise. All three countries are dependent on imported technology for their industries. If equipment and technology could be produced locally, costs could be reduced.

25. The consultant also proposed, as a short-term measure, that information on the use and development of the animal feed industry be made available to all countries. Medium- and long-term measures should focus especially on improving quality control and equipment production for the animal feed industry.

26. A representative of the UNIDO Secretariat presented a paper on process and equipment for small-scale animal feeds manufacture using local raw materials and by-products. He described the technological process for the production of animal feed, the composition and classification of animal feed as well as ways of utilization of local agricultural raw materials and by-products. He also presented technologies and equipment which are used in manufacturing animal feeds.

27. One of the participants noted that among the constraints hampering the increase of the output of animal feed production were the inadequate availability of raw materials both imported or domestic, the traditional resistance to utilization of non-conventional alternative ingredients such as sorghum, millet, cassava yam, oil palm products, elephant grass, rubber seed, etc., the inability to process agricultural and industrial wastes for feed manufacturing, lack of technology and dependence on imports of equipment and

spare parts. He proposed that governments should establish a macro-economic policy to stimulate long-term development of farming and animal feed production in the private sector as well as attract investors.

28. After presentation and discussion of country case studies prepared by UNIDO consultants and experts, all participants agreed that the animal feed industry greatly stimulated agro-industrial development and had great potential for its development in Africa.

29. Several participants noted the large differences that existed in this sector, i.e. levels of development of the animal feed industry, infrastructure, technology, etc., in various countries of the African region.

30. In their presentations, the participants stated that the animal feed production industry in Africa was faced with a number of problems which were hampering its development at the regional level. One of the main constraints was the lack of raw materials which affected the quality of the feeds.

31. Some participants stressed that the operations of animal feed manufacture depended on the regular supply of low priced raw materials and equipment for processing of agro-industry by-products during the dry season to improve productivity of the sector.

32. It was noted that the animal feed industry was still facing problems such as mismanagement, financial shortcomings and lack of specialists. In that connection, one of the participants pointed out that while his country could produce 20,000 tons per year of animal feed, only 2,000 tons/year were produced.

33. One of the participants said that it was extremely difficult in a hot and humid climate to guarantee stability of vitamins and other additives to mixed feed. Variations in vitamin and mineral levels should be avoided. In that regard, there was an urgent need to promote proper storage facilities for animal feed, develop standards for animal feed and monitor their quality.

34. Some participants stressed the importance of relevant animal feed chemical formulations in the manufacture of feed. Decreasing imported animal feed ingredients and increasing use of local material should be one of the main aims of developing countries.

35. Several participants pointed out that an integrated farming system, which aimed at optimizing resources use with recycling of residues and by-products both as nutrients for animals and also for fuel, could considerably increase agricultural and livestock productivity.

36. Some participants noted that direct transfer of technologies from developed to developing countries was not successful by any standard - either technically or economically. Often technology processes created dependence on imports of ingredients and spare parts rather than stimulating the development of local and available resources. Besides, technology had to be fitted into the socio-economic framework of a village, as the animal feed production sector was dominated by small- and medium-scale enterprises.

37. Participants also proposed the creation of a regional information network for dissemination of information on feed formulation, animal feed production technology, equipment, training, processing agro-industrial by-products and wastes, methods of quality control, environment, marketing, etc.

38. One of the participants stressed that governmental support in the form of promoting investment was a basic requirement for the development of the animal feed industry so as to increase the availability of know-how and markets.

39. A number of participants noted the need for simplifying measures to facilitate the granting of loans to small- and medium-scale enterprises.

40. During the discussions a number of delegates mentioned the need for strengthening regional and sub-regional co-operation. That dialogue would be extremely beneficial and could take place in different areas such as trade, technology, joint ventures, training, marketing and information exchange.

41. The representative of the Food and Agriculture Organization (FAO) presented the programme of his Organization for better utilization of local feed resources in developing countries.

42. He noted that past activities had concentrated on improved and greater use of crop residues, agro-industrial by-products and on the manufacture and utilization of multinutritional blocks (made of molasses, urea, bran, etc.) as a supplement for nitrogen deficient ruminant diets.

43. He also mentioned that equipment for animal feed production produced by India and Brazil was inexpensive and could easily be adapted to small units in Africa.

44. The representative of the Economic Commission for Africa (ECA) drew the attention of the meeting to the problems of raw materials and lack of an overall strategy for the utilization of agricultural by-products. He mentioned that Africa had an immense capability to produce many different types of animal feed which could be used to improve livestock nutrition. However, for various reasons, farmers were not using some of the available resources.

45. He proposed the following strategy to improve the efficiency of agricultural by-products' utilization:

- Diversification of livestock production and integration into the cropping systems so as to minimize competition of resources;
- Optimal use of agricultural by-products so as to ensure a constant supply of livestock products throughout the year;
- The setting up of livestock feed mixing companies close to cropping areas.

III. CLOSURE OF THE MEETING

46. At the closing session, the Chairman thanked the experts for their professional contribution, their efforts and fruitful participation. He also thanked the representative of the Government of Mali for the excellent support provided in conducting the Meeting. He expressed his strong belief that the outcome of the Meeting would be of great importance for the preparation of the Regional Consultation on the Animal Feed and Related Industries in Africa.

47. The UNIDO representative thanked the experts for their efforts in fulfilling the objectives of the Meeting. He also expressed his gratitude to the Government of Mali for having hosted the Meeting.

48. The Meeting was closed by the Minister of Industry and Energy, His Excellency Mr. Kadari Bamba. In his closing speech, Mr. Bamba stressed the importance of the results of the Meeting for all African countries and in particular for Mali, because the Government of Mali had set, as one of its main objectives, the development of the agricultural system aiming at better utilization of all available resources and equipment.

Annex I

LIST OF PARTICIPANTS

Burkina Faso

Vamara TRAORE, Docteur vétérinaire, Conseiller technique du
Ministre délégué chargé des ressources animales, Sté. SICOPAG,
B.P. 3118 Ouagadougou

Cameroon

Ernest Roland ELA EVINA, Directeur du Centre national d'études et
d'expérimentation du machinisme agricole (GENEEMA), B.P. 1040, Yaoundé,

Central African Republic

René GRENGBO SANZIA-SAZIN, Expert principal, UDEAC, B.P. 1004, Bangui

Congo

Jean Celien OKOUANGO, Directeur général, ORSOL (Promotion et
développement de l'élevage hors sol), B.P. 9118, Talangai-Brazzaville

Italy

Loriana RICCARELLI DEMBELG (Mme), Consul, Consulat d'Italie au Mali
B.P. 1024, Bamako

Kenya

Joseph P. MAGADI, Animal Nutritionist, UNGA Feeds Limited,
P.O. Box 41788, Nairobi

Malawi

H.G.C. NYIRENDA, Stockfeeds Manager, Grain and Milling Company Ltd.,
P.O. Box 5847, Limbe

Mali

Nouhoum EANE, Conseiller technique du Ministère de la promotion et de
l'initiative privée, Bamako

Malick BERTHE, Chargé des études générales et de la communication à la
BNDA, B.P. 2424, Bamako

Alpha CISSE, Directeur adjoint, SONAREM, B.P. 2. Kati

Mantalla COULIBALY, Abattoir frigorifique, B.P. 356, Bamako

Sana TALL (Mme), Abattoir frigorifique, B.P. 356, Bamako

Mariame TOURE (Mme), Abattoir frigorifique, B.P. 356, Bamako

Tiécoro COULIBALY, Service contentieux, BIAO, B.P. 15, Bamako

Souleymane DEMBELE, Direction nationale des industries, B.P. 278, Bamako

Ibrahima DIANE, Chef de la Division industries animales, OMBEVI, B.P. 1382, Bamako

Amadou DIALLO, Docteur vétérinaire, Chef de la Division production animale à la Direction nationale élevage, B.P. 265, Bamako

Boubacar FAYINKE, Chargé de Mission élevage, Office du Niger, B.P. 106, Ségou

Tidiani TAMBOURA, Office du Niger, B.P. 106, Ségou

Salif KEITA, Fondé de pouvoir, BMCD, B.P. 45, Bamako

Baba LY, Docteur vétérinaire, IEMVT/CIRARD, B.P. 1720, Bamako

Mohamed Mourtada N'DIAYE, Secrétaire général, HUICOMA, B.P. 2474, Bamako

Boubacar O.A. NIANG, Directeur de Cabinet, Ministère des mines, de l'industrie et de l'énergie, Bamako

Demba W. SISSOKO, Conseiller à la Communication, Ministère des mines, des industries et de l'énergie, Bamako

Djoubairou SOW, Conseiller technique au Ministère de l'éducation nationale, Bamako

Moctar TRAORE, Chef du Service élevage à la Direction Générale, CMDT, B.P. 487, Bamako

Niger

Dina TANKARI, Directeur de l'Usine aliments de bétail, Ministère de l'agriculture et de l'élevage, B.P. 12091, Niamey

Nigeria

Basil IGWE, Chief Executive, ELBEE (International) Consultants, P.O. Box 9982, University Post Office, Ibadan

Rwanda

Servilien MUKARAGE, Directeur général, Société de production d'aliments pour bétail "SOPAB"/S.A.R.L., B.P. 1199 Kigali

Togo

Komlavi DOH, Directeur général adjoint, SATAL, B.P. 3554, Lomé

United States of America

LeRoy ROGERS, Livestock Economist, APEX, IDCO Washington State University, Holbert Hall Pullman WA 99163

CONSULTANTS

Moses T. DAURA, c/o ILCA/Dept. of Training and Information, Debre Zeit Research Station, P.O. Box 5689, Addis Ababa, Ethiopia

Ibrahima Lamine DIARRA, Président exécutif, Afric Business Conseils/Intercontinental Partners, B.P. 175, Ségou, Mali

Horst KOENIG, Winzerstrasse 10, A-1130 Vienna, Austria

Oladipo ONAYEMI, c/o Association of African Universities (AAU), P.O. Box 5744, Accra-North, Ghana

ORGANIZATIONS OF THE UNITED NATIONS SYSTEM

Economic Commission for Africa (ECA)

Bossa M. VLAVONOU, Agro-Industrial Economist, Industry and Human Settlements Division, P.O. Box 3005, Addis Ababa, Ethiopia

Food and Agriculture Organization of the United Nations (FAO)

René SANSOUCY, Senior Officer, Animal Production and Health Division, Via delle Terme di Caracalla, 00100 Rome, Italy

United Nations Development Programme (UNDP)

Kayisera GITERA, Resident Representative, B.P. 120, Bamako

Anita STAQUET (Ms.), UNDP JPO, B.P. 120, Bamako

Siv TOKLE (Ms.), UNIDO JPO, B.P. 120, Bamako

INTERGOVERNMENTAL ORGANIZATIONS

Organization of African Unity (OAU)

K.O. ADENIJI, Chief Scientific Officer, P.M.B. 2359, Lagos, Nigeria

Annex II

AGENDA

Tuesday, 15 December

- 6:30 - 9:00 Registration
- 9:00 - 9:45 - Opening of the Meeting
- Election of officers
- Adoption of the agenda
- 9:45 - 10:45 Presentation of background paper "The Animal Feed Industry" by UNIDO consultant, Mr. H. Koenig
- 11:00 - 12:00 General discussion
- 14:00 - 16:00 Presentation of background paper "Process and Equipment for Small-Scale Animal Feeds Manufacturing Using Local Raw Materials and By-Products" by UNIDO consultant, Mr. A. Miklovicz
- 16:00 - 17:00 - Presentation of country study on "The Present Situation and Problems of the Animal Feed Industry in Ghana" by UNIDO consultant, Mr. O. Onayemi

- General discussion

Wednesday, 16 December

- 9:00 - 10:00 Presentation of country study on "The Present Situation and Problems of the Animal Feed Industry in Senegal" by UNIDO consultant, Mr. Ch. Touré
- 10:15 - 11:00 Presentation of country study on "The Present Situation and Problems of the Animal Feed Industry in Zambia" by UNIDO consultant, Mr. M. Daura
- 11:00 - 12:00 - Presentation of country study on the "The Present Situation and Problems of the Animal Feed Industry in Tanzania" by UNIDO consultant, Mr. W. Lorri

- General discussion
- 15:45 - 17:00 Presentation of country papers by participants

Thursday, 17 December

- 9:00 - 12:00 Contacts among participants
- 14:00 - 17:00 - Presentation of conclusions and recommendations

- Official closure of the Meeting

Annex III

LIST OF DOCUMENTS

- Process and equipment for small-scale animal feeds
manufacture using local raw materials and by-products
by Andras Miklovicz ID/WG.529/1(SPEC.)
- Domestic animal feed industry: Senegal
by Chérif Touré ID/WG.529/2(SPEC.)
- The animal feed industry for developing countries
by Horst Koenig ID/WG.529/3(SPEC.)
- Industries des aliments de bétail en Afrique
par Ibrahima L. Diarra -
- State of art and problems of the animal feed production
industry in Zambia by Moses T. Daura -
- Present situation and development aspects of the
animal feed industry in Ghana by Oladipo Onayemi -

Country papers/abstracts

- Burkina Faso by Vamara TRAORE
- Cameroon by Ernest Roland ELA EVINA
- Central African Republic by René GRENGBO SANZIA-SAZIN
- Congo by Jean Célien OKOUANGO
- Kenya by J.P. MAGADI
- Malawi by H.G.C. NYIRENDA
- Mali by Moctar TRAORE
- Niger by Dina TANKARI
- Nigeria by Basil U.N. IGWE
- Rwanda by Servilien MUKARAGE
- Togo by Komlavi J. DOH