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~~First~~ Consultation Meeting on the
Vegetable Oils and Fats Industry, ^{1/}
Madrid, Spain, 12 - 16 December 1977

REPORT OF THE REGIONAL PREPARATORY MEETING FOR
CONSULTATIONS ON AGRO-BASED INDUSTRIES:
OILS AND FATS INDUSTRY^{1/}

organized jointly

by

UNIDO/ESCAP

9 - 13 May 1977
Bangkok, Thailand

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CONTENTS

	<u>Page</u>
PREFACE	
I. ORGANIZATION OF THE MEETING	1
II. REGIONAL PICTURE OF THE INDUSTRY	6
III. GENERAL ISSUES	11
A. Raw Materials	11
B. Processing and Technology	12
C. Marketing and Infrastructure	14
IV. REGIONAL AND INTER-REGIONAL CO-OPERATION	16
V. SPECIFIC ISSUES	19
A. Oilseeds and Oil-Bearing Materials	19
B. Oil Cakes and Meals	20
VI. RE-DEPLOYMENT OF THE INDUSTRY	22
VII. ADOPTION OF THE REPORT	24

PREFACE

The initial preparation for the system of consultations in industrial sector was initiated in early 1976, in accordance with the Lima Declaration and Plan of Action adopted at the Second General Conference of UNIDO held in March 1975 at Lima, Peru. It is an innovative mechanism which is expected to contribute to the increasing of the global share of the industrial production of the developing countries.

Prior to the Second Conference of UNIDO at Lima, important decisions were taken by developing countries at regional and international levels, viz. the meeting of the Ministers of Industry of Asia and the Pacific Region was held when a Declaration was adopted in Bangkok in October 1974 which, inter alia, underscored the need to relocate selected industries from developed to developing countries, and the creation of new and more effective mechanisms for continuous and intensive consultations between developing and developed countries.

On an inter-regional level, the Group of 77 - at its Second Ministerial Meeting held in Algiers in February 1975 - adopted a Declaration and Plan of Action which called for a system of continuous negotiations and consultations at global, regional, and sectoral levels as a major tool in facilitating the implementation of a new international economic order. It called upon UNIDO to function as a forum for negotiation of agreements between developed and developing countries and among developing countries themselves.

The Second General Conference of UNIDO recommended and the Seventh Special Session of the U.N. General Assembly (Resolution 3362 (S-VII)) endorsed the proposal for UNIDO to establish a system of continuing consultations at regional, global, and sectoral levels.

In conformity with these directives, the Industrial Development Board, at its tenth session, decided that, as an initial step, UNIDO should convene, on an experimental basis, consultation meetings on a few specific sectors of industry. It further decided that to pave the way for sectoral consultations UNIDO could in co-operation with the regional bodies initiate
/preparatory

preparatory meeting on agro-based industries and specifically oils and fats industry was organized by ESCAP and UNIDO from 9-13 May 1977 at ESCAP Headquarters in Bangkok. The purpose of the meeting was to develop a regional strategy and an issue paper for consideration at the global consultation meeting.

I. ORGANIZATION OF THE MEETING

Opening of the Meeting

1. Mr. Abid Hussain, Chief, ESCAP/UNIDO Division of Industry, Housing and Technology was the Chairman and Mr. H.K. Rahim of the Negotiations Section, UNIDO was the Co-Chairman of the Meeting which was held from 9-13 May 1977 at ESCAP Headquarters in Bangkok.
2. Dr. H.G.R. Reddy, Regional Industrial Adviser, was in charge of the substantive aspects of the organization and conduct of the meeting.
3. The regional consultants who prepared background documents and participated in the meeting were (i) Mr. G.V.S. de Silva (Sri Lanka), and (ii) Mr. K.K. Ajila (India), Mr. Fred Aldaba (Philippines) and Mr. Lim Boh Ang (Malaysia) who were also engaged as two other regional consultants cancelled their visits to Bangkok at the last minute owing to unexpected official business in their respective countries.
4. Mr. J.B. Drein of Agriculture Division of ESCAP participated by invitation. FAO and ILO Regional Offices in Bangkok regretted their inability to attend the meeting, owing to time constraints.
5. The meeting adopted the following agenda:
 - I. Opening Statement by Mr. Abid Hussain, Chief, ESCAP/UNIDO Division of Industry, Housing and Technology, and by Mr. H.K. Rahim, Negotiations Section, UNIDO, Vienna.
 - II. Regional picture of the industry.
 - III. Consideration of:
 - A. General issues
 - (i) Raw materials
 - (ii) Processing
 - (iii) Infrastructure
 - (iv) Marketing
 - (v) Regional/Sub-Regional Co-operation
 - (vi) Technology

/B.

d. Specific issues

- (i) Cotton seed
- (ii) Coconut
- (iii) Oil Palm
- (iv) Groundnut
- (v) Other oil seeds
- (vi) Oil cakes/meals

IV. Re-deployment of the industry

V. Consideration and adoption of the report.

6. Mr. Abid Huesain in his opening statement welcomed the regional consultants and other participants to the meeting on behalf of Mr. J.B.P. Maramis, Executive Secretary of ESCAP and on his own behalf. Giving a brief background of the system of consultations in the field of industry initiated by UNIDO, Mr. Huesain thought that it was an innovative and purposeful mechanism that is likely to bring positive results in international co-operation. The ESCAP Secretariat had just concluded the organization of the regional preparatory meeting on leather and leather products industry which, indeed, proved to be an extremely useful exercise.

7. The vegetable oils and fats industry was of far-reaching economic and social importance to a large number of developing countries in the ESCAP region. The industry was not only diversified but also had an impact on the rural life in the developing countries of the region. He requested the meeting to concentrate attention on specific issues which would be amenable for consultations either among developing countries themselves or between developed and developing countries. The production of the raw materials were largely based in the developing countries themselves, and although some processing facilities had been established he thought that the re-deployment of the industry from the developed to the developing countries initially at the primary level and progressively at the secondary levels should become a reality in this particular industry. He added that the meeting might wish to consider the investment required for large units as one of the issues for consultations with developed countries and also with IBRD and ADB. In research and development activities the assistance and co-operation of the institutes in the developed countries

/countries

countries in establishing linkages with national institutes in the developing countries in the region could also receive consideration.

8. Mr. H.K. Rahim of UNIDO also extended a warm welcome to the participants on behalf of the Executive Director of UNIDO, and mentioned that agro-based industries was the third series of industries that were being considered for consultations by UNIDO, following the conclusion of the first consultation meetings on (i) fertilizer, and (ii) iron and steel industries earlier this year. In fact, the Industrial Development Board had specifically suggested that agro-based industries be considered for consultations.

9. UNIDO was happy to be assisting ESCAP in organizing the first regional preparatory meetings on 'leather and leather products' which had just been concluded and on 'vegetable oils and fats industry', the deliberations on which were just commencing. He also said that similar regional preparatory meetings were being organized in two other economic commissions namely, ECLA and ECA. Eventually, the global consultation meeting in this industry would be organized by UNIDO in December 1977.

10. He looked forward to the valuable contribution that this meeting would make in the identification of specific issues for consultations.

11. The purpose of the Regional Preparatory Meeting on Vegetable Oils and Fats is to specify the future requirements of the sector, and its potential for expansion in the ESCAP region and on this basis, to identify certain priority issues and problems for consideration at the Consultation Meeting. The central theme, in the deliberations, would be the opportunities and constraints for re-deployment/re-location in Asian and the Pacific Countries of oils and fats processing facilities which have become stagnant or uneconomic in developed countries, and how this process can be accelerated through broad agreements providing, inter alia, for the transfer of know-how, development of human skills, mobilizing financial resources, access to markets.

12. The Oils and Fats sector provides a unique opportunity to realize and implement on a practical basis the principle of re-deployment; considering that out of the main 24 oilseed producing countries in the world, 16 are developing countries, presently accounting for 35% of world oilseed production, six of which are members of ESCAP. The basic overriding aim for developing countries in the region is to prepare a

/co-ordinated

co-ordinated action programme to expand and upgrade their oilseed processing capacities in order that their combined production registers a substantial increase by 1980.

13. Some of the issues which merit consideration are:

- a. As the creation of additional oils and fats processing facilities would require large-scale improvements in the areas of handling, storage, refining and transporting (which form the major constraints in achieving this objective), what immediate and long-term measures are to be adopted to improve the performance and efficiency in these fields? What areas of regional, inter-regional and international co-operation could be envisaged?
- b. What priority should developing countries in ESCAP region attach to acquiring one or the other improved oilseed processing and what are the consequent technological, training and investment requirements which will be needed?
- c. Finally, there is the crucial aspect of marketing. Considering the different consumption patterns in developing and developed countries, how can ESCAP countries adjust their oilseed production to meet western consumers' demand? Can quality control standards be evolved and applied? With the marketing roles of international companies what are the possibilities for initiating joint ventures which would include agreements for setting up an effective marketing mechanism capable of distributing the product from production to consumption areas?

14. Dr. H.G.R. Reddy, Regional Industrial Adviser, explained the substantive and organizational aspects of the current meeting. The oils and fats industry was unique and fascinating. It was a traditional industry in the developing countries of the region. In common with other agro-industries, the oils and fats industry had also problems of organization, development of skills and application of modern technology. However,
/in some

in some countries modern processing techniques had already been adopted. There were numerous issues to be considered in the development of the industry, which largely fall in the area of raw materials and trade and marketing aspects. Keeping in view the perspective of the present exercise of increasing the share of industrial processing in developing countries, specific issues could be identified in improved utilization of the resources available within the developing countries themselves. Some of these issues would lend themselves for consultations with developed countries and co-operation among the developing countries themselves.

15. On a sub-regional basis, cotton seed industry was important to West Asian countries; coconut industry to Southeast Asia and the Pacific Islands countries; and oil palm for Malaysia, Indonesia and Papua New Guinea. India, as the third largest producer of oil seeds in the world, presented a different picture in the production and processing of a variety of oil seeds and the development and application of technology for industrial processing of oil bearing materials as also the manufacture of the entire range of machinery for this industry.

16. Given the goodwill and understanding, there could be increasing international co-operation in the re-deployment of industrial processing facilities, which is the ultimate objective of the system of consultations.

II. REGIONAL PICTURE OF THE INDUSTRY

17. The oils and fats industry is of some significance to practically every country in the region, though its importance varies from country to country. The major producers are India, Indonesia, the Philippines, Malaysia, Sri Lanka and Papua New Guinea. Coconut is widespread throughout the region and still the most important, though oil palm is growing at a rapid rate. Groundnut, cotton seed, rapeseed, and castor are also of importance for particular countries. India produces a variety of oils. Indonesia and Malaysia have also diversified to some extent. Philippines, Sri Lanka and Papua New Guinea are primarily coconut producers.

18. The region produces about 35 million tons of oilseeds or kernel out of an estimated world production of 180 million tons (20%). Another estimate in terms of oil equivalent indicates a 15% share for the region. The dominant form of economy in this sector of raw material production is small-scale peasant farming. This poses many problems which have yet to be solved; problems relating to land tenure, poor cultural and management practices, inadequacy of technical, transport and marketing services and of credit facilities. Some countries which still have an abundance of land suitable for new cultivation are expanding their production by the development of new land and the adoption of better organized system of cultivation and supply management. But development costs are escalating as more inaccessible and marginal land is brought under cultivation. Other countries have to depend on more intensive systems of farming. In this respect they are hindered by the problems created by small peasant cultivation, inadequacy of irrigation facilities, the pace of research into new varieties and the financial burdens imposed of replanting programmes.

19. The consumption of oils and fats in the region is only 4.4 kg. per head (food) on the average, though it varies from only 3 kg. in Indonesia to over 10 kg. in Malaysia and Sri Lanka. This compares with an average of around 20 kg. in the developed countries, 8 kg. in Latin American, 7.4 kg. in the Near East and 5.1 kg. in Africa. Consequently the exportable surplus of the region amounts to about one-third its production

20. Primary processing of the oilseed or kernel into crude oil exists in almost all the countries. However, it is significant that a million tons of copra is exported without being processed into coconut oil. This is particularly the case with some countries in the Pacific area, where due to difficulties of internal transport, it is sometimes cheaper to ship the copra to Australia than take it to a central crushing mill within the country. Secondary processing is even less developed, although facilities are being built to refine more of the crude oil, particularly palm oil. Soap making is widely prevalent and the technology base is simple. The production of margerines, washing powders and detergents is not very developed, because of the unsophisticated nature of the internal markets and of the more advanced production techniques in the case of detergents. The manufacture of by-products, particularly of coconut, are useful subsidiary industries which are becoming increasingly important with the current emphasis on integrated rural development.

21. The developed countries constitute an important market for the exports of the region. The regressive tariff structures (where the duties increase with the degree of processing) in these countries are an obstacle to the growth of the processing industry in the region. The benefits of the Lome Convention are also not extended to all the countries of the region. However, the biggest problem is the fluctuating prices of oil in the international market. A price stabilization scheme for vegetable oils would remove this element of uncertainty and hence benefit both exporting and importing countries. The extent of vertical integration that exists in the industry in the developed countries also constitutes a barrier to the marketing of the more processed products of the region.

22. In Table 1, on the basis of the information compiled from ISTA publication, the oil seed and oil situation on a world wide basis with break up of developed and developing countries is shown. In Table 2, from the same source an attempt is made to indicate the break up of the oilseeds production in important countries of ESCAP region in comparison with other regions.

Table 1

VEGETABLE OILSEEDS AND OILS AND FATS STATISTICS (1975/76) OF
MAJOR PRODUCING COUNTRIES

(In 1,000 metric tons)

OILSEEDS

World Production = 130,956
Developed World Production = 66,007 = 52%
Developing World Production = 64,949 = 48%

OILS AND FATS

World Production = 31,506
Developed World Production = 15,345 = 48%
Developing World Production = 16,161 = 51.3%

DISTRIBUTION OF IMPORTANT OILSEEDS AND OILS AND FATS

	OILSEEDS			OILS AND FATS		
	Developed Countries	Developing Countries	Total	Developed Countries	Developing Countries	Total
Soyabean seed & oil	43,565	24,485	68,050	7,333	2,867	10,200
Cottonseed & oil	7,533	13,057	20,590	1,162	1,316	2,478
Sunflowerseed & oil	7,957	1,963	9,920	471	2,718	3,189
Groundnut seed (shelled) & oil	1,366	11,525	12,891	2,715	697	3,412
Rapeseed & oil	4,250	3,640	7,890	1,151	1,364	2,515
Sesame seed & oil	-	1,830	1,830	13	593	606
Copra & coconut oil	-	5,190	5,190	711	2,412	3,123
Palmkernel & oil	-	1,160	1,160	139	364	503
Linseed & oil	1,284	1,391	2,675	230	405	635
Castorseed & oil	52	708	760	66	248	314
Olive oil	-	-	-	1,334	446	1,780
Palm oil	-	-	-	-	2,630	2,630
Tung oil	-	-	-	-	101	101
	66,007	66,049	130,956	15,345	16,161	31,506

SOURCE: ISTA

TABLE 2.

PRODUCTION OF IMPORTANT OILSEEDS IN MAJOR PRODUCING COUNTRIES

	Soya bean	Cottonseed	Sunflower	Groundnuts	Rapeseed	Sesame	Copra	Palm kernel	Linseed	Castor	Total
I. EEC	-	-	110	1,316	1,233	-	-	-	42	-	2,706
II. Other West European countries	-	223	116	-	1,256	-	-	-	-	-	1,895
III. East European countries	213	-	1,559	-	-	-	-	-	36	-	1,808
IV. U.S.S.R.	780	1,561	4,990	-	-	-	-	-	380	52	10,763
V. <u>North America</u>											
Canada	367	-	30	-	1,719	-	-	-	445	-	2,591
U.S.A.	42,079	2,719	550	-	-	-	-	-	351	-	45,759
Sub-Total	43,439	7,533	7,655	1,316	4,243	-	-	-	1,234	52	65,522
VI. Latin America	12,611	2,139	1,162	657	-	219	-	-	439	313	17,540
VII. Africa	-	865	-	1,791	-	326	-	330	-	19	3,241
VIII. <u>Middle East</u>											
Turkey	-	736	148	-	-	33	-	-	-	-	1,257
Syria	-	256	-	-	-	-	-	-	-	-	256
Sub-Total	-	992	480	-	-	33	-	-	-	-	1,513

TABLE 2 (CONTINUED)

	Soyabean	Cottonseed	Flower	Groundnut	Rapeseed	Sesame	Cepra	Palm kernel	Linseed	Caster	Total
<u>IX. Asia and the Pacific</u>											
Japan	126	-	256	-	7	-	-	-	-	-	389
Australia	-	-	93	50	-	-	-	-	-	-	143
Pakistan	-	1,028	-	-	305	-	-	-	-	-	1,333
India	-	2,264	-	4,620	1,600	465	314	-	621	150	10,034
Sri Lanka	-	-	-	-	-	-	172	-	-	-	172
Indonesia	563	-	-	336	-	-	1,060	83	-	-	2,042
Malaysia	-	-	-	-	-	-	120	246	-	-	366
Thailand	-	-	-	140	-	26	-	-	-	49	215
Philippines	-	-	-	-	-	-	2,800	-	-	-	2,800
China	10,000	3,900	-	2,100	1,350	380	-	-	-	67	17,799
Iran	-	252	-	-	-	-	-	-	-	-	256
Burma	-	-	-	362	-	95	-	-	-	-	457
Sub-Total	10,689	7,444	349	7,608	3,262	966	4,466	329	621	266	36,006
Other Countries	1,311	1,624	313	1,465	385	286	724	501	331	110	7,050
World Total	68,050	20,597	9,967	12,827	7,890	1,830	5,190	1,160	2,675	760	130,872

SOURCE: ISTA

III. GENERAL ISSUES

A. Raw Materials

23. There is no projection available of world production and consumption of vegetable oils and fats in the year 2000. The FAO, however, has made a projection up to 1980. By assuming a continuation of the same exponential trends and extrapolating on the FAO figures, we obtain an indicative magnitude of world production and consumption of vegetable oils and fats in the year 2000 of around 80 million tons. On the basis of similar assumptions a production goal of about 16 million tons of vegetable oils for the countries of the region in the year 2000 does not appear to be over ambitious. However, this goal is about 3 times the present level of production in the region, and represents an increase in the region's share of world production from the current 15% to 20% in the year 2000.

The issues are the measures to be taken to achieve the targetted increase in the production of oilseeds

24. Many problems have to be solved if this goal is to be achieved. These problems are mainly of a national character and will have to be solved primarily at a national level. Hence only a brief reference will be made to them here. Many of these problems are posed by the widely prevalent system of small-scale peasant farming and relate to outmoded tenurial systems, inefficient methods of cultivation and management, inadequacy of the infrastructure of extension and advisory services and transport, marketing and credit facilities. Some form of land reform will be necessary and the problem of promoting genuinely co-operative forms of activity based on self-reliance and self-management among the small farmers, will have to be solved. In some countries new land is still available for extensive cultivation based on new forms of organization and management. Other countries will have to depend on intensive cultivation, supported by irrigation facilities, fertilizer application, replanting with high yielding varieties and the control of pests and diseases.

25. Co-operation at a regional level could facilitate the solution of some of these problems. Research and development is the most fruitful area for regional co-operation. There is a sufficient diversity in the

/agro-climatic

agro-climatic conditions in each country for the research of one country to be relevant to another. The technical panel (cocotech) of the Asian and Pacific Coconut Community (APCC) provides a forum for the exchange of views among research workers in the field of coconut.

26. It may also be in the interest of the developed countries to assist the region to achieve its production goal. It would be an insurance against the uncertain supply conditions of petroleum-based chemicals in the future. An obvious area for such assistance is research relating to high yielding and disease-resistant varieties, biological control of pests and increasing good planting material through tissue culture. Another possible area of assistance is the provision of financial resources for land development, irrigation and replanting programmes. Finally, the co-operation and even financial support of the developed countries in designing and implementing price stabilization schemes would go a long way towards removing uncertainty and ensuring a steady growth of the vegetable oils and fats industry of the region, and a regular supply at stable prices to the developed countries.

B. Processing and Technology

(1) Processing

Supporting Background Information and Justification

27. In general, the processing technology in vegetable oils and fats is known and available to all developing countries. Primary and secondary processing are done in most ESCAP countries. This includes solvent extraction process. At the higher stages of secondary processing such as fractionation, refining and production of chemicals based on fatty acids, ESCAP countries with the possible exception of India and Malaysia are deficient. The constraints are:

- a) Marketing - higher the degree of processing the stiffer the tariffs,
- b) Developed markets' resistance to refined or processed vegetable oil products from developing countries. (Although these countries are in a position to meet the specifications prevalent in the developed countries).

/c.

- c) Technological investments for secondary processing:
These are not insurmountable. It is estimated that vegetable oil refining plant including deodorization of a capacity of 100-150 tons of crude oil per day, would cost about \$100,000.

28. The Issues for Consideration are

At the International Level:

- a) To put an end to the export of crude oil: change in the marketing obstacles in developed countries: resistance to export of refined and processed vegetable oils and fats should be investigated and tested against present export capabilities of developing countries. For example the firm UNITATA in Malaysia which is a joint venture of Tata Oil Mills of Bombay, India and the United Plantations of Malaysia, for neutralization, bleaching, deodorizing, fractionation etc.
- b) Re-deployment of processing facilities for castor oil to India, Thailand, and Brazil being the main producers of castor beans.

At the Regional and Sub-Regional Level:

To stimulate the transfer of know-how through joint-ventures

As in the case of the joint venture between India/Malaysia for example the establishment of UNITATA and other ventures between India/Indonesia and India/Sudan, similar schemes should be explored with the aim of promoting the establishment of increased industrial processing facilities in the ESCAP region.

(ii) Technology

29. The meeting considered the development, application and transfer of technology both in the industrial processing and in the manufacture of machinery and equipment required for the industry. It recognized that, at the national level there were research and development institutes in most of the countries which are important producers of oils and fats. At the
/regional

regional level, the ESCAP Secretariat had established the Regional Centre for Technology Transfer which would deal with problems and general aspects of development, application and transfer of technology on a non-sectoral basis and the Regional Network for Agricultural Machinery was specifically concerned with the development of agricultural machinery and equipment.

30. The ESCAP Secretariat had, no doubt, organized from time to time regional consultative missions on (i) coconut, (ii) oil palm, (iii) rice milling and rice bran oil, (iv) feed industry, and (v) essential oil industry which have inter alia examined technology aspects. However, considering the difficulties of setting up a separate institutional arrangement for technology, the meeting recommended that this function may become part of the functions of the Regional Consultative Committee for Oils and Fats industry that was proposed to be set up, while considering measures to be taken for increased regional and inter-regional co-operation.

C. Marketing and Infrastructure

31. In the context of the developing countries attempting to export partially, and ultimately completely processed vegetable oils in bulk to developed countries, problems of bulking facilities at the ports of both exporting and importing ends might crop up in the intervening period of changeover from crude to refined stage, though theoretically there could be no additional problems arising out of this changeover. Even otherwise, as the oil production goes up in this region bulking installations will have to be added and for an efficient system, technical know-how as well as finance may be needed. It could be of interest to the importing developed countries to join hands with the developing countries to develop these facilities.

Supporting Background Information and Justification:

32. The ESCAP countries face three main constraints viz. a) port and bulk handling facilities, b) shipping, and c) high freight rates imposed by developed countries.

33. The issues for consideration are:

At the International Level: a) Joint venture agreements with international firms for construction of bulk port facilities for vegetable oils and fats, b) discussion at international forums
/such as

such as IMCO concerning shipping constraints, and c) UNCTAD to pursue actively the question of more equitable and non-discriminatory freight rate.

34. The FAO projections, if extended to the year 2000 on the assumption of a continuation of the same exponential trends, indicate a trebling of the total consumption and a doubling of the per caput consumption (for food use) of oils and fats in the developing countries. This is of great significance for the growth of inter- and intra-regional trade among these countries.

35. The issues for consideration at regional and inter-regional level are:

It seems unlikely that the full potential of such trade will be realized within the existing framework of tariff barriers, quantitative restrictions and licensing procedures which effectively insulate the internal markets in most developing countries.

36. These obstacles to trade could be reduced by measures such as the institution of payments-clearing arrangements, mutual reduction of tariffs and quotas, bilateral trade contracts, the building up of commercial infrastructure and trading channels and the establishment of ventures between importing and exporting countries.

The issues for consideration with developed countries

37. As far as trade between the developed and the developing countries of the region is concerned, the tariffs structure in the developed countries which escalate in proportion to the degree of processing that a vegetable oil has undergone should be changed. Duty reductions could be given under the G.S.P. to vegetable oils that are of importance to the region, and the special concessions granted under Lomé Convention should be extended to all the countries of the region.

38. Food aid programmes sponsored by the developed countries or International bodies should be enlarged to include the vegetable oils traditionally produced in the region. Such concessional sales of vegetable oils would be of great benefit to the countries producing them, and would also considerably widen the scope for inter- and intra-regional trade among the developing countries.

IV. REGIONAL AND INTER-REGIONAL CO-OPERATION

39. The meeting considered the rationale for regional and sub-regional co-operation and recognized that it was essential to promote collective self-reliance. The pre-requisite for such co-operation among interested countries would be the existence of the political will and the appreciation of economic benefits that would accrue through such co-operation.

The issue was the reluctance in sharing information, knowledge and experience and especially the processing and industrial machinery manufacturing technologies.

40. The institutional arrangements, the marketing strategies, managerial and technical expertise developed at considerable expense of time, money and energy at the national level cannot be expected to be shared with other developing countries. Similarly there is the more difficult question of sharing of the know-how, process and industrial machinery manufacturing technologies and advanced management skills which have been developed at considerable sacrifice at the national level.

41. In the matter of marketing, agreement could perhaps be reached on co-operative action provided such action is intended for considerable expansion of the export markets with a reasonable assurance of earnings of additional foreign exchange by the co-operating countries. In the matter of industrial processing know-how and machinery manufacturing technologies it would be most advantageous for the developing countries to share such expertise and use the equipment and machinery manufactured within the region, on commercial terms, which in any case would be more advantageous than importing from developed countries.

42. In order to overcome the constraints in the promotion of such co-operation the following points were recognized:

- (i) Lack of information on the availability of processed and equipment successfully developed in the developing countries themselves, and
- (ii) Difficulties of payment through foreign exchange and the lack of credit facilities.

These matters are to be considered at a bilateral or sub-regional level for arriving at satisfactory agreements.

43. Wide scope exists for expanding the ESCAP region's capability to manufacture machinery for processing and refining vegetable oils and fats. India has the necessary industrial base and capacity to manufacture under license, industrial processing equipment such as (i) seed cleaners, (ii) cottonseed preprocessing de-linters and de-corticators, (iii) oil expellers, solvent extraction, oil refining, deodorization, hydrogenation plants, and fatty acid processing equipment. One constraint is that most ESCAP countries lack this vital information of the availability of the machine building technology and appropriate machinery within the region.

44. Another suggestion would be the strengthening of the existing commodity communities viz. Asian and Pacific Coconut Community (A.P.C.C.) which have been established as inter-governmental bodies. Specifically the suggestion is to make it a viable policy making organ of coconut producers with jurisdiction in marketing, pricing, exchange of technology, information on exports and policies.

45. It would be an innovative approach to consciously promote joint ventures between developing countries themselves as, in fact, one such successful example between India and Malaysia was considered by the meeting.

46. The meeting in this context also considered the possibilities of inter-regional co-operation specifically in view of the low per capita consumption of oils and fats at present and the likely increase in demand in future. There would be considerable scope for trading among developing countries on an inter-regional basis.

47. Yet another important area of inter-regional co-operation was considered in the case of industrial processing of castor beans. It is known that Brazil, India, China and Thailand are exclusive producers of castor bean of a total of about 800,000 tons per annum or about 80% of world production. The primary stage of processing namely the extraction of oil involves simple technology and in fact, has already been adopted by all the producing countries to a large extent. At the secondary processing level, the chemicals produced from castor oil will have the advantage of value added to the extent of 75% and even this processing technology is available in one or two developing countries. Therefore,
/inter-regional

inter-regional co-operation in the industrial processing of castor oil would be an excellent mechanism of the promotion of such co-operation.

48. The Meeting recognizing the lack of a regional forum for 'oils and fats' industry which is of economic and social importance to the developing countries of the region both from the point of view of employment and foreign exchange earning, recommended that an "ESCAP Regional Consultative Committee for Oils and Fats Industry" be established. The creation under the aegis of ESCAP of such an inter-governmental body to co-ordinate and harmonize technological, marketing, pricing, inter-regional trends and export policies in the ESCAP region is urgently called for. CCOF would include all major oilseeds, oil bearing materials produced in the region. It was thought that, this would provide an excellent forum for continuous consultations on the production, processing and marketing and in fact, on all aspects of this industry and might also attract the participation of developed countries in the larger interest of promotion of co-operation between the developed and developing countries.

V. SPECIFIC ISSUES

A. Oilseeds and Oil-Bearing Materials

49. The meeting had examined the current position of the industrial processing of oilseeds and oil-bearing materials which are of economic importance to the developing countries of the ESCAP region, while considering the general issues such as (i) raw materials, (ii) processing, (iii) infrastructure and (iv) marketing. The problems of specific oilseed processing industries were also considered under "regional/sub-regional, as well as inter-regional co-operation". Similarly the development and application of technology had been considered with respect to the oils and fats industry as a whole.

50. The cottonseed processing industry is of economic interest to Iran, Afghanistan, Pakistan, India and to some extent Thailand. Cottonseed is not grown in other countries of the region. The industry has some specific problems in development and specialized equipment would be required for pre-processing of the cottonseed. The utilization of by-products such as the lint, hulls and cakes/meals would also be important to make the industry modern and economical.

51. The coconut processing industry has its own problems and is of interest only to South East Asian and Pacific island countries. Hereagain, the increased utilization of the by-products, especially coir and shell would be in the interest of getting a better return for the resources available within the countries. ESCAP has been successful in establishing the Asian and Pacific Coconut Community for the development of the industry as a whole in the region.

52. The oil palm industry is in operation on commercial scale only in Malaysia and Indonesia, Papua New Guinea is a potential producer on a commercial scale and exporter of palm oil. Similarly, Solomon Islands which has already entered the export market, might expand its production in future years. The industry has necessarily to be established on a plantation basis and the industrial processing aspects are vastly different from any other oil-bearing material.

53. Apart from the three important oil-bearing materials which have been referred to in the preceding paragraphs, groundnut, soya-bean, linseed, rape/mustard oil and sunflower seeds are of importance to one or two countries in the region. In the non-edible field, castor bean is of great economic importance and within the region it is produced only in China, India and Thailand. The increased industrial processing possibility of castor oil into chemicals and the potential for inter-regional co-operation has been discussed under a separate paragraph in the report.

54. It will be seen that, by and large the issues which have been examined in these specific industries are largely those to be solved at the national level. To some extent, sub-regional and regional co-operation could promote the development of the industry. These have been indicated under a separate section on "regional/sub-regional co-operation" in the report. Similarly, under the "Re-deployment", specific issues have been mentioned which are applicable to oils and fats industry in general.

B. Oil Cakes and Meals

55. The meeting considered the importance of the oil cakes and meals both as a source of valuable protein for animal feed and foreign exchange earnings by exports. As at present copra, groundnut, cottonseed, and linseed, cakes meals were the principal items for export from the region to the developed countries.

The issue was the discounting of the export prices of oil cakes/meals in the importing-developed countries on account of the occurrence of aflatoxin.

56. It was known that aflatoxin could occur in a number of oil cakes and meals owing to poor handling, transport and storage practices. Indeed, some countries had taken measures to arrest the occurrence of aflatoxin. Nevertheless small traces of the toxicity (1 p.p.m.) still occurred when the shipment was received at the importing end. It has been shown scientifically that it could still be used in the compound feeds where the toxicity, if any, gets diluted and is, therefore, not a serious

/nutritional

nutritional problem. The meeting, therefore, suggested that consultations be organized between developing-exporting countries and the developed importing countries to reach suitable agreements on the technical and commercial aspects of the trading of oil cakes and meals.

The question of utilization of the oil cakes and meals for the development of the feed industry at the national level was another issue for consideration.

57. This would be the basis for the development of the dairy industry and making available increased quantities of milk and milk products with a view to overcoming the protein/calorie deficiency in the vulnerable sections of the population. It would also help the development of the poultry industry.

58. The utilization of the oil cake protein for human consumption had great limitations in the developing countries. It was, however, known that in the developed countries meatless-meats were developed based on oilseed proteins and being consumed to some extent. Such developments are unlikely to occur in the developing countries for domestic consumption in view of the high cost of production. However, the manufacture of such products in the developing countries would constitute a potential export-based industry.

VI. RE-DEPLOYMENT OF INDUSTRY

59. The meeting had considered the complexity of the industrial processing of oilseeds and oil-bearing materials at the primary and secondary levels. While specific issues had been discussed under relevant items of the agenda, it was thought that particular areas could be identified for redeployment. The motivating consideration in the developed countries would be the problem of pollution^{1/} in the refining of crude vegetable oils. It was also pointed out that in some large capacity feed mills in the developed countries there was a problem of pollution of air. Economic considerations may not be so significant, yet, in the larger interest of re-deploying the industries to the sources of production of raw materials, the developed countries might be interested in reaching agreements on the re-deployment of specific industrial processing activities.

- (i) The primary processing of all oil seeds and oil-bearing materials produced in the developing countries should be redeployed in a maximum period of five years, and the intervening time should be utilized for the installation of necessary processing facilities.
- (ii) There should be agreement on a time target for the re-deployment of the refining facilities of the 'oils and fats' produced in the developing countries of the region so that increasingly, only refined oils could be exported.
- (iii) In a long-term of perspective, the consultations may lead to agreements on the establishment of joint-ventures for manufacture of branded products for consumption in developed countries

60. In order to facilitate the implementation of the above recommendations, the meeting strongly urged that the tariff barriers which progressively increased from oil seed to crude oil, and refined oil to branded products, should be eliminated.

/61.

^{1/} ITC paper entitled "Study of Export Opportunities in world markets in selected agro-industrial products in developing countries with particular reference to (a) Animal Feeds, and (b) Oils and Fats".

61. The oil cakes and meals are currently exported as raw materials for the feed mills in the developed countries. Since considerable expertise had been developed, in some of the developing countries in the region in the manufacture of balanced and compound feed-stuffs, consultations should be initiated for the progressive increase of the export of blended products conforming to the standards and specifications as prevalent at present in the developed countries with particular reference to (a) nitrogen, (b) carbohydrate, and (c) fiber content. In some cases the developing countries were ready to meet the rigorous requirements of standards and specifications of even the compound animal feeds in bulk to be packaged and distributed through the normal marketing channels in the developed countries.

62. As a specific ^{of re-deployment} example, it was mentioned that the availability of castor bean in India, Brazil, Thailand, China and U.S.S.R. amounted to a total of about 800,000 tons or an oil equivalent of about 400,000 tons per annum, nearly all of which was exported to the developed countries. If the crude castor oil is processed into chemicals, the value added will be the order of 75 per cent. On a rough estimate, the additional foreign exchange earnings could be of the order of 135 million dollars per annum. The processing technology had also developed in one or two developing countries. There are three or four established companies in West Europe, and U.S.A. which have specialized knowledge, experience and expertise in the processing of castor oil into chemicals. However, such activity is only a part of other activities undertaken by these companies. A strong case exists for the re-deployment of the secondary and secondary processing of castor oil into chemicals to the oilseed producing developing countries themselves. To this end, consultations may be initiated with the concerned developed countries.

63. Scope exists for consultations with the developed countries for the re-deployment of the processing facilities from the developed countries to the coconut producing countries of the region, of (a) activated carbon using coconut shell as a raw material, and (b) coconut fiber into coir products.

64. The industrial manufacturing capacity for the machinery and equipment required in oil extraction, refining, hydrogenation, solvent extraction and manufacture of compound feeds need to be re-deployed to the developing countries wherever it is found to be feasible, perhaps under joint venture or other suitable arrangements.

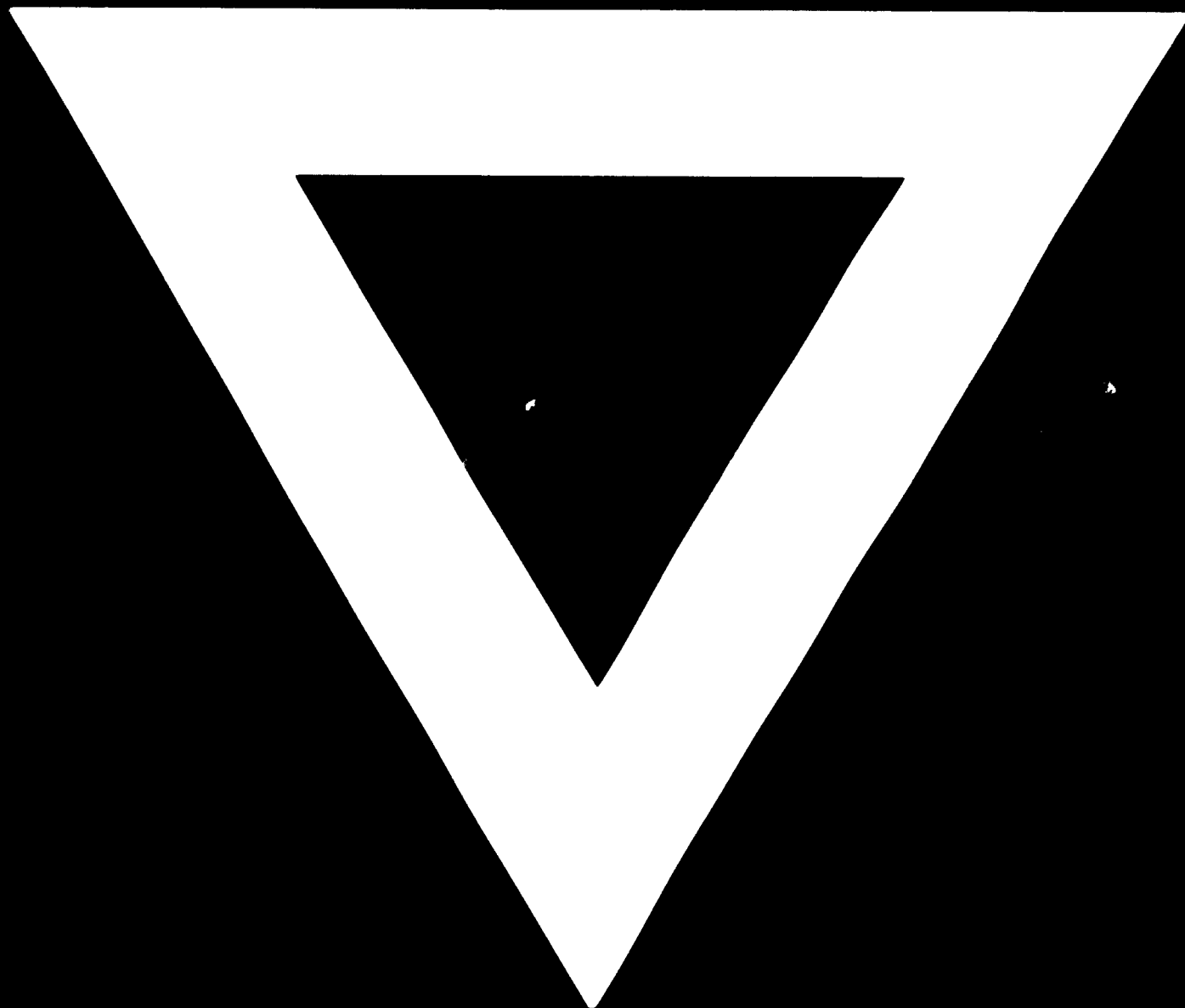
65. In the spirit of the Lima Declaration and Plan of Action and the subsequent mandates of the General Assembly, UNIDO might take the initiative to make suitable investigations and provide the forms for negotiation meetings between interested groups of countries.

VII. ADOPTION OF THE REPORT

66. The meeting unanimously adopted this report on 13 May 1977.



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