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INTERNATIONAL TRADE IN FATS AND OILS*

By

K. V. Sri Ram

World production, trade and consumption of fats and oils have increased considerably since the beginning of the present century. Fats and oils are produced from many sources. Broadly speaking, the sources of fats may be classified as follows : vegetable sources comprising both annual plants as well as perennial trees; animal fats comprising of animal body fats as well as milk fat group; and fish and marine animal fats. During World War II there was a fall in production as well as trade in fats and oils. The total world production, soon after the war, was estimated to be 20 per cent less than the pre-war (1935-39) average of 21.6 million tons. In 1945 the world production was estimated at 17.3 million short tons. Palm oils experienced the greatest decline. There was a substantial reduction in marine oils. The edible oilseeds were about 10 per cent below the pre-war output. Among the edible oils cottonseed and olives recorded a steep decline. In 1951 the world production of fats and oils rose to 23.6 million tons, an increase of 6.3 million tons over that of 1945 output. In 1952 the total production was estimated at 24.5 million tons.¹ In spite of this increase in total production, the estimated per capita level stood at 22.0 pounds in 1952 as against the pre-war figure of 22.3, showing a deficit of 0.3 pound per capita in comparison with the pre-war level.² The production of fats and oils touched an unprecedented total of 29.2 million tons in 1957, showing an increase of 1.85 million tons over the 1956 production of 27.35 million tons. There has been an enormous expansion in the production of fats and oils since 1951. In spite of the fact that their production has gone up by 20 per cent from 1950 to 1957 their prices have not shown any downward trend. This encouraging feature is mainly due to the fact that fat consumption levels have gone up and world trade has increased by about 35 per cent during the period.

"A significant post-war development in the world's fats and oils situation has been the shift of the United States from a net importing to a major net exporting country."³ The United States production of fats and oils increased from 3.5 million metric tons during pre-war years to 5.5 million metric tons in 1952. The United States is the largest producer as well as exporter of fats and oils. European production showed a small increase in 1952 over the pre-war production. Total African production increased from 1.5 million metric tons to 2.1 million metric tons in 1952. The production of oils and fats in Asian countries declined

*This paper is based on the Doctoral dissertation submitted to the Purdue University in 1955. The author is indebted to Dr. J. W. Hicks for many helpful comments.

1. Faure, J.C.A.: Congress of the International Association of Seed Crushers, June 30—July 3, 1953, p. 9.

2. *Ibid*, p. 13.

3. Norton, L. J.: Foreign Agriculture Report, No. 44, U.S.D.A. December 1949, p. 1.

from 8.4 million metric tons during the pre-war period to 7.9 million metric tons in 1952.⁴

World War II disrupted the volume of international trade in fats and oils. In 1938 the total exports amounted to little over 6 million metric tons of which the United States contributed 111,000 metric tons.⁵ From 1942 to 1944 only about 2.5 million tons of fats, oils and oilseeds, in terms of oil annually entered foreign trade, compared with the pre-war average of 6.5 million tons.⁶ By 1946 the exports increased to about 3 million short tons. The major decline came about in the production of edible vegetable oils. Production as well as trade has continued to rise since 1949. "The outstanding feature of 1949 international trade in fats and oils was the phenomenal expansion of the United States exports to 1.03 million tons as compared with 0.42 million in 1948 and 0.21 million in 1937-41, these increased shipments being spread over most of Europe as well as Canada and Latin America.⁷ In 1950, international trade in fats and oils rose to a new peak. Exports increased to 5.7 million metric tons in 1951, which was the highest figure reached during the post-war period. In 1952 exports fell by 11 per cent and totalled 5.1 million tons. This fall was due to reductions in exports of copra, linseed and sunflowerseed.

TRADE IN VEGETABLE FATS AND OILS

Vegetable fats which are derived from annual plants and perennial trees constitute the largest source of supply of fats and oils. Of the annuals, the most important ones are soybeans, cottonseed, peanuts, linseed, castor seed, sunflowerseed, sesame, etc. The most important of the perennial tropical trees are coconut, palm, olive and tung. In order to know the competitive position of each of these types, a brief look at the place of each of them in international trade would be helpful.

Trade in Cottonseed and Oil

The chief competitor, at least in the United States, to soybean oil is cottonseed oil. It may be expected that the quantity of cottonseed, which is a by-product of cotton fibre, is not as responsive to price changes as soybeans. Since 1935 there has been a decline in the world production of cottonseed from an average of about 15 million short tons during 1935-39 to about 13 million tons in 1950.⁸ On an average from the pre-war annual output of 14.9 million tons of cottonseed around 1.7 million tons of oil were obtained, or about 20 per cent of the estimated world production of all fats and oils.⁹ But during the decade preceding World War II, only 5 per cent of the total world production of cottonseed entered international trade.

The principal exporting countries of cottonseed during the pre-war period were Egypt, Kenya, Uganda, Nigeria and the Anglo-Egyptian Sudan in Africa, India and China in Asia; Argentina, Brazil and Peru in South America. The

4. Faure, J. C. A.: *Ibid*, p. 15.

5. F.A.O.: Commodity Reports, Fats and Oils, No. 5, October 1953, Table 1, p. 4.

6. Rossiter, F. J. and others: Foreign Agriculture Report No. 11, U.S.D.A., August, 1946, p. 3.

7. F.A.O.: Commodity Reports, Fats and Oils, May 31, 1950, p. 5.

8. U.S.D.A.: U.S. Farm Products in Foreign Trade, Statistical Bulletin No. 112, 1953, p. 49.

9. Rossiter, F. J. and others: *Ibid*, p. 5.

principal importing countries were the United Kingdom, Germany, France, Denmark, Japan and to some extent the United States. World cottonseed imports averaged over 880,000 short tons during 1935-38. They declined to about 660,000 tons in 1939 and practically disappeared from allied and neutral countries after 1940.¹⁰

The cottonseed and oil exports in 1951 amounted to 111,000 short tons, in terms of oil, as compared to 189,000 tons on an average during 1934-38. In 1952 the exports were estimated at 113,000 and for the following year the forecast was at 134,000 tons in terms of oil out of an estimated world production of 1.7 million tons.¹¹ In 1952 about one-fifteenth of the total production of cottonseed, in terms of oil, entered international trade as compared to about one-thirteenth of total production during 1935-38.

Until 1935 the United States imported as well as exported cottonseed and oil yet remained on a net export basis. But from 1935 to 1939, the United States became a large importer of cottonseed oil averaging around 65,500 short tons annually against 3,200 tons per year exported during that period.¹² It was not until 1945 that her exports exceeded imports. In 1952 the United States exports were estimated at 10,000 tons of cottonseed and 48,000 tons of oil out of a world total exports of 225,000 tons of cottonseed and 72,000 tons of oil.¹³

Trade in Peanuts and Peanut Oil

Prior to 1939 about 85 per cent of the world's total output of peanuts were raised in India, China, French West Africa and the United States. Smaller quantities were produced in various other countries. The total world production of peanuts during 1935-39 amounted to 1.76 million metric tons on an average annually in terms of oil, out of which 826,000 tons entered international trade.¹⁴ A little over 47 per cent of total peanut production was exported. Total exports in 1951 amounted to 464,000 tons as compared to 470,000 tons in 1950. The estimates of exports for 1952 were the same as that in 1950. Exports from the United States of 8,000 tons, in terms of oil, represented less than one-fifth of the volume exported in 1951 and only 7 per cent of all-time high shipped in 1949. Mexico exported 15,800 tons, oil basis, or double that of 1951 volume. India's exports for 1952 were down slightly from the 76,800 tons of 1951. Shipments from China were estimated roughly at around 50,000 tons oil equivalent in 1952 and about the same in 1951. Exports from French West and British West Africa are believed to have been up considerably from 1951.¹⁵

Before World War I world production of peanuts represented only one-eighth of the total production of oil-yielding products. During that period it was exceeded by cottonseed and linseed. In 1933 peanut production represented about one-fifth of the total world production, showing a rapid rate of development. The major peanut importing countries have been the United Kingdom, Germany, the Netherlands and to a lesser extent Italy, Belgium and others.

10. U.S.D.A.: Foreign Agriculture Report No. 11, August 1946, p. 7.

11. F.A.O.: Commodity Reports, October, 1953, *Op. cit.*

12. Rossiter and others: *Op. cit.*, Table 5, p. 9.

13. Faure, J. C. A.: *Op. cit.*, Table J, p. 21.

14. F.A.O.: Commodity Reports, *Op. cit.*

15. U.S.D.A.: Foreign Agriculture Circular, June 5, 1953, p. 10.

Sunflowerseed

For many years, prior to World War II, the U.S.S.R. produced about 80 per cent of the total world output of sunflowerseed and oil.¹⁶ The remaining 20 per cent was produced by the five Danubian countries, and India, China, Argentina and Brazil. Both production and trade in sunflowerseed and oil have considerably increased over a period of 20 years. During 1935-39 the annual average production amounted to 2.8 million metric tons as compared with 3.8 million tons in 1945.¹⁷ Production of sunflowerseed in 1952 is estimated at 4.1 million tons, or a decline of almost 10 per cent from the possible record of 4.5 million tons believed to have been produced in 1951.¹⁸ During the post-war period the Soviet Union is estimated to have contributed approximately 50 per cent of the total output of sunflowerseed.

During 1935-39, world exports of sunflowerseed averaged 5,400 tons annually. In 1945 the shipments reached about 35,000 tons. Prior to World War II, exports of sunflowerseed came from the U.S.S.R., Argentina and the Danubian countries. In recent years the bulk of export trade is handled by Argentina. And greater quantities of oil than seed, as such, enters international trade. The country next in importance which exports considerable amounts of sunflowerseed and oil is Uruguay. It is estimated that the exports fell from 135,000 tons in 1951 to 50,000 tons in 1952.¹⁹ In recent years, the United Kingdom has been a major sunflowerseed and oil importing country. France, French Morocco, Italy and Netherlands also import smaller quantities of oil. Germany was an important importer during the 1930's. In the United States it has been a crop of very minor importance. In some states sunflowerseed is either used as chicken feed or for silage and not for oil. In the future it is expected that both trade and production will increase. At present, trade in sunflowerseed and oil is not of much significance.

Olives and Olive Oil

Olive oil is considered the finest of edible oils and is usually consumed as a food without refining or further processing. Basically, the Mediterranean countries are the home of olive and olive oil production. During the pre-war years the Mediterranean area comprising Spain, Italy, Greece, Portugal and France, produced about 98 per cent of the worlds total olive output and practically all the olive oil that entered international trade.²⁰ Olive production has varied greatly from year to year due to weather changes and influence of plant and animal pests.

Olive oil production increased from 975,000 tons during 1935-39, on an annual average, to 1.6 million tons in 1951. There was a sharp reduction in olive output in 1952, the decline in production was estimated at 50 to 70 per cent of the 1951 crop in the leading countries. The main reason for such a reduction is said to be due to the presence of a two-year cycle added to unfavourable weather and excessive insect infestation. In recent years olive production has increased in Turkey and Algeria to make up for the decline in the European countries.

16. International Institute of Agriculture: Oils and Fats: Production and International Trade, No. 4, Part I, Rome, 1939, p. 81.

17. Rossiter, F. J. and others: *Op. cit.*, p. 31.

18. U.S.D.A.: Foreign Agriculture Circular, *Op. cit.*, p. 12.

19. *Ibid.*, p. 13.

20. Rossiter, F. J. and others: *Op. cit.*, p. 36.

Approximately 15 to 20 per cent of the total olive oil production prior to the outbreak of World War II moved into international trade.²¹ The United States and Argentina were the main importing countries. During the war period, particularly due to shortage of olive oil production, practically every country prohibited free exportation of olive oil, and nearly all of them put into effect some form of rationing or equitable distribution system for the available oil. This indicates the preferred position enjoyed by olive oil which has resulted in a higher price even in the United States and other importing countries.

The existence of a strong domestic demand in the producing areas has been responsible for a decline in the volume of olive oil traded internationally. Olive oil exports during 1952 may not have exceeded 70,000 tons in spite of the bumper 1.6 million ton production from the 1951 olive crop. A similar amount was traded in 1951. But the volume traded in 1951 and 1952 was 40 per cent below the volume traded in 1950.²² The 1953 crop was expected to be abnormally small, in which case even a smaller volume than the past year would move into international trade. In spite of the fact that olive oil enjoys such a preferred position as edible fat, it does not significantly compete with other fats and oils on the international market due to inadequate supplies in the presently producing areas.

Sesame Seed and Oil

World production of sesame seed has remained fairly constant over a period of two decades. In terms of oil, the pre-war output of sesame seed was estimated at 563,000 tons which increased to 575,000 tons in 1951. The estimates for 1952 and 1953 were the same as that of the pre-war output.²³ During the pre-war years China, India, Burma, Turkey, Manchuria and Iraq used to be the leading sesame seed and oil producers. China and India contributed the bulk of the total output. Chinese exports prior to the war followed no definite trend but varied from 3 to 8 per cent of total production. The Indian exports generally were about 1 to 5 per cent of her total production. In recent years some African countries have become important sesame seed producers.

International trade in sesame seed and oil has always been on a small scale. The annual average sesame seed exports during 1925-29 were estimated at 125,000 tons and rose to 145,000 tons during 1935-39. The exports dwindled during the war period. The United States and Japan, among many others, used to import small quantities of sesame seed and oil. The United States is making some trials in Texas to produce sesame seeds recently. But the prospects of domestic production are rather gloomy.

Copra and Coconut Oil

The coconut palm has played a great part in the life of the people of the countries where it is grown on an abundant scale. The major copra and oil producing countries are the Philippines, Indonesia, India, Ceylon and Malaya.

21. Rossiter, F. J. and others: *Op. cit.*, p. 38.

22. U.S.D.A.: Foreign Agriculture Circular, *Op. cit.*, p. 15.

23. Faure, J. C. A.: *Op. cit.*, Table 4, Appendix.

The other copra producing countries are the Islands of the South Pacific, some areas of Latin America and the eastern coast of Africa. The following table shows the exports of copra and oil in terms of oil from various producing countries:

EXPORTS OF COPRA AND COCONUT OIL
(OIL EQUIVALENT)
(Short tons)

Country	Average 1935-39	1951	1952
Philippines Republic	392,720	622,655	548,875
Indonesia	372,795	323,680	199,200
Ceylon	108,380	136,605	148,260
Malaya Federation	188,020	140,054	117,545
Others	227,085	266,706	241,120
World Total	1,289,000	1,489,700	1,255,000

Source: U.S.D.A., Foreign Agriculture Circular, June 5, 1954, p. 17.

During the pre-war years the five countries, namely, Indonesia, Philippines, Oceania, Malaya and Ceylon provided about 94 per cent of the copra and the copra products supplied on the world market.²⁴ This position has not been altered. The total world exports of copra and oil in terms of oil increased from 1.05 million tons during 1934-38, on an annual average, to 1.48 million tons in 1951. In 1952 the exports were estimated at 1.26 million tons, showing a slight decline in copra and oil trade.

World production of copra in 1951 was estimated at 3.7 million tons. In the following year production dropped by about 8 per cent over the previous year. In terms of oil, production declined from 2.3 million tons in 1951 to 2.1 million tons in 1952.²⁵ The fall in production was due to a significant decline in copra output in Philippines, Indonesia and Malaya. Of the total exports from Indonesia, Philippines, Ceylon and Malaya, shipments to Europe accounted for 49 per cent in 1952 compared with 63 per cent in 1951. The tonnage sent to the United States (all from the Philippines) accounted for 27 per cent against 28 per cent in 1951.²⁶

In past years the existence of political ties between some of the major exporting and importing countries has resulted in a pattern of trade which might be expected to change in the future. Because of the political ties between Indonesia and the Netherlands most of the copra and oil produced in Indonesia found their market in Holland. Malayan production went to the United Kingdom. And the Philippines' entire copra and oil exports were taken by the United States. With changes in political relationships as have been taking place, there may be a

24. International Institute of Agriculture: *Op. cit.*, p. 177.

25. U.S.D.A.: Foreign Agriculture Circular, *Op. cit.*, p. 16.

26. *Ibid*, p. 17.

slight change in the direction of the flow of export trade in copra and oil. Though India produces a significant amount of copra, due to her increasing internal needs she imports copra from Ceylon.

At present, outside of Asia, Europe and the United States are the largest copra and oil importing areas. In Europe, copra and oil are widely used in edible products, while in the United States they are used mostly for industrial purposes. Coconut oil competes with all fats and oils on the world market as well as in the United States domestic market. Its competitive position will, in the future, depend upon its price relationship. At present, though there is no import duty on copra or oil into the United States, there exists a processing tax of 3 cents a pound. In addition, according to a Philippine-United States trade agreement, there is a quantitative restriction on the extent to which the United States could import. A movement towards freer trade has every chance of increasing copra and coconut oil into the United States in the long run. But in the immediate future the United States imports of copra and oil will be limited to the extent to which they are made available in the exporting countries. Though coconut production does vary significantly from year to year, the production over a period of years seems to be more or less stable. Most of the countries presently exporting these products have very poor standards of living, and consequently any attempt towards raising their standards would increase the demand for fats and oils in their domestic markets.

Palm and Palm Kernel Oils

Exports of palm oil increased from 447,000 tons on an annual average during 1934-38 to 468,000 tons in 1951. There was a significant increase in 1952 when exports were estimated at 522,000 tons. The forecast for 1953 indicated an all-time high of 562,000 tons exported.²⁷ African countries and colonies together with Indonesia and Malaya supply the entire world's output of palm oil. The major countries exporting in Africa are Nigeria, Belgian Congo, French Africa, Portuguese Africa and Liberia.

Production of palm oil increased from a pre-war average of 1.1 million tons to 1.2 million tons in 1952.²⁸ The major producing area was Africa, which supplied over 67 per cent of world exports. The main markets lie in Western Europe, which accounted for about 65 per cent of world imports. Palm oil imports into the United States steadily increased until 1951. In 1951, imports amounted to 105,047 thousand pounds.²⁹ In 1952 and 1953 palm oil imports have declined. In 1952, the palm oil market in Europe was unfavourably affected by the existence of large stocks of unsold whale oil and by offers of large quantities of American lard and tallow at low prices. It is reported that manufacturers of margarine and other edible fats prefer coconut and soybean oils to Congo palm oil because the free fatty acid content of the former is considerably less.

Evidently there is a serious competition between palm oil which is both an edible as well as an industrial oil, whale, coconut, olive and soybean oils, in the European market. Palm oil contains more of free fatty acids than others

27. Faure, J. C. A.: *Op. cit.*, p. 23.

28. U.S.D.A.: Foreign Agriculture Circular, *Op. cit.*, p. 19.

29. U.S.D.A.: Agricultural Statistics, 1953, Table 636, p. 488.

because of the crude processing methods in the African countries. With refined methods of processing as are used in Indonesia, the free fatty acid content can be reduced to about 5 per cent. Therefore this handicap may be overcome by the African producers in the event of a more severe competition of palm oil with other oils.

Palm oil is different from palm kernel oil in that it is obtained from the fleshy pulp of the palm-fruit exocarp. Palm kernel oil is obtained after drying the kernels of the oil palm. The palm kernels have an oil content up to 50 per cent and belong to the lauric-acid group. Exports of palm kernels have remained about the same as during the pre-war years. In 1952 there was an increase of 20,000 tons and the total was 820,000 tons. The palm kernel exporting countries are the same as those for palm oil. Nigeria and Belgian Congo are the two leading exporting countries. Total world production of palm kernels increased from 355,000 tons (in terms of oils) during the pre-war years to 372,000 tons in 1951 as compared to palm oil which increased from 644,000 to 876,000 tons during the same period.³⁰ The palm kernel importing countries are the same as those for palm oil excepting that Western European countries, to some extent, re-export oil to the United States. The United States imported about 2¹ million pounds of palm kernel oil in 1950. In 1951 the imports dropped to about 5 million pounds.³¹ The future production and trade in palm oil as well as in palm kernel oil will possibly depend upon their competitive position in price relationship and processor preferences of various fats and oils.

INDUSTRIAL OILS

Linseed and Linseed Oil

Of all the industrial oils, linseed oil tops the list in total production as well as in the amount entering the world market. During the pre-war years, out of a total of 2.8 million tons of all industrial oils produced, linseed oil amounted to 1.04 million tons, ranking second to rapeseed oil in volume. In 1951 there was a slight increase in linseed oil production over the pre-war average and the quantity produced was estimated at 1.11 million tons. In 1952 the total production declined to 929,000 tons.³²

The leading linseed producing countries of the world are Argentina, the United States, the Soviet Union, India and Canada. The most phenomenal expansion of linseed production in recent years came about in the United States enabling it to become an exporting country instead of importing. The United States flaxseed production in 1945 was 36.7 million bushels compared with 23.1 million a year earlier and the 1935-39 average of 11.0 million.³³ There was a slight decline in production during the years 1951 and 1952.

In 1952 the world exports dropped to 200,000 tons, oil equivalent, falling by nearly 55 per cent from the previous year, mainly as a result of weak European

30. Faure, J. C. A.: *Op. cit.*, p. 17.

31. U.S.D.A.: *Agricultural Statistics*, 1953.

32. Faure, J.C.A.: *Op. cit.*

33. U.S.D.A.: *Foreign Agriculture Report*, *Op. cit.*, p. 67.

import demand.³⁴ Exports from Argentina have declined more than those of other countries. Another reason for the weak demand for linseed and oil is the existence of large stocks in the major importing countries like England. As a result of weak international demand the prices of linseed oil has remained relatively low. It is expected that there will be a slight improvement in the international trade for linseed and oil in the coming years.

Castor Beans and Oil

The world production of castor beans increased from 473,000 tons during 1935-39 on an yearly average to 522,000 tons in 1952. Outside the Soviet Union (which in 1935-39 happened to be the third largest producer), the two major castor bean and oil producing countries are India and Brazil. Castor bean production in the United States is of recent origin and rose to 12,000 tons in 1952 showing an increase of 2,000 tons over 1951 crop. In 1951, in terms of oil, total exports amounted to 110,000 tons. In 1952 there was a decline in exports upto 15,000 tons³⁵

India's exports in 1952 were 4,948 tons of beans and 36,835 tons of oil compared with 12,171 and 29,847 tons, respectively, during the year 1951 and average shipments of 40,325 and 6,566 tons, respectively, during the pre-war years.³⁶ Until 1951 the United Kingdom was the major market for Indian castor beans and oil. In 1952 the entire Indian castor bean exports and about 60 per cent of the oil were imported by the United States.

There was a moderate decline in the volume of castor beans and oil traded in 1952. In terms of oil, 98,000 tons were exported in 1952 compared with 101,000 tons in the year preceding.³⁷ In recent years, some of the African countries also have exported small quantities of castor beans. There was a sharp increase in the United States imports in early 1953, and an increase in Brazilian exports was expected towards the end of the year because of new regulations for the disposition of foreign exchange earned from exports of castor oil. Due to the prevailing strong demand for castor beans and oil, their prices have been fairly high.

Colza, Rape, Mustard Seeds and Oils

Colza and rape seed oil possess semi-drying characteristics. Both of them are used in illumination, lubrication and to a smaller extent in edible products. Mustard oil is mainly used in soap-making and illumination. A large portion of the world's output of colza comes from Asia and Europe. Of the Asian countries, the principal producing regions are China, India and Japan where colza has been raised for ages. "The increase in colza and rapeseed crops in recent years in certain European countries are due principally to the tendency to limit the import of oil seeds and extend the cultivation of oil yielding crops best adapted to climate and soil, specially with the help of tariffs favouring the development in the respective countries."³⁸

34. F.A.O.: Commodity Reports, *Op. cit.*, p. 38.

35. U.S.D.A.: Foreign Agriculture Circular, *Op. cit.*, p. 25.

36. *Ibid.*, p. 26.

37. Faure, J.C.A.: *Op. cit.*, p. 26.

38. International Institute of Agriculture: *Op. cit.*, p. 91.

During the pre-war years, the major exporting countries of colza and rapeseed were India, China, U.S.S.R., Rumania, Poland, Hungary and Bulgaria. From 1933 to 1936 the total production of colza averaged around 3.8 million metric tons. But very little of it entered international trade. In recent years separate figures are not available for production and trade in colza. However, the European countries are the major importers.

Rapeseed production increased from about 4.2 million short tons during 1935-39 on an average to 5.7 million tons in 1952. China and India accounted for a large share of the total output. Pakistan, Japan, France and Sweden produce small amounts of rapeseed. The volume exported in 1952, in oil equivalent, was estimated at 90,000 tons in 1951. This was twice the average quantity exported in the 1935-39 period.³⁹ In 1951 the rapeseed exports amounted to 101,000 metric tons and oil to 27,000 tons, compared with 94,000 tons of rapeseed and 18,000 tons of oil exported during 1934-38. In 1952 and 1953 there was a fall in export trade in rapeseed, but oil exports increased. In terms of oil, in 1952 exports amounted to 64,000 tons and in 1953 declined to 55,000.⁴⁰ This amounted to roughly about 34 per cent of total production.

Mustard seed is grown in Europe and in Asia. Trade in mustard seed exists on a small scale. In recent years the United States produces small quantities of mustard seed in California, Montana and some other states. In 1952 imports of mustard seed amounted to about 30 million pounds as against the domestic production of 13.5 million pounds. Tung oil is an excellent drying oil and the world's leading producer of it is China. The second biggest producer in recent years has been the United States. For a long time the United States imported about 70 per cent of the Chinese tung oil exports. In terms of oil, total tung nut production amounted to 95,000 metric tons, in comparison with 121,000 tons produced in the pre-war years. In 1952, the production increased to 103,000 tons and the estimates for 1953 were slightly higher. Trade in tung nut oil has declined considerably from the pre-war period mainly because of fall in exports from China. In terms of oil, exports of tung nuts declined from 80,000 metric tons during 1934-38 to 44,000 tons in 1951. There was a further decline in 1952 resulting in exports of only 38,000 tons.

Other countries producing considerable amounts of tung nuts are Africa, U.S.S.R., and Oceania. Of all the importing countries in Europe, Germany was the leading consumer prior to the war. Tariff protection was granted to the tung nut industry and as a result the United States became the second largest producer. In 1951 the United States production amounted to 7,000 tons and in 1952 increased to 17,500 tons. The domestic consumption in 1952 was estimated at 51.3 million pounds of oil out of which about 30 million pounds were imported.⁴¹ In normal times it may be expected that the United States will continue to import at least 50 per cent of her domestic needs of tung nut oil. In recent years Argentina is the major exporter, although Brazil, Indo-China and Burma also export small quantities.

39. U.S.D.A.: Foreign Agriculture Circular, January 5, 1953, p. 28.

40. Faure, J.C.A.: *Op. cit.*, p. 24.

41. U.S.D.A.: Agricultural Statistics, 1953, Table 201, p. 141.

ANIMAL FATS

Animal fats make up more than a third of the world production of fats and oils and are important United States exports. Butter, lard, tallow and grease together constituted over 10 million tons in 1952.⁴² The following table shows the estimated world production of all the three forms of animal fats.

WORLD PRODUCTION OF ANIMAL FATS

(In 1,000 short tons)

Commodity	Average		1950	1951	1952
	1935-39	1945-49			
Butter (fat)	3,980	3,030	3,450	3,390	3,470
Lard	3,500	3,070	3,730	4,030	4,260
Tallow and Grease	1,550	2,000	2,340	2,340	2,310
Total	9,030	8,100	9,520	9,760	10,040

Source: Foreign Agriculture Report No. 76, U.S.D.A., November, 1953.

During the years 1950-52, butter accounted for 35 per cent of the estimated production of animal fats; lard, about 40 percent; and tallow and grease, about 25 per cent.⁴³ The following table shows the exports of the three fats since 1935.

ESTIMATED WORLD TRADE IN ANIMAL FATS

(In 1,000 short tons)

Commodity	Average		1950	1951	1952
	1935-39	1945-49			
Butter (fat)	460	315	425	380	345
Lard	180	280	300	390	365
Tallow and Grease	240	170	425	380	520
Total	880	765	1,150	1,150	1,230

Source: Foreign Agriculture Report No. 76, U.S.D.A., November, 1953.

Total world exports of animal fats increased from 880,000 tons during 1935-39, on an annual average, to 1.23 million tons in 1952. The United States has been a principal source of world's animal fat supplies. The share of the United States in the export market for animal fats increased from 25 per cent during the war period to about 33 per cent during 1950-52.

42. Bowster, W. C., Jr.: Foreign Agriculture Report No. 76, U.S.D.A., Animal Fats, World Production and Trade, November, 1953.

43. *Ibid.*

Butter

Out of a world production of about 3.4 million tons of butter only about 345,000 tons enter international trade. Such a small percentage of butter produced is traded because many of the butter producing countries consume most of their production. Though the United States and Germany are the leading butter producers, very little of it is exported. The main butter exporting countries are Denmark, New Zealand, Australia, Netherlands, Sweden and Argentina.

Butter exports in 1952, estimated at 335,000 tons, were 9 per cent less than during the preceding year. Since the pre-war years the export trade in butter has declined by about 15 per cent.⁴⁴ In recent years the United States is trying to develop new export markets for butter. The high price supports for butter and the increasing competition from margarine have reduced the per capita butter consumption to 8.7 pounds in 1953 from 17.2 pounds in 1939.⁴⁵ Most of the trading countries have levied high tariff duties on butter in order to encourage domestic production.

Lard

Of all the fats, lard production has had the greatest increase in the post-war years. The world production of lard in 1952 was estimated at 4.26 million tons as against 3.5 million tons for the period 1935-39.⁴⁶ The 1952 figure is 20 per cent larger than the quantity produced during the pre-war period. During the 1930's, trade in lard was hindered by the restrictive measures imposed by many countries on imported lard and salted fat pork. Customs duties were raised on pork fats in many countries. As a consequence exports of lard declined from 427,000 tons in 1929 to 134,200 in 1936.⁴⁷ Production of lard declined from 3.5 million tons during 1935-39 on an annual average to about 3.0 million tons during the 1945-49 post-war period. During the same period, the world trade in lard increased from 180,000 tons to 280,000 tons. Since 1950, trade in lard increased from 300,000 tons to 390,000 tons in 1951, showing the highest increase in exports of lard in a short period of one year.⁴⁸ In 1952 there was a drop in the world trade of lard to 365,000 tons.

The United States is the largest producer of lard in the world, producing more than one-third of world's output.⁴⁹ During 1951 and 1952 the United States had accounted for more than 85 per cent of the world's lard exports out of which in 1951 over 53 per cent was taken by Western Europe. During 1950-52 the percentage of lard imports into various countries were distributed as follows: Cuba, 22.5 per cent ; West Germany, 20.2 per cent ; United Kingdom, 16.4 per cent ; Yugoslavia, 9.8 per cent ; Australia, 7.4 per cent ; South America, 5.8 per-cent ; Mexico, 3.6 per cent ; and others, 14.3 per cent.⁵⁰

44. *Op. cit.*, p. 25.

45. U.S.D.A.: Fats and Oils Situation, May, 1954, Table 4, p. 11.

46. U.S.D.A.: Foreign Agriculture Report No. 76, November, 1953.

47. International Institute of Agriculture: Oils and Fats: Production and International Trade, No. 5, Part II, Rome, 1939, p. 105.

48. U.S.D.A.: Foreign Agriculture Report No. 76, November, 1953, p. 5.

49. *Ibid.*, p. 6.

50. *Ibid.*, p. 1.

Most of the countries in the world produce lard to a greater or a lesser extent, but only a small percentage of production enters world trade. The other lard exporting countries making up for about 15 per cent of the total exports are Argentina, Netherlands, Denmark, Belgium and Luxemburg and others.⁵¹ During 1953, currency difficulties and increased domestic production sharply reduced the United States exports to Western Europe.

Tallow and Grease

Tallow is mostly an industrial fat and is widely used in soap and candle manufacture. World production of tallow and grease increased from 1.55 million tons, during 1935-39 on an yearly average, to 2.4 million tons in 1952.⁵² Trade in both more than doubled from 240,000 to 520,000 tons during the same period. Tallow and grease are the cheapest fats on the market and thus there is always a possibility of their finding a market in spite of serious competition they face from other fats and oils.

The United States is the leading producer as well as exporter of tallow. "Ranking sixth as a supplier of these fats prior to World War II, the United States today is the principal world source. In the past three years, the United States exports of inedible tallow and grease alone made up more than two-thirds of all tallow and grease entering international trade." Other important countries which make up for the rest of tallow and grease exports are New Zealand, Argentina, Australia, Belgium and Luxemburg and the United Kingdom. These countries listed above exported approximately 22.3 per cent of total lard supplies during the years 1950-52. During the same period, the United States exports amounted to 71.2 per cent out of a total of 442,000 tons.⁵³

Tallow and grease are imported into many countries. Italy, the United Kingdom, Japan, and Germany imported 13.9 per cent, 13.0 per cent, 9.6 per cent and 1.2 per cent, respectively during 1950-52. The other important tallow and grease importing countries are Belgium, Luxemburg, Canada, Union of South Africa, Cuba, South America, Netherlands, Switzerland, Mexico, Egypt and others. In recent years, Japan has become an important customer for the United States tallow. In 1953 Japan imported 53,911 tons of tallow compared with 28,059 tons during the preceding year.⁵⁴

MARINE OILS

"Apart from fish-liver oils, which for the most part were used as tonic and medicines, marine oils up to the first post-war years were used almost exclusively for industrial purposes."⁵⁵ The progress made in technology is, to a very large extent, responsible for making most of the marine oils edible. At present, marine oils compete with industrial oils as well as edible oils in the world market. Marine

51. *Ibid*, p. 1.

52. *Ibid*, Table No. 1.

53. *Ibid*, p. 2.

54. *Ibid*, Table 10, p. 12.

55. International Institute of Agriculture: Oils and Fats: Production and International Trade, No. 5, Part II, Rome, 1939, p. 157.

oil production in 1952 was estimated at 950,000 tons which was 5 per cent lower than the previous year.⁵⁶

Marine oils are mainly composed of whale oil, sperm oil and fish oils. Norway was the pioneer which started producing oil from the whale. Even today Norway leads the world by producing about 43 per cent of the world's total whale oil. The United Kingdom ranks as the second largest producer and contributed 80,000 tons in 1952. The other important whale oil producers are Japan, Netherlands, Panama, Soviet Union and the Union of South Africa. The following table shows the world productions of marine oils.

WORLD PRODUCTION OF WHALE, SPERM AND FISH OILS
(1,000 short tons)

Type	Average 1935-39	1951	1952
Whale Oil	545	435	460
Fish Oils	430	445	410
Sperm Oil	30	120	80
Total ..	1,055	1,000	950

Source: Compiled from Foreign Agriculture Circular, U.S.D.A., June 5, 1953, Tables 18, 19, and 20.

The whale oil production declined from a pre-war output of 545,000 tons annually to 460,000 tons in 1952. There was a slight decline in the production of fish oils from 480,000 tons during the pre-war period to 410,000 tons in 1952. The United States production of fish oils declined from 120,000 to 62,000 tons during the same period. Norway in 1952 produced almost three times its pre-war output. Japanese production declined from 138,000 to 24,000 tons during that period. The greatest increase in marine oil production took place in the output of sperm oil from a pre-war annual average of 30,000 to 120,000 tons in 1951. In 1952, production dropped to 80,000 tons.

World trade in marine oils declined by 11 per cent from the pre-war figure. In 1952 the total quantity of marine oils entering international trade was estimated at 120,000 tons. In the same year the United States exported 22,000 tons which was 42 per cent less than in 1950.

SUMMARY AND CONCLUSIONS

Fat consumption has been restored to the pre-war levels in most importing countries. The major improvement in world supplies and increased trade has come from the United States in recent years. Her production responded admirably to make up the large gap during the post-war period. During World War

56. U.S.D.A.: Foreign Agriculture Circular, June 5, 1953, p. 33.

II and the post-war years there was a steep fall in the production and trade of vegetable fats. The United States became a net exporter of cottonseed and oil, peanuts and oil, linseed and oil. Her share in the export market increased from 25 per cent during 1935-39 period to about 33 per cent in the post-war years. Both production and trade in lard experienced the greatest increase. Approximately 85 per cent of total world exports of lard and 74 per cent of tallow originate from the United States.

Production and trade in marine oils experienced a decline during the post-war period.

In India, fats and oils form an important source of earning foreign exchange. In 1955-56 the total exports of all fats and oils accounted for Rs. 38.16 crores or 6.5 per cent of the country's foreign exchange earnings. During the war and post-war period, India lost most of her foreign markets because of increased internal demand and due to the controls imposed on exports of fats and oils.

The recent export promotion policy of the Indian Government is mainly responsible for augmenting both the production and foreign trade of the vegetable oil industry. The major oils entering the export market are peanuts, castor and linseed. Sesame and mustard are exported in small quantities. The major importing countries of Indian peanuts have been Netherlands and the United Kingdom. In both these markets the Indian trader is facing severe competition from peanuts coming mainly from West Africa. The United Kingdom seems to prefer peanuts in the form of seeds rather than oil and since seeds are available from other sources the Indian trader is losing his traditional market. Therefore in order to preserve our foreign markets, it may be necessary for some more time to cater to the needs of the foreign markets by supplying peanuts in the form of seeds rather than oil as is being done at present.

The major markets for castor bean have been the United Kingdom and the United States of America. Brazil is emerging in recent years as a competitor for our castor bean in the U.S.A. It would be very essential to ensure a good quality as well as a competitive price for Indian oil to enable it to continue to have the American market.

The principal markets for Indian linseed are U.K. and Australia. Trade in sesame and mustard have been on a small scale and there is room for improving both production and trade in both these products because India enjoys a comparative advantage in the world markets.