XI. OTHER IMPORTANT AREAS

Every heavily populated country is important from the standpoint of grain consumption; many other countries with smaller populations are important producers or exporters of grain. In preceding chapters, we have discussed the recent food-grain positions of countries accounting for roughly half of the world's population. A major portion of the remaining population lives in China, Japan, and other parts of Monsoon Asia, for which wartime information on crops and trade is fragmentary or entirely unavailable to us. The rest of the world's population is widely scattered, with minor concentrations in the Mediterranean and Middle Eastern countries and in Latin America. In the present chapter, we shall summarize what we have been able to learn about recent grain developments in leading countries of these three principal grain-consuming areas, without attempting to give a complete or well-rounded picture either for the individual countries covered or for the regions represented.

The attention of the world is now focused on two leading areas of Asia ex-India—Japan and Free China. For this reason, it seems desirable to present a tentative appraisal of the wartime food positions of these two areas, despite the incomplete and conflicting nature of much of the available evidence.

Before the outbreak of the Sino-Japanese war in 1937, both Japan and the area now called Free China secured food mainly from their own grain crops. The prewar net trade position of Free China is not entirely clear, but we infer that this area usually had an economic surplus of rice that more than offset its economic deficit of wheat, millet, corn, barley, and kaoliang.[1] Japan, on the other hand, was clearly a grain-deficit area, which drew substantial quantities of rice from outside sources, but principally from Japan's two nearby dependencies—Chosen and Taiwan, also known as Korea and Formosa.

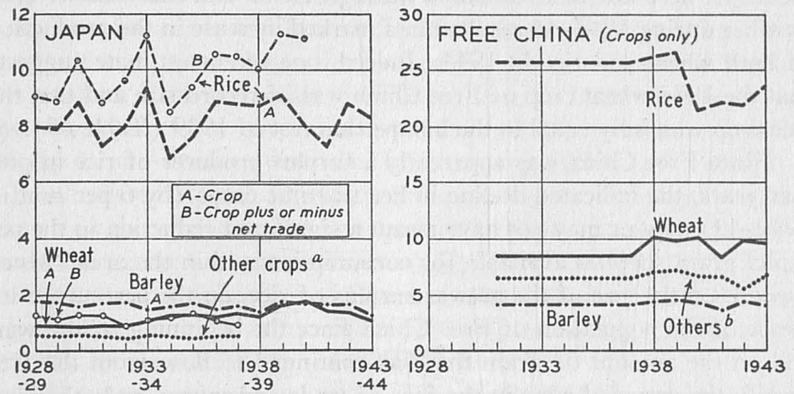
Chart 25 summarizes such evidence as is now available on the principal grain crops and net trade of Japan and Free China through 1943. The Japanese figures are official, presumably even for the last few years, for which data have been obtained from various trade sources and news

[1] China, Ministry of Information, *China Handbook, 1937–43* (New York, 1943), p. 548. Hereinafter, this publication will be referred to as *China Handbook*. In contrast W. Ladejinsky and F. J. Rossiter speak of Free China as "normally . . . . almost self-sufficient" in food ("Food Situation in Far Eastern and Southeastern Asia," *Foreign Agriculture*, April 1942, VI, 156). Prewar rice shipments from this area probably more than offset the rice imports of southern coastal cities and districts.

reports.[2] The production figures for Free China are the estimates of the National Agricultural Research Bureau (Chungking) for the 15 interior provinces still predominantly under Chinese control.[3] No net trade figures are available for this group of provinces.

CHART 25.—GRAIN CROPS AND SUPPLIES IN JAPAN AND FREE CHINA, FROM 1928–29*

(*Million metric tons*)



* Data for Japan in Tables 2, 45, and 48, and from sources thereof. Data for China in Table 65.

[a] Oats, corn, buckwheat, millets.

[b] Oats, corn, kaoliang, millets.

FREE CHINA

It is clear from Chart 25 that rice is the most important cereal crop of both Japan and Free China. Through 1939 the rice production of both of these areas was well maintained, but during 1940–43 Free China harvested a succession of crops substantially below the prewar average level.

The reduced production of rice in Free China during 1940–43 was due partly to poor yields, partly to diversion of rice land to other crops. The average estimates of the National Agricultural Research Bureau show marked wartime expansion of the acreage devoted to wheat, corn, sweet potatoes, and oilseeds—expansion that considerably more than

[2] Since some of these sources have given conflicting figures for 1942 and 1943, the estimates shown for these years may not be the latest revised official estimates.

[3] *China Handbook*, p. 553, and O. L. Dawson, "China's Food Problem," *Foreign Agriculture*, May 1944, p. 103. The 1943 estimate for "other crops" includes our own approximations for a few of the minor crops for which the estimates of the National Agricultural Research Bureau are not available. The 15 provinces covered by the figures include Ningsia, Chinghai, Kansu, Shensi, Honan, Hupeh, Szechwan, Yünnan, Kweichow, Hunan, Kiangsi, Chekiang, Fukien, Kwantung, Kwangsi. Significant portions of Honan, Hupeh, Chekiang, and Kwantung, and smaller portions of certain of the other provinces were actually under Japanese control in 1943–44 (*ibid.*, p. 99 note).

offsets the total recorded reduction for rice, millet, and kaoliang. But this material net increase in food-crop acreage apparently did not bring an increase in total food production, despite the "food-increase measures" actively sponsored by the Ministry of Agriculture and Forestry since its creation on July 1, 1940.[4] We infer that wartime shortages and disorganization combined with adverse weather factors to keep yields per acre low in Free China through 1943. But much better crop weather during 1943–44 resulted in a marked increase in the production of both wheat and rice in 1944. Indeed, one recent estimate suggests that the 1944 wheat crop of Free China was of record size and that the rice crop was fully equal to the bumper harvest of 1939 (Table 65).

Since Free China was apparently a surplus producer of rice in prewar years, the indicated decline in her wartime crops (by 6 per cent in 1940–43) may or may not have meant a significant reduction in the per capita grain supplies available for consumption within the area. Much depends on the size of the prewar surplus of rice, on the percentage increase of the population of Free China since the beginning of the war, and on the amount of grain that has continued to flow from the free area to the occupied zone in the face of trade embargoes on both sides. On these points the information available to us is insufficient to serve as the basis for a satisfactory guesstimate as to the change in per capita supplies between 1931–37 and 1940–43.

On the other hand, one may reasonably argue that the over-all grain-supply position of Free China is only of academic interest. More important is the fact that acute food shortages have existed in the past few years in various localities, even extending throughout such provinces as Honan and Kwantung. Hundreds of thousands, or even millions, of Chinese have died during these years for want of sufficient food, just as millions have died in earlier years under more or less similar conditions. Local famines are not uncommon in China even in times of peace; and the transport difficulties and disorganization associated with war naturally increase the frequency and intensity of such famines.

If Dawson is correct in his assertion that "Free China as a whole now produces a tonnage of cereals that is more than equivalent to its needs,"[5] these extensive local famines must be explained entirely on the basis of glaring deficiencies in the system of food distribution. In any case, the critical shortage of transport facilities in Free China and the lack of effective government controls over food supplies and prices

[4] These measures are summarized in *China Handbook,* pp. 590–99.

[5] *Op. cit.,* p. 102.

have played an important part in permitting famine conditions to develop and recur in certain areas.

In both Honan and Kwantung food-supply difficulties began with local crop failures. They were complicated by widespread hoarding of grain, military purchases and requisitions of food to supply local army units, and the presence of many refugees from the occupied area. Moreover, certain districts in Kwantung, normally dependent on rice imports from French Indo-China, suffered partly as a result of the cessation of such imports. But in the last analysis, the persistence of famine in Kwantung Province, as also in Honan, was due to the failure of the central and provincial governments to move adequate supplies of grain into the famine-stricken districts. In the spring of 1943, the Ministry of Food offered Kwantung substantial quantities of rice to relieve the food crisis then existing, but over a fourth of this grain could not be distributed because trucks and cars could not be found to move it.[6]

The transport difficulties of Free China have even affected the food rations of the Chinese army. Although the prescribed army ration of rice was 1½ pounds daily prior to April 1, 1944 (when it was increased), appreciably less than this amount was given to soldiers fighting in some of the grain-deficit areas.[7] To supply sufficient food for their own needs certain Chinese army units have considered it necessary to grow their own rice, wheat, and vegetables.[8]

Outside of the districts of most acute grain shortage, chronic food difficulties have existed for nonpreferred workers in many of the larger cities. Many urban workers have suffered more or less constant hunger because their wages have failed to keep up with the soaring prices of cereals. In spite of the numerous food-price stabilization measures introduced into Free China since June 1937,[9] inflationary factors have continued to push food prices sharply upward. By 1941 the food price index for Chungking stood at 2,067 as compared with 100 in January–June 1937,[10] and during the past few years the index (no longer reported) has presumably doubled and redoubled several times.[11] Govern-

[6] *New York Times,* Feb. 3, 1944, p. 3. Early in the following crop year, the Ministry of Food made a grant ($30,000,000, Chinese) to Kwantung to buy and store rice for sale at reasonable prices in the critical spring period of 1944.

[7] *Ibid.,* Mar. 31, 1944, p. 7, and H. W. Baldwin, in *ibid.,* Apr. 12, 1944, p. 10.

[8] Baldwin, *op. cit.;* and Brooks Atkinson, in *New York Times,* Sept. 2, 1943, p. 3.

[9] These measures are summarized in *China Handbook,* pp. 630–64.

[10] *International Labour Review,* July 1944, L, 125.

[11] Brooks Atkinson reported by wireless to the *New York Times* (Mar. 5, 1944, p. 13) that the Bureau of Social Affairs in Chungking estimated that the price index on Jan. 1, 1944 was 204.5 times the 1937 price level. This means that the index would have stood at 20,450 at the beginning of 1944—a figure which Atkinson regarded as too low. We

ment employees and certain other preferred groups of workers have been given the opportunity to buy limited quantities of grain at subsidized prices, but many workers remained outside of this priviliged class.

The extreme type of inflation witnessed in China in recent years has naturally encouraged hoarding of grain by producers, merchants, industrialists, and various urban households, despite announced penalties against hoarding. In order to secure enough grain for the Chinese army and for certain groups of civilians at moderate prices, the government provided in 1941 for the collection of all land taxes in kind (i.e., in grain) "and for compulsory purchase of foodstuffs from landowners at equitable prices." In 1941 collection of unhusked rice against land taxes amounted to 1.22 million metric tons and compulsory purchases gave the government control over another 1.11 million tons of grain. The announced tax and purchase program for 1942 provided for still larger government grain supplies (2.74 million tons in total), but we have seen no report on the actual collections.[12]

On various grounds, it seems reasonable to suppose that grain stocks are fairly large in Free China today and that they will remain large until China's currency is put on a more stable basis or until a series of poor crops results in heavy drafts on these stocks to meet the current needs of the holders.

JAPAN AND OCCUPIED AREAS

If Japanese official crop estimates can be trusted, one may infer that Japan's wartime grain crops have been well maintained (Chart 25, p. 121). Only in 1941 did the important rice crop fall as much as 10 per cent below the 1935–37 average, and the two following rice crops were of full average size or larger, reflecting partial success of the government program to make Japan self-sufficient in food.[13]

Maintenance of the prewar level of rice production in Japan has

infer that the price index here specified covered general costs of living or a group of commodities at wholesale rather than food only, though this is not certain. In any case, the index provides an indication of the enormous degree of price inflation that has occurred in China during the last few years.

A new index of food prices in Chungking, based on prices in 1939 as 100, was first published by the League of Nations in December 1944 (*Monthly Bulletin of Statistics*, Geneva, December 1944, XXV, 366). This index, compiled by the Research Department of the Farmers' Bank of China, shows the following changes: 1939 av., 100; 1941 av., 1,099; 1942 av., 2,787; 1943 av., 5,843; Jan. 1944, 11,132; July 1944, 21,152.

[12] *China Handbook*, pp. 650–53.

[13] This aim was emphasized in October 1943, at the end of a crop year during which Japan presumably found it impossible to get imports of normal size from the short 1942 crops of Chosen and Taiwan.

probably been possible only through expansion of acreage to offset the effects of reduced wartime use of fertilizers. Such expansion has been encouraged by means of government subsidies to rice growers.[14] But the production figures for other cereal groups suggest that any recent increase that has occurred in the area under rice has not been at the expense of wheat or barley. Indeed, Japan's wheat production has been maintained close to the average level of 1936–38, which was associated with appreciable net exports of wheat and flour from Japan proper to other parts of the Japanese Empire, Manchukuo, and North China.

Only in rice was Japan materially deficient in prewar years. She produced roughly 84 per cent of her total utilization of rice, and imported from Chosen and Taiwan another 15 per cent. Japan was thus dependent on non-Empire sources for only about 1 per cent of her rice supplies. For all food grains together, her percentage dependence on non-Empire sources was even lower.

Japan's imports of rice and other foods are known to have continued on a substantial scale through 1940–41. Indeed, in 1939–40 and 1940–41 Japan apparently imported more rice than ever before, partly to maintain domestic consumption, partly to build up reserves against future emergencies.[15] On October 31, 1941, therefore, the carryover of old-crop rice was probably of record or near-record size—6,696 million pounds according to an estimate by Ladejinsky and Rossiter.[16]

The large rice carryover of 1941 may well have been reduced during the following year to compensate in part for a small domestic crop. But Chosen and Taiwan both had rice surpluses of fair size and Japan was in a position to draw large imports of rice from French Indo-China, Thailand, and North China. We infer, therefore, that Japan's net imports of rice were again large in 1941–42 and that her year-end stocks were maintained at or above the high level of the preceding year. Not until 1942–43, when Chosen and Taiwan had poor crops and Japan faced increased shipping difficulties, were Japan's net imports of rice almost certainly curtailed and her year-end stocks almost certainly reduced. Such evidence as is available for 1943–44 suggests the continuance of light imports and perhaps further drafts on Japan's war reserves of rice. On the other hand, new restrictions on consumption may have offset the reduced imports of 1943–44 and left the government's rice reserves virtually untouched.

[14] For 1944 a sum of 420 million yen was set aside for such subsidies (*New York Times*, June 16, 1943, p. 9).

[15] Ladejinsky and Rossiter, *op. cit.*, p. 152.

[16] *Ibid.*

To meet the enlarged food demands of the army and to maintain a safe margin of grain stocks for emergency needs, the Japanese government adopted a number of wartime measures to reduce civilian consumption of grain and flour. These included: (1) restrictions on the use of rice, wheat, and barley for the production of *sake* and soy sauce,[17] (2) compulsory admixture of white and sweet potatoes with wheat flour in the making of bread,[18] (3) the requirement that paddy rice be milled at a rate no lower than 70 per cent, as contrasted with a customary milling rate of something like 65 per cent,[19] (4) rationing of rice and wheat flour to urban civilians, and (5) compulsory sale of grain by producers to government agencies.

Grain rationing, first established in a few leading cities in the spring of 1941, has since been gradually extended to larger and larger groups of the population. As in most European countries, the grain-rationing system of Japan differentiates among consumers on the basis of age and occupation. The precise amounts of rice allowed have been variously reported,[20] but it seems probable that Japanese rice consumption was not appreciably reduced (and may even have been increased) under the rations allowed through 1942–43. What may have been the first significant reduction in the rice ration took place in 1944, but this may or may not have forced consumption below the prewar average level.[21] Consumption of vegetables has presumably increased substantially in Japan during the past few years, while the consumption of fish has sharply declined.

Too little is known about the various Japanese-occupied areas to permit detailed discussion of their food positions under recent war conditions. Except for British Malaya, most of these areas were practically self-sufficient in grain production before the war; and Burma and Thailand ranked with French Indo-China as the leading rice exporters of the world.

Fragmentary reports suggest that rice production has been expanded in those areas that previously relied significantly on imports, and that it has been materially contracted in several of the former rice-exporting areas. Only in British Malaya and certain districts of North China have critical food problems *undoubtedly* developed during the war period. However, the food positions of a number of other areas must have become difficult if substantial requisitions of grain or other basic foods were enforced by the occupying authorities. On this possible development we have no information.

[17] *New York Times,* Oct. 9, 1941, p. 7.

[18] *Ibid.*

[19] Ladejinsky and Rossiter, *op. cit.,* p. 151.

[20] One of the more reasonable reports from Chungking indicated that in the spring of 1943 Japanese workers in the large urban war industries received daily 3 go and 6 shaku (about 1⅓ pints dry measure), that office workers were permitted somewhat less than a pint, that women at home received about ⅔ pint, and that farmers were allowed to keep for their own use slightly more than the 1⅓ pints allowed war workers (Brooks Atkinson, in *New York Times,* May 21, 1943, p. 3).

[21] Although a special report to the *New York Times* (July 12, 1944, p. 10) indicated that the "rice ration has been almost halved since a year ago," we infer that such a large reduction would not have been applied generally, though it might have been ordered for one of the less essential groups of civilians, whose rations had previously been higher than necessary.

NORTH AFRICA AND THE MIDDLE EAST

The leading grain-producing countries of northern Africa and the Middle East have faced wartime food problems more or less similar to those encountered in India and China. In each of these countries, a large percentage of the population is engaged in agriculture, methods of production are primitive, most of the cultivated area is devoted to grain, and cereals of various kinds account for 75–90 per cent of the food calories consumed by the masses. To all of these countries the present war brought rising prices (in some instances serious inflation), increased mobilization and/or employment, new government controls over grain marketings and distribution, and special incentives to hoarding.

For few of the important cereal-producing countries of the world are the available crop statistics as untrustworthy as for the countries of northern Africa and the Middle East. Official and commercial estimates for most of these countries disagree sharply as to the level of production of the different crops and as to the degree of change in output from year to year. On the other hand, the available estimates usually agree on the *direction* of the annual changes in production; and we regard the major crop figures currently and tentatively accepted by the United States Department of Agriculture for the principal countries as sufficiently indicative of actual developments to warrant presentation in Charts 26 and 27 (pp. 128, 129).

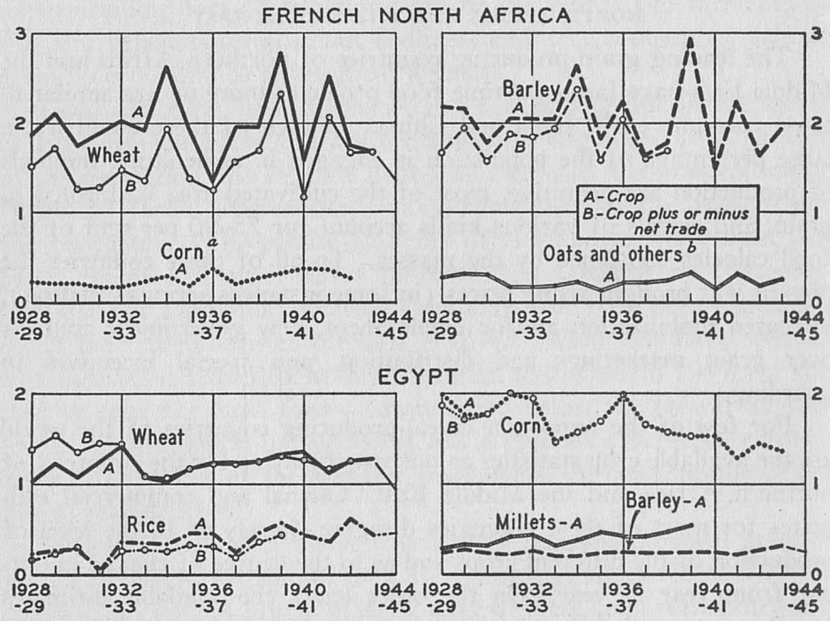
These charts correctly show that wheat and barley are the two principal grain crops of the North Africa–Middle East region, with barley yielding place to corn in Egypt. They correctly reflect, too, the general expansion of grain production that took place in the Middle East, but not in North Africa, during the thirties.[22] Finally, the charts probably

[22] We infer, however, that less expansion actually occurred in the Middle East than the plotted figures suggest. This seems to have been particularly true in Iran. See A. I. Tannous, "Agricultural Production and Food Consumption in Iran," *Foreign Agriculture,* February 1944, VIII, 35–36.

accurately indicate that most of the leading countries of the Middle East had relatively poor crops in 1941 and 1942 and that French North Africa harvested three successive small crops in 1942–44. An appreciable recovery in grain production undoubtedly took place in 1943 and 1944 in Turkey, Iran, and Syria and Lebanon, but the degree of recovery is uncertain.

CHART 26.—GRAIN CROPS AND SUPPLIES IN NORTHERN AFRICA, FROM 1928–29*

(Million metric tons)



* Data in Tables 1, 2, 12, and 45–48, and from International Institute of Agriculture, *Yearbooks* (Rome).

[a] Including grain sorghums.

[b] Including rye and millets.

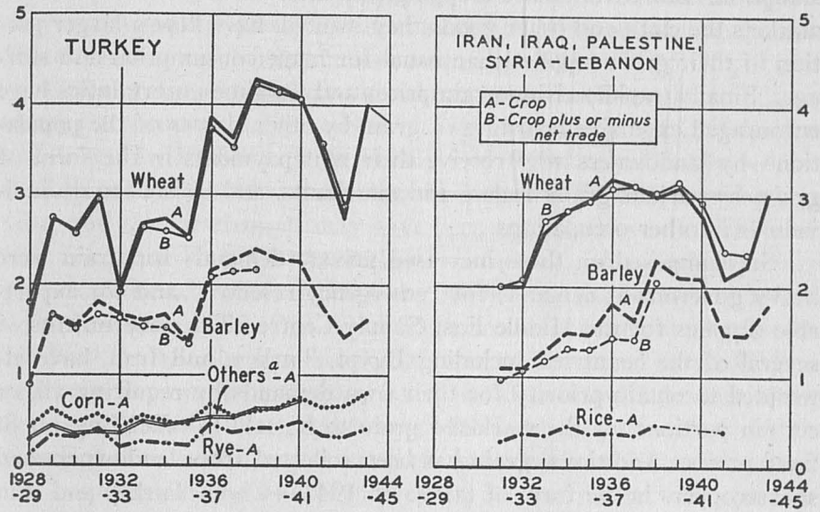
As warfare spread to northern Africa and the Middle East, most of the countries with recurring or occasional grain deficits took steps to increase their production of food grains. The most stringent measures were adopted by the Egyptian government which restricted the planting of cotton, prohibited fallowing of agricultural land, and required specific minimum percentages of the cultivated area to be sown with wheat and barley.

Efforts of the individual countries to attain self-sufficiency in cereals were reinforced by measures taken by the Middle East Supply

Centre.[23] This organization guaranteed markets for the surplus grain produced in the Middle East area, sent technical experts into the various countries to give needed advice on crop production, and attempted to supply essential insecticides, fertilizers, farm tools, and irrigation machinery.

CHART 27.—GRAIN CROPS AND SUPPLIES IN SELECTED REGIONS OF THE MIDDLE EAST, FROM 1928–29*

(Million metric tons)



* Data in Tables 2, 3, 43, 45–48, and 64, and from International Institute of Agriculture, *Yearbooks* (Rome).

[a] Rice, oats, spelt, maslin, millets.

There is some evidence that these various measures and the currently increased grain prices resulted in moderate expansion of cereal acreage in Egypt and several countries of the Middle East. But adverse weather and wartime shortages of labor and agricultural equipment (and also fertilizers, in Egypt) tended to keep the yields per acre of grain relatively low. The desired wartime expansion of grain production in the Middle East area thus did not occur through 1943, and probably not through 1944. Indeed, even if the principal countries of the Middle East should later prove to have sizable surpluses of grain for ex-

[23] The work of this organization is described in "Modern Version of 'Corn in Egypt,'" from the *Financial Times*, reprinted in *Corn Trade News*, July 5, 1944, pp. 264–65. A more general view was presented in an address by Frederick Winant, "The Combined Middle East Supply Program," *Department of State Bulletin*, Feb. 26, 1944, pp. 199–204.

port in 1944–45, such surpluses could scarcely offset the unusual deficits that appear to exist in Egypt and French North Africa.[24]

While recent grain harvests have been mostly of average size or smaller in the North Africa–Middle East area, the demand for food grains for consumption and stocks has been considerably heavier than usual. Military mobilization in several of the countries and increased employment at high wages on projects sponsored by the Allied or enemy armies have presumably resulted in some increase in grain consumption. Moreover, share-cropping peasants, unable to find on urban markets the cloth and other goods they wanted, have kept a larger portion of their grain supplies than usual for home consumption and storage. Finally, rapidly rising grain prices and wartime uncertainties have encouraged extensive hoarding of grain by other classes of the population—by landowners who receive their rent payments in the form of grain, by various grain dealers and merchants, and by well-to-do individuals in other occupations.

Superimposed on these increased private demands for grain were heavy government demands for "emergency reserves" and for exportable supplies for the Middle East Supply Centre. The governments of several of the countries, including Egypt, Turkey, and Iran, have attempted to obtain priority for their own demands by requiring all, or certain portions, of the marketed grain to be sold to official agents at fixed prices. Additional grain has been collected from landowners and sharecroppers in the form of taxes. In 1943–44 both Turkey and Iran reported increased deliveries of grain to government agents, probably largely as a result of the increased crops of 1943.[25]

Private and official demands for grain in northern Africa and the Middle East were so heavy throughout 1943–44 that the general grain position remained exceedingly tight. Serious local shortages existed even in countries such as Egypt, where the total grain supplies were reported to be of adequate size.[26] Moreover, there appeared to be little relaxation of government restrictions on grain utilization even in countries like Turkey and Iran, which harvested substantially larger grain crops in 1943 than in the preceding year.

[24] The Egyptian wheat crop of 1944 is reported to be the smallest harvested since 1924, with the reduction in output attributed mainly to adverse weather, though partly to recent nonrotation of crops and to wartime shortages of labor and fertilizers.

[25] Through mid-December 1943, grain collections in Iran totaled 203,400 metric tons, as compared with 105,560 in the same period of the preceding year. See J. A. Calhoun, "Iran in 1943," *Foreign Commerce Weekly,* Apr. 1, 1944, p. 8, and E. C. Taylor, "Turkey in 1943," *ibid.,* p. 10.

[26] The local shortages in Egypt were attributed to poor internal distribution, associated partly with inadequate transport facilities. British sources denied that shortages were due to excessive purchases by the Middle East Supply Centre or by any other agency of the British government. See *London Grain, Seed and Oil Reporter,* Feb. 21, 1944, p. 184.

Since wheat is the preferred food grain throughout northern Africa and the Middle East, the principal government measures pertaining to grain utilization in that area have been designed to "stretch" existing wheat supplies.[27] Over the past few years, practically all of the leading countries have adopted milling regulations requiring high wheat-extraction rates and admixtures of other cereal flours with wheat flour for breadmaking. These regulations, which in some countries applied only to city mills, typically specified minimum wheat-extraction rates of 90–95 per cent and minimum barley-corn admixtures of 15–50 per cent.

Cereal-grain admixture requirements have varied considerably from country to country and have been changed frequently within individual countries. In 1943–44, both Turkey and Egypt significantly reduced the high nonwheat admixtures they had required in the preceding crop year, and similar changes may have been made by several other countries for which our records are less satisfactory. The Turkish admixture requirement was lowered from 30–40 per cent barley-maize-bean flour during most of 1942–43 to 20 per cent rye-barley-maize flour in 1943–44,[28] while the Egyptian admixture ratio was cut from 33⅓ per cent corn flour in the latter part of 1942–43 to only 10 per cent barley flour in 1943–44. Toward the end of 1943–44 the bad outlook for the new Egyptian wheat crop induced the government to raise the admixture requirement again to 33⅓ per cent corn or millet.[29] At the same time favorable crop conditions in Turkey led local observers there to expect a reduction in the coarse-grain admixture ratio to 10 per cent.

In Iran, admixture of barley flour with wheat flour is reported to have increased during 1943–44, despite the harvesting of a good-sized wheat crop, now placed 68 per cent higher than that of the preceding year.[30] This development, which was government-sponsored if not government-imposed, threw some doubt on the standing high estimate for Iran's 1943 wheat crop.

[27] Even in Egypt, where prewar consumption of corn meal apparently exceeded the consumption of wheat flour, wartime measures have been directed toward conserving and stretching wheat, rather than corn. For a good survey of prewar cereal consumption in Egypt and certain countries of the Middle East see A. I. Tannous, "Food Production and Consumption in the Middle East," *Foreign Agriculture,* November 1943, VII, 243–55.

[28] *Corn Trade News,* Sept. 1, 1943, p. 333; Oct. 27, 1943, p. 412; and Mar. 8, 1944, p. 93. Most Turkish grain regulations apply only to the larger cities; in neighboring rural districts white flour and bread were freely obtainable during 1943–44.

[29] *Foreign Commerce* Weekly, Mar. 18, 1944, p. 25; *Foreign Crops and Markets,* Aug. 14, 1944, p. 80, and Aug. 21, 1944, p. 92.

[30] *Foreign Commerce Weekly,* Apr. 8, 1944, p. 31. We have seen no report of compulsory admixture regulations in Iran.

Milling regulations in the North Africa–Middle East area have been supplemented in recent years by urban rationing of bread and flour in several of the leading countries. Most of the rations in effect in 1942–43 seem to have been maintained throughout 1943–44. This was true even in Turkey, where the former daily ration of 300 grams (11 ounces) in Istanbul, Ankara, and Izmir was maintained without change through July 1944, in the face of reiterated press predictions that it would "soon" be raised to 400 grams.[31]

The improved grain positions of Turkey and Iran in 1943–44 were reflected in reduced net imports of grain; but these countries did not recover their prewar status as minor net exporters of wheat and barley. In 1942–43 Turkey and Iran, faced with seriously deficient grain supplies and widespread hoarding, had imported 8–10 million bushels of overseas wheat and flour through the Middle East Supply Centre.[32] During 1943–44 neither of these countries received any grain through the Middle East Supply Centre, and their other grain imports seem to have been limited to 10,000 tons of Rumanian wheat shipped to Turkey under a special trade agreement.[33]

In contrast, Iraq, Syria and Lebanon, and Egypt apparently ranked as small net exporters of grain in 1943–44, after having suffered various degrees of deficiency in the preceding crop year. All of these countries continued to prohibit exports of grain except under government license, but the United Kingdom Commercial Corporation (UKCC) of the Middle East Supply Centre successfully negotiated with the several governments for 250,000 tons of Iraq barley, 7,000 tons of Syrian barley, and 45,000 tons of millet from Egypt.[34] In addition, the Egyptian government repaid the UKCC 46,000 tons of

[31] Such predictions began in the late summer of 1943 and continued into the fall of 1944 (see the reports of Broomhall's Istanbul correspondent in successive issues of the *Corn Trade News*). One report from Nazi Europe indicated that this ration was actually raised to 350 grams effective Dec. 1, 1943 (*Neue Ordnung*, Dec. 12, 1943), but Broomhall's Istanbul correspondent reported no such increase and on several later occasions referred to the existing ration as 300 grams.

[32] Last year we estimated the net imports of wheat and flour into the Middle East at about 10 million bushels (Farnsworth, "Wheat in the Fourth War Year: Major Developments, 1942–43," *Wheat Studies*, November 1943, XX, 78). This figure appears fairly reasonable in the light of later information, which seems to suggest net imports of 10–13 million bushels for civilian consumption in the Middle East and additional shipments of 5–8 million bushels to the Middle East Supply Centre for use by Allied military forces in that region. Some data on imports by sources "in a recent 12 months period" are given in "Modern Version of 'Corn in Egypt,'" from the *Financial Times*, reprinted in *Corn Trade News*, July 5, 1944, pp. 264–65.

[33] *Corn Trade News*, Feb. 23, 1944, p. 75; *Foreign Crops and Markets*, April 1944, p. 149.

[34] "Modern Version of 'Corn in Egypt,'" from the *Financial Times*, reprinted in *Corn Trade News*, July 5, 1944, p. 264.

wheat, which had been borrowed to meet a particularly serious domestic deficiency in 1941–42. These various grain exports were redistributed by the UKCC to neighboring grain-deficit countries—mainly Palestine, Saudi Arabia, Aden, Eritrea, Cyprus, Lybia, Tripolitania—and to Allied forces in the Middle East areas.[35] Although we have seen no reports of rice exports from Egypt, we infer that small quantities of Egyptian rice continued to be supplied to British and Indian troops in the Africa-Middle East area, and perhaps even to small groups of civilians in such rice-deficit countries as Ceylon. Late reports indicate that at the end of the crop year, large old-crop stocks of grain still existed in Turkey, Iran, Iraq, and Syria and Lebanon.[36]

The three countries of French North Africa have remained outside the field of control of the Middle East Supply Centre. For this reason, the grain positions of these countries require separate consideration. Unlike Egypt and the countries of the Middle East, the three French dependencies of northern Africa had a fairly large export balance of wheat and barley in prewar years (Chart 26, p. 128). This represented an additional insurance against domestic shortage of grain, since unusually small crops could normally be compensated for by a contraction of grain exports.

Throughout the early part of the war—indeed, until the Allied invasion of northern Africa in November 1942—the countries of French North Africa continued to ship wheat and barley to France. Since November 1942, however, these countries have presumably received more overseas grain for civilian consumption than they have exported.

During the calendar year 1943 French North Africa was presumably a net importer of wheat, but in each of the two crop years 1942–43 and 1943–44 the region probably maintained a small export balance. According to official announcement, the United States and Britain shipped to North Africa during November–May 1942–43 for the use of civilians 80,000 tons of flour and 6,500 tons of wheat (in total, about 4 million bushels as wheat).[37] After the harvest of the grain crops of 1943 such shipments ceased, and in the fall of 1943 French North Africa provided Allied forces with 30,000 tons of flour for feeding civilians in Sicily and Italy.[38] We infer that all cereal shipments to North Africa during the crop year 1943–44 were added to military

[35] *Ibid.*, and *London Grain, Seed and Oil Reporter*, Feb. 21, 1944, p. 184.

[36] *Foreign Crops and Markets*, April 1944, p. 149; *ibid.*, Nov. 20, 1944, p. 231; *Foreign Commerce Weekly*, May 6, 1944, p. 24, and May 27, 1944, p. 29; *Corn Trade News*, July 26, 1944, p. 294.

[37] *Department of State Bulletin*, Oct. 23, 1943, p. 271.

[38] *Ibid.*, p. 272.

stocks in that area and that no part of the stocks was released for general civilian consumption. If this inference is correct, French North Africa was self-sufficient in food grains during 1943–44, with net exports of about 1.5 million bushels of wheat shipped as flour.

Such small exports of grain should have left adequate supplies for domestic consumption in Algeria and Morocco, if not also in Tunis. But the flow of grain to legal markets in the principal cities was so light that milling regulations and bread-rationing measures were required to stretch the available supplies. In Tunis, where the supply position was perhaps worst, a minimum wheat-extraction rate of 94 per cent was supplemented by a barley-admixture requirement of 15 per cent. Similar milling regulations were imposed in Algeria somewhat later in the crop year; and in Algiers bread continued to be rationed at 300 grams daily. These evidences of extreme tightness in the grain positions of countries that normally rank as net exporters probably mainly reflected widespread hoarding of grain by producers and the diversion of large quantities of grain from legal to black markets. We infer that the total human consumption of wheat and barley was well maintained or even increased in French North Africa in 1943–44 and that stocks of wheat on farms were close to average size at the end of the crop year.

LATIN-AMERICAN IMPORTERS

Most of the larger Latin-American countries are about self-sufficient in grain. Only two play a major role in world trade—Argentina as an exporter of wheat, corn, oats, and barley and Brazil as an importer of wheat. In the last few years Brazil has exported increased quantities of rice, but these exports have appeared important only because the far larger surpluses of the major rice-exporting countries of the Orient have not been available to the Western world.

Wheat, corn, and rice are all primary food cereals in Latin America, with each predominant in certain countries and areas. In Chile and Uruguay, as in Argentina, the principal cereal consumed is wheat. In Brazil, Peru, and Mexico, all three cereals are important, with corn the predominant food grain in Peru and Mexico. In Cuba and the Caribbean area as a whole, rice rises to top position, though corn and wheat remain important secondary cereals.

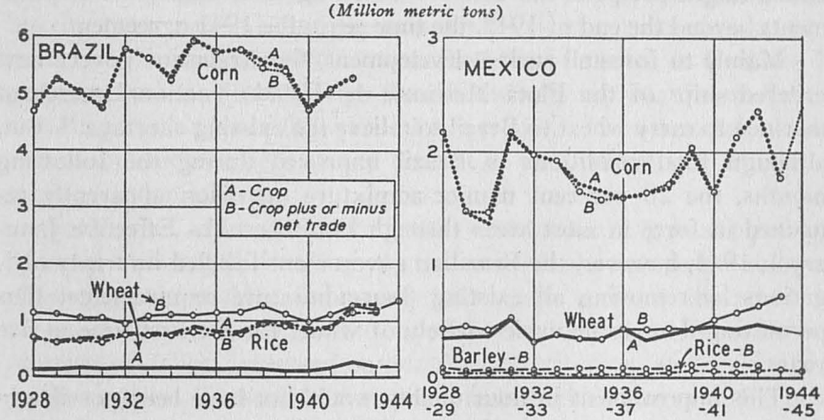
Over the past decade, most of the grain-importing countries of Latin America have taken steps to approach if not attain self-sufficiency in grain. Many have endeavored to expand domestic production of rice and wheat, and a number have adopted milling regulations requiring increased wheat-extraction rates or admixture of other cereals or cassava with wheat flour for breadmaking.

The record of the expansion that has taken place in rice production during the past ten years is impressive (Table 45).[39] Many Latin-American countries have recently become fully self-sufficient in rice and some have begun to produce recurring surpluses.[40] In contrast, the efforts of Latin-American countries to reduce their larger deficits in wheat seem to have been less successful. Net imports of wheat and flour have been well maintained, and in a number of countries even increased, over the past decade. During the last two or three years, shortage of shipping has been more important than governmental controls in restricting the wheat imports of some of these countries. Under the influence of wartime prosperity, increased total export balances, and rising internal prices, several countries have temporarily relaxed their earlier restrictions against imports of wheat and flour.

Brazil was the largest net importer of grain in Latin America in 1943–44, as in earlier years. Her recent grain-supply position is shown in historical perspective in Chart 28, left section. Corn, the principal

CHART 28.—GRAIN CROPS AND SUPPLIES IN BRAZIL AND MEXICO, FROM 1928–29*

(Million metric tons)



* Data in Tables 2, 3, 12, 45, and 46, and from *Foreign Crops and Markets* (U.S. Office of Foreign Agr. Relations).

[39] The Office of Foreign Agricultural Relations of the U.S. Department of Agriculture has published during the past year considerable information on rice production, trade, and utilization of Western Hemisphere countries. See *Foreign Crops and Markets*, January 1944, pp. 8–13; June 1944, pp. 258–59; and L. Thelma Willahan, "Central American Rice Crop Declines in 1943," *ibid.*, July 10, 1944, pp. 14–16.

[40] These developments and the problems they present for the future are treated in V. D. Wickizer, *Rice in the Western Hemisphere: Wartime Developments and Postwar Problems* (Food Research Institute, War-Peace Pamphlets 7, Stanford University, Calif., April 1945).

grain crop of Brazil, is used primarily for feed, though the quantity used for human consumption is perhaps about equal to the amount of wheat flour consumed. Rice has recently increased in importance, both as a national crop and as a domestic food. It seems reasonable to infer, therefore, that the Brazilian people may have consumed more cleaned rice than wheat flour in 1943–44.

Despite statistical indications of adequate food-grain supplies in Brazil in 1942–43 and 1943–44, considerable tightness developed in the food positions of certain areas and cities in the late spring of 1943. This was primarily associated with the current irregular flow of wheat from Argentina, attributable to shortage of shipping.

To prevent further deterioration in the food position, the Brazilian government ordered rationing of bread in Rio de Janeiro and San Pablo on July 14, 1943 and at the same time raised the specified admixture of manioc flour in bread in those cities from 10 to 20 per cent. The latter measure represented a reversal of preceding government moves to reduce the use of manioc flour for bread purposes, in line with the terms of the Brazilian-Argentine trade agreement of 1941.[41] The new increase caused great concern in Argentina, where officials feared that Brazil might postpone the date for canceling flour-admixture requirements beyond the end of 1943, the time set in the 1941 agreement.

Mainly to forestall such a development, the Argentine government ordered ships of the Flota Mercante del Estado (national merchant marine) to carry wheat to Brazil to relieve the existing shortage.[42] But, although food conditions in Brazil improved during the following months, the 20 per cent manioc-admixture provision apparently remained in force in most areas through December 31. Effective January 1, 1944, however, the Brazilian government fulfilled its treaty obligations by removing all existing flour-admixture requirements, thus permitting flour to be made entirely of wheat for the first time in five years.

This improvement in flour quality would not have been possible in the absence of increased imports of wheat. Although official trade data are lacking, we infer from reports of Argentine shipments that Brazil imported more wheat in 1943–44 than in any preceding year except 1938–39—roughly 41 million bushels as compared with 33 million in the preceding year. There is reason to believe that a significant part of

[41] At the time the agreement was signed, Brazil was requiring a 23 per cent admixture of manioc, corn, and rice in bread. This was reduced to 15 per cent manioc on June 1, 1941, and to 10 per cent during most of 1942 and the early part of 1943.

[42] *Boletin Informativo*, Aug. 15, 1943, pp. 359–60.

the increased imports went to build up stocks under a new governmental stock-building program.

As a partial offset to imports of over a million tons of wheat, Brazil exported something like 100,000 tons of rice. Presumably the bulk of the rice exports were sold to Britain for distribution to British rice-consuming areas like the Guianas, to Indian troops on various fronts, and to the British home market. On December 21, 1943, the United States and Britain signed an agreement with Brazil for the purchase of the exportable surpluses of the rice crops of 1944–45.[43] Under this agreement, sufficient quantities of rice are to be supplied to other American countries to cover essential demands.

Mexico was the second largest wheat importer of Latin America in 1943–44. This country probably imported at least 15 million bushels of wheat and flour during 1943–44, or more than ever before. Although the bulk of the imported grain came from the United States, small quantities came from Argentina, Canada, and Australia.

Mexico's large wheat imports mainly reflected the abnormally heavy wartime demand for grains in that country. Available domestic supplies were short not because the 1943 crops were startlingly small (Chart 28, p. 135), but because the domestic demand was considerably heavier than usual. It is true that the Mexican corn crop was not a good one, but smaller corn harvests had been reported in 6 of the 10 preceding years. And although the 1943 wheat crop was the smallest in 4 years, it was appreciably above average size. These two basic crops were supplemented by a record harvest of rice, which was wholly retained for domestic use.

In Mexico, as in a number of other countries, rising food prices apparently encouraged hoarding of grain, increased employment and purchasing power enabled the masses to consume more of the preferred cereals than previously, and strained internal transport facilities and scarcity of labor prevented satisfactory distribution of the available grain supplies. These factors resulted in market shortages of the principal food grains. It is possible that such shortages were further accentuated by diversion of increased quantities of corn to livestock under the stimulus of high and rising meat prices.

To ease the tightness in the food position and to combat price inflation, the Mexican government restricted the exportation of most foods (prohibiting exports of some), established price ceilings for the basic foods, granted transport priorities for the movement of essential

[43] *New York Times*, Dec. 22, 1943, p. 6.

products, and took steps to combat hoarding and black-market trading. Despite these measures, hoarding persisted and food prices continued to rise. The food index for Mexico City which had increased from 178 to 244 during the preceding crop year, advanced to 253 in December 1943 and to 317 in July 1944 (1929 = 100). Some further rise may have occurred during the following six months, in spite of prospects for an increased grain harvest.[44]

[44] The increase in the new corn crop will considerably more than offset the declines indicated for wheat and rice. From July 1, 1944, flour has been subject to export control, and exports of rice, corn, wheat, wheat flour, and many other foods have been subject to heavy export taxes (*Foreign Crops and Markets,* July 17, 1944, cover page).

PART 2. FEED GRAINS IN 1943-44