The Economic Resources of Fukien

Fukien is a mountainous province, the hinterland consisting entirely of high elevations which gradually slope down into the rich agricultural plains near the sea-coast. With copious rainfall and an almost semi-tropical climate, the plains are rich in fruit crops and agricultural products, while the mountainous regions abound in timber and mineral wealth. In dealing with the economic resources of the province, it is well to classify the various kinds of natural wealth into: minerals, agricultural and forestry products, fishery products, etc.

I.-MINERALS

Among Fukien's mineral products molybdenum occupies an important place. The best known molybdenum mine is at Lipikong (黎壁坑), Yungtai (永泰). The mine was worked by the local inhabitants by primitive methods in pre-Republican days. In 1913 a Cantonese capitalist organised the Yung Pao Molybdenum Mining Company (永寶銅礦公司) and worked the mine by semi-modernised methods. In that year 6,472 catties of molybdenum ores were turned out, in 1914, 24,340 catties and in 1915, 11,787 catties. The company, however, did not know the method of reducing the metal and had to export the crude ores, mostly to England. In the following years the market quotations for the ores rose phenomenally, from £80-£100 in 1912 to £300-£400 a ton, when a brisk demand for the metal was created by the War in Europe. But shortly after the output decreased considerably and the unhealthy climatic conditions in the mining regions took a heavy toll of life of the miners including the promoter and some of his assistants. The company, having sustained serious losses, was compelled to suspend work. Recently, it is attempting to resume operations by raising more capital. Other molybdenum mines so far discovered are those at Taokongshan (桃坑山), Ningteh (寧德), Tsiaokong (蕉坑), Tsaokong (早坑), Sukong (蘇坑), Maweishan (馬尾山) and Kulingkong (鼓嶺坑), Yungtai.

Quite a number of lead and silver mines have been discovered in Fukien province including those at Shihiszshan (石獅山) and Tungpaoshan (東寶山), Ningteh, Shihtsoshan (石竹山), Foochow, Chiloshih (極樂寺), Yungtai and Ningkong (銀坑), Yungtai. Those at Shihiszshan and Tungpaoshan were discovered in the Ming dynasty (1368-1661 A.D.) and many of the abandoned pits in this neighborhood show that the mines had been worked in the remote past. At the beginning of the present century, ores were again discovered in those regions and one Chwang Wei-hsin (莊惟心), a prosperous tin smith of Foochow,
in 1912, obtained official permission to work the mines by organising the Hwa Hsing Mining Company (華興礦務公司) with a capital of $15,000. In the following year Chwang Weihsin obtained two mining concessions, one at Shihszeshan, covering 575 mow and one at Tungpaoshan, covering 570 mow. The company, after a brief unsuccessful career, was compelled to suspend operations, the bulk of its capital having been spent in lawsuits. In 1915 it was refloated with a new capital of $130,000 with Lu Ai-yun (陸愛雲), a Cantonese capitalist, as manager, and under the new management certain quantities of ores were turned out. But the company soon found difficulty in the reduction of the ores, owing chiefly to the lack of foreign experts caused by the War in Europe and also to the lack of capital to set up a modern ore smelting plant. About $30,000 of the capital was spent but the results were not encouraging. In 1925 some local capitalists made another attempt to develop the mines. They turned out about 30 piculs of ores daily but were confronted with the same difficulty of ore reduction. Being unable to solve the problem by modern scientific methods, they made a trial of the skill of the local tin smelters, of whom a number were employed to smelt the ores. The promoters, however, soon found the experiment too costly and had to give up the venture after having spent several thousand dollars. According to British and Japanese mining experts, the ores produced at Shihszeshan contain about 70 to 80 per cent. of lead, and about 26 ounces of silver can be obtained from every ton of the ores. On the Foochow local market the ores are sold at about $10 a picul.

Common alum is another important mineral product of Fukien. The article is produced by a class of backwoodsmen at Futing (福鏟), near the Chekiang border, where over 10 alum manufacturing plants, employing in total over 1,000 hands, are operating. Alum manufacturing in this region dates back to the Ming dynasty. The alum is obtained from rocks, which are burnt in kilns for about 24 hours before being crushed and dissolved in water, which is later on strained and conducted into wooden tubs. When the water remains in the tub for a certain period of time, the alum in solution begins to crystallise and settle on the bottom of the tub. The upper layer of alum is always pure and crystal and is known commercially as “pure alum” (清花) and that at the bottom is often impregnated with impurities and is known as “muddy alum” (土花). In quarrying the rocks, an expert is always employed to see whether the rocks contain a high percentage of alum. The expert is an artisan of the old school, who trusts entirely to his experience. He can tell by a glance whether the rock is productive of alum or not.

In addition to what is consumed on the home market, about $300,000 or $400,000 worth of alum is exported yearly to foreign countries. The bulk of the export business is done by the Kwang Shiu Yuan Silver & Co. (廣紹源公司). Alum has many uses in
arts and industries. In Fukien it is most commonly employed in preserving edibles such as sea blubber and other vegetable or animal food and also used to clarify drinking water when it is too thick with mud and other impurities. The jewellers use alum as an adhesive in holding gems or precious stones in their settings. Chinese scholars prepare a kind of sympathetic ink from a solution of alum and water.

A kind of semi-transparent, colored stone known under different commercial names as Shoushan stone (壽山石), "frozen stone," (凍石), "wax stone" (蠟石), etc., is much quarried for making art works and also for industrial uses. The stone is produced at Foochow and Hinghwa (興化) but the best known quarries are located at Shoushan (壽山), near Foochow. Hence its name, Shoushan stone. The stone is in different colors and in various degrees of transparency. Commercially, it is classified into the coarse and the fine varieties. The quarries at Shoushan cover an extensive area. The stone is found in the bed of mountain creeks or in cultivated fields. It is quarried by the local farmers in their farming slack seasons by means of hammer and borers and, sometimes, with the aid of explosives. The stone of the coarse variety is reduced to powder for coating and calendering paper and cloth and also as an ingredient in making soap, tooth powder, and clay figures. Stone of the fine variety is made into art works such as seals, ink slabs, pen rests and other kinds of table decorations. The best kind is sometimes made into imitation jewellery for the ladies. Recently a new use is made of the stone powder in the rubber manufacturing trade in Foochow. The local rubber sole manufacturers use it as an adulterent to the rubber in making soles.

Last but not the least is kaolin or porcelain clay, which is produced in half a dozen districts in Fukien including Ningteh (寧德), Mintsing (閩清), Kutien (古田) and Tehwa (德化). The clay is used chiefly by the local porcelain ware manufacturers in making wares of the coarse and cheap variety for the local market. Only at Tehwa the wares are finer in quality and fetch higher local market prices than the products of other places. Compared with the Kingtehchen wares of Kiangsi province, the Tehwa product is much inferior in appearance. It is, nevertheless, more durable.

II.—AGRICULTURAL AND FORESTRY PRODUCTS

Among the agricultural products tea forms an important item of Fukien's exports. The Wu Yi Mountains (武夷山), with its ranges extending to hundreds of li, are particularly noted for its tea plantations. Bohea tea (Bohea is a corruption for Wu Yi) is well-known on the market. Tea plantations in the Wu Yi mountains are found mostly at high elevations, where, with copious rainfall, the tea shrubs thrive luxuriantly. Among black teas the best sellers on foreign markets are Congou and Sou-
chong teas. Pekoe is a highly prized green tea, being quoted recently in Foochow at T's. 300 a picul, consumed mostly on markets in Russia. There are also several kinds of flower-scented teas produced for the home market (See articles: "Manufacture of Flower Scented Tea in Foochow," Bulletin No. 198, "Production and Marketing of Tea in Fukien," Economic Monthly, Vol. II, No. 4 and also "Foochow Tea Settlements," Bulletin No. 315.)

Timber is too well-known a product of Fukien to need further mention. Articles on this subject have already appeared in Bulletin Nos. 193 and 197 and Economic Monthly, Vol. III, No. 11. In Fukien mountains nearly a hundred varieties of wood grow of which about twenty are of commercial value. Besides fir and pine, camphor wood is also popular and fetches good market prices. It is a hard, close-grained wood, used for making high-grade furniture. Camphor wood is also used to distil camphor and camphor oil. The total yearly consumption figure of camphor wood as timber is estimated at about $100,000, while camphor and oil, extracted from camphor wood, represent a total value of also about $100,000 a year. The nanmu is a highly valued hard wood, much sought after by the wealthy classes for making coffins. The flower wood is obtained from a species of pear tree. The wood have markings which sometimes develop into fantastic figures. It is used mainly for making high grade furniture.

Flowers form an important product of Fukien farms. A large number of Fukien farmers earn their living by cultivating flowers either for the local market or for export. In the local tea trade large quantities of fragrant flowers are used for scenting the tea. Those for export are nacisus tazetta, white jasmine and numerous species of epidendrum. Nacisus tazetta grows from bulbs in water. The bulbs are raised by farmers at Changchow and other localities for export to the northern provinces and also to America. Several million dollars worth of the bulbs are produced yearly. The flower of white jasmine is gathered and sold to the local tea factories for scenting tea at about $60 a picul, while the shrubs are planted in pots or wrapped in matting and exported to the northern ports, especially to Tientsin. Over 100,000 jasmine shrubs are exported yearly. The shrub is sold on the Foochow local market at 30 cents each but when it reaches Tientsin, the price advances to a dollar. White jasmine thrives in warm climes but can hardly stand the rigors of the winter of North China. On reaching North China the plant grows for a while but dies after the first or the second winter. Thus the Fukien florists are always kept busy with orders from Tientsin or other northern provinces. Various kinds of epidendrum are produced in the mountainous regions of the province but the best producing center is Lungyen. The bulk of the
plants sold on the Shanghai market is imported from that locality.

Among Fukien's fruit crops, lungan and olive rank first in the scale of commercial valuation. Lungan is a fruit similar to lichee but smaller. Its sweet, juicy flesh is encased in a thin soft shell. The total yearly lungan crops in the province are about 100,000 piculs, valued at $10 each. Fresh lungan, owing to its highly perishable nature, is consumed entirely on the local market. That for export is generally dried and is sold on the markets of the northern provinces under a new name of Kwai Yuan (桂圆), which is consumed as sweet meat or for making pastries. Chinese epicures attach much medicinal value to lungan, which is very frequently eaten by invalids as a tonic. Olive is also produced in great abundance at places in the valleys of the Min River. In a normal year about 400,000 piculs of olives are grown in the province. Commercially, olives are classified into three or four kinds, the best kind, known as Tan Shang (檀香) being sold at about $25 a picul, while the lowest grade is worth only about $8 or $9 a picul. The bulk of the Tan Shang variety are consumed in the northern provinces in a fresh state, while the inferior kinds are exported in a preserved state, either salted or candied. The name "Foochow orange" has become a household word in China. The orange groves are mostly found in Foochow country districts, where in a good year about a quarter of a million piculs are produced. The fruit is exported to the northern provinces either in a fresh state or preserved in sugar known as "orange cake." On the Foochow local market, fresh oranges are sold at $5 to $8 a picul. The under-sized oranges are always picked out by the fruit dealers for the orange cake factories and also for the drug dealers for making medicine. Kumkwat is a fruit of the orange family but smaller in size than the Foochow orange. It is gathered from trees or shrubs growing in a wild state in Fukien backwoods. Kumkwat orange used to be of great commercial importance among Fukien's fruit crops, although the output is decreasing yearly. The fruit is usually candied and consumed as sweet meat. (For particulars, see article: "Candied Kumkwat Oranges in Foochow," Bulletin No. 308.) Other fruits of commercial importance are lichee, persimmon, sugar cane, peach, plum, and strawberry.

Several million dollars worth of tobacco leaves are produced in Fukien. The best known tobacco producing center is Eng-ting (安定). The leaves are prepared into four or five kinds of tobacco all for the Chinese water pipe. The best kind of raw tobacco leaves is sold at $30 a picul on the Foochow market and the price rises to about $100 a picul when prepared into tobacco. The leaves produced in Foochow neighboring districts are always marketed at Foochow in a raw state. The tobacco is partly consumed on the local market and partly exported to other
provinces. The yearly production figure is believed to amount to at least several million dollars. At Engting alone the tobacco crops of a good year sometimes represent a total value of $3,000,000.

Bamboo and bamboo shoots are of much economic value to Fukien farmers. In Foochow alone there are scores of varieties of bamboo. Some are grown as garden ornaments and some for medicinal purposes but the majority find uses in every day life. Bamboo canes are felled chiefly for making furniture and many kinds of household utensils. The young canes are consumed in the paper manufacturing industry, which has already been dealt with in Bulletin No. 204. The bamboo shoots find a place in the larders of rich and poor alike. With the exception of a certain quantity consumed locally in a fresh state, the bulk of Fukien's bamboo shoots are exported either canned or in a dried state. The best kind is the winter crop, the shoots being gathered in winter in mere buds. The winter crop is always carefully packed and exported to distant markets in a fresh state. Dry bamboo shoots, having lost their succulence and tenderness are not much sought after by epicures and, hence, cannot fetch good prices even though exported to other provinces. Over 100,000 piculs of dry bamboo shoots are exported yearly to Chekiang, Hupeh and Kiangsi, the best kind being sold at about Tls. 30 a picul. Recently some food canning companies in Foochow and Amoy export fresh bamboo shoots in tin cans. Each can has a gross weight of two pounds and is sold at 23 cents. Other agricultural products include rice, potato and numerous vegetable crops, all of which are consumed locally.

III.—FISHERY PRODUCTS

The fishing industry in Foochow has already been dealt with in Bulletin No. 342. The fishery products of Fukien province are so plentiful that only a small portion is consumed on the local market in a fresh state, the balance being preserved or dried for export. Among the preserved fishery products for outside markets three deserve mention: dried oyster, seaweed and shark's fin. This species of dried oyster is known locally as "bamboo oyster" and is highly prized as a table delicacy. It is produced at nearly all places along the Fukien sea-coast and is always dried for export. The output is limited as compared with the demand and in a normal year hardly exceeds 1,200 piculs. The best kind of "bamboo oyster" is produced in the neighborhood of Lienkong (連江). On the Fukien local market, the first grade dried "bamboo oyster" is sold as high as Tls. 300-Tls. 400 a picul. Oyster of the medium or inferior grade is sold at Tls. 160-Tls. 170 a picul. Japan also produces a similar kind of "bamboo oyster" which is sold on the Foochow market at only Tls. 50-Tls. 60 a picul. But
the article is so inferior in taste that the Fukien public much prefer to buy the local product, though the former is sold at a quarter of the price. Dried seaweed is produced at Diongloh (長樂), Futsing (福清) and Sansha (三沙). It is sold in Fukien at about Tls. 200 a picul. A kind of seaweed of Japanese origin also occasionally appears on the Foochow market, sold only at about Tls. 30 a picul, but, in spite of its cheapness, it can hardly compete with the local product, which is far superior in taste and other respects. Chinese epicures credit both the dried oyster and seaweed with certain medicinal values and both are usually consumed by invalids. Shark’s fin is valued as a table delicacy throughout China. Without shark’s fin no banquet would be considered complete. The sharks are caught off the Fukien coast. There are a number of shark’s fin dealers in Foochow, who are experts in preserving and preparing the fins for the market. The majority of the fresh fins are collected from the local fishermen, though Formosa also contributes a small quota.

IV.—LIVE STOCK

Stock breeding in Fukien province is pursued mostly by farmers on a very limited scale. The Fukien public consumes more pork than beef or mutton or other kinds of meat put together. For this reason more pigs are raised by the farmers than either sheep or cattle. The local breed of pigs yield excellent pork but the demand on the local market is so great that every year Fukien butchers import large numbers of pigs from Wenchow, Chekiang province, to make up the balance. Domestic fowl is also raised by farmers on a small scale. Game birds including quail, partridge, pigeon and ducks are occasionally brought to the market by hunters. In the mountains several kinds of sheep and goats are also caught. The flesh, especially the blood of the wild sheep, is supposed to have tonic value and fetches a good price on the market.

V.—MANUFACTURES

Among Fukien’s manufactures lacquer ware is of nationwide fame. The subject has been fully dealt with in Bulletin No. 342 under the article: “Foochow Lacquer Ware.” Next in importance is paper umbrellas. The handle of the umbrella is made of a slender but strong bamboo pole, which is painted with lacquer, sometimes decorated with figures or inlaid with decorative pieces of bones. The ribs are made of split bamboo and the web, of a kind of locally produced tissue paper, made water proof by a coating of wood oil. About 1,000,000 pieces are produced yearly. The price on the local market ranges from 30 cents to a dollar each. Ma Kwang Kee (馬光記) is the greatest umbrella manufacturer in Foochow. Sometimes the web is made of cloth or silk in imitation of the imported kind. Several
million dollars of paper made from bamboo pulp is turned out yearly by Fukien paper manufacturers. The industry in recent years has suffered a setback in view of the competition of imported paper on the home market. Formerly, the total yearly output of paper by the province was valued at $8,000,000 but at present the output has decreased by about one-fourth of the former figure. The paper produced by Fukien manufacturers is of different grades, the best kind being used for printing the *Dai Fook* notes by Foochow native bankers. For particulars about the production and consumption of Fukien paper, see article: "Paper Manufacture in Fukien," in *Bulletin No. 204*. 