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**THE REGULATION AND DEVELOPMENT
OF THE YELLOW RIVER**

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General Features of the Yellow River

The Yellow River is the second greatest river in our country. It originates in the Chinghai plateau, traverses through numerous highlands, gorges and plains and finally empties itself into the Gulf of Hopei, having a total length of 4,845 km and a drainage area of 745,000 km². The Yellow River basin yields plentiful products and possesses abundant mineral deposits and water resources. It constitutes in our country the main production area of wheat, miscellaneous cereals and technical crops—tobacco and cotton. There are rich deposits of coal, petroleum, iron, copper and aluminum. In this area there live about 180,000,000 inhabitants of different nationalities, as Han, Islam, Mongolian and Tibetan. The Yellow River basin was the cradle of our country's cultural development, and for many centuries, the political and economical center of the country.

The amount of rainfall is comparatively low in the Yellow River basin, with an annual mean precipitation of only 400 mm. Furthermore, almost half of which is concentrated in July, August and September and mostly in the form of heavy downpours.

In the loess region along the middle reaches of the river, there is an area of about 370,000 km² under serious erosion. Due to the looseness of the soil structure, the intensity of the precipitation, the steepness of the slope and the exposure of the land surface to erosion, large amount of silt is washed into the Yellow River. As a result, vast expanses of fertile plateau land have been turned into barren ridges and steep gullies, the agricultural production has been seriously damaged, and the Yellow River has become the muddiest stream on the world. The annual mean amount of silt passing by Shan *hsien* in Honan Province amounts to 1.38 billion tons. If this amount of silt were used to build a dike one meter by one meter in section, it would be able to encircle

the earth 23 times at equator. At the lower reaches, where the slope becomes gentler, the river channel broadens and the velocity is slower, the silt carried along by the river will settle down. As a result, the riverbed raises year by year and the river is thus turned into an "aboveground river". During flood of extraordinary magnitude, there would occur serious calamities ranging from dike-breaking to course-shifting. According to the historical records, during the past three thousand years, there occurred more than 1,500 times of dike-breaking, including 26 cases of course-shifting. Each of the dike-breaking and course-shifting was accompanied by heavy losses in the lives and property of the people. For instance, the flood of 1933 had caused more than 50 breaches and flooded an area of 11,000 km². More than 3,640,000 people were affected with over 18,000 casualties. Property worth some 230 million silver dollars was lost. In 1938, when the Chiang Kai-shek regime purposely breached the dike at Huayankow in Honan Province, 54,000 km² of area was inundated, and 12,500,000 inhabitants were affected with 890,000 casualties. These calamities were closely related to the crimes of the reactionary ruling class. In average, there happened "two breaches in every five years".

Brief History in Harnessing the Yellow River

All through our history, the Chinese people has made unceasing efforts in harnessing the Yellow River. More than four thousand years ago, as the legend tells, the Saint Yu left his bride three days after wedding and worked on the river for eight years, passing by his home three times without entering it. Pan Chi-hsun in the latter part of the 16th century and Chin Fu and Chen Huang in the latter part of the 17th century had contributed much in the harnessing of the Yellow River. Chia Jan of 7 B.C. as well as the contemporary hydraulic engineer Li Yi-chih did propose scientific methods for the control of water and silt and for their proper use. Their ideas, impossible to be realized in old society, can only become true nowadays when the power is in the hands of the people. The Chinese People have had a long history in the utilization and development of water resources. Irrigation works such as the Ching and the Han canals were built one to two centuries B.C., and a water lifting device called the "heaven wheel" was invented in the eleventh century.

The Regulation and Development of the Yellow River after Liberation

Since the liberation of the lower reaches of the Yellow River in 1946, the people masses along the river has waged a stubborn fight in harnessing the river, under the leadership of the Chinese Communist Party and the People's Government. In the nine years until 1954, for controlling the river, the government has made a huge investment of 154 million *yuan*, which is 33 times the investment to the Yellow River by the Kuomintang regime during its 18-year rule from 1914 to 1932. 67% of this amount was spent for the strengthening of dikes along the lower reaches. During the past few years, over 1,800 km of dikes has been repaired with an amount of earthwork of 130,000,000 m³. Owing to the rationalization of labour organization, the adoption of "pay according to work" policy and the improvement of tools, the efficiency of earthwork has been raised constantly year after year. For instance, the capacity of earthwork per worker has risen from 1.44m³ in 1946 to 5.32 m³ in 1954. 8,000 cavities and cleavages have been discovered by probing and filled, and 23,000 foxes and other harmful animals have been caught. The dike has thus been strengthened considerably. For instance, during the flood season of 1949, there occurred over 400 leakages, while in 1954 with a heavier flood, only one leakage was found. 14,350,000 trees and 66,000,000 bunches of grass have been planted in order to provide proper protection to the main dike.

In 1949, 78% of the revetments at dangerous sections was still made of stems of sorghum, while in 1954, 99.4% of it has been replaced by masonry with 2,300,000 m³ of stoneworks involved. Moreover, since the channel of the Yellow River in Shantung Province is too narrow to drain off the huge flood flow, the People's Government has constructed two flood retarding basins, namely Pei Chin Ti and Tung Pin Hu. In case of extraordinary flood, if necessary, part of the flood flow may be diverted into these areas, so that the security of the main dikes may be ensured. In these areas, small dikes have been built around the villages to protect them. The loss in crops due to diversion of flood will be compensated by the government.

During the flood season in July, August and September every year, hundreds of thousands of people are organized up to protect the dike and fight against the flood. In 1953, some of the masonry revetments near by Liuchuang of Shantung Province was damaged by the flood. The flood was finally conquered and no damage was done, after tens of thousands of people and workers worked unceasingly round the clock for three to four days.

Owing to the accomplishment of the above mentioned works, nine flood seasons have passed without causing damages, and the security of lives and property of the people along the river is thus ensured. Besides, People's Victory Canal has been built near the Chengchow railway bridge. This canal diverts from the Yellow River 50 m³/sec of water, in which 29 m³/sec is used to irrigate 720,000 *mou* of farmland, and 23 m³/sec is used to supplement the flow of Wei River, so as to improve the navigation of the 900 km stretch between Hsinhsiang and Tientsin. At the head of the main canal, destilling basin has been constructed in order to prevent the main canal and the Wei River from silting. The construction work of this project was first started in 1951. It was put into operation in April of 1952. In the past three years from 1952 to 1954, only the increment in crops has amounted to 880,000 *yuan*, which is 125% that of the total investment. Furthermore, the transportation capacity of the Wei River has also increased in 1954 to 230% that of 1951. We are now considering to futher extend the amount of diversion and the irrigated area and to make use of the drops on the main canal for power generation. This is a creative work on the lower reaches in the utilization of Yellow River water. In addition, syphons were built at Keifong in Honan Province, through which 5 m³/sec of water could be diverted to irrigate 20,000 *mou* of farmland in the suburb of Keifong as well as to improve the sanitary conditions of that city.

Preparatory Works for the Regulation and Development of the Yellow River

In order to collect reliabedata for the compiling of a multiple-purpose plan for permanently controlling the Yellow River and exploiting its resources, in the past few years, we have done over the whole river basin large amount of work

on reconnaissance, surveying, geological exploration, hydrographical observation, silt research and soil conservation experiment.

In the years from 1950 to 1954, we have done large amount of reconnaissance work for basin planning, irrigation, soil conservation and flood retarding basin. Total area reconnoitred amounts to 426,189 km². In the reconnaissance of 1952, the head water of the Yellow River was found to be Yekutsunglieh stream instead of the formerly believed Singsuhai. Besides, numerous excellent dam sites have been found too both on the main stream and the tributaries. Among them, the Sanmen Gorge in Honan Province and the Liuchia Gorge in Kausu Province are ideal and have been decided as main projects in the first-stage development.

As to the surveying and geological exploration works, we have done topographical surveying over an area of 34,685 km², triangulation control, precision levelling and astronomical point survey, and also the geological exploration at 27 places with a total drilling-in of 13,000m.

A hydrographical observation network has been established with 200 hydrographical stations (developed from a mere 20 at liberation) and 400 precipitation stations. The annual mean volume of flow of the Yellow River is 47,000,000,000 m³. However, owing to the simultaneous downpours over the main tributaries—King, Lo, Wie, Fen and Chin in the middle reaches between Shensi and Shansi provinces, the flood discharge of the Yellow River is large and with sudden fluctuations. In spite of these difficulties, the accurate and timely flood forecast, being afford the downstream much time to get prepared, plays a great role in the struggle against flood.

Silt problem is a key problem in the permanent control of the Yellow River. A big research institute has been set up at Chengchow in Honan Province, and various scientific instruments have been employed to study the characteristics of silt and its rule of transportation in river. According to our analysis, the average silt concentration of the Yellow River at Shan *hsien* is 34 kg/m³, while that of the Nile River in Egypt is kg/m³, the Amur River in Soviet Union 4 kg/m³ and the Colorado River in America 10 kg/m³. 90% of its silt comes from the middle reaches of the river between Paotow and

Shan *hsien*. The highest ever known silt concentration of Wooting River, one of the tributaries of the Yellow River, even reaches 1,518 kg/m³. About 40% of the silt carried through Shan *hsien* will settle in the river channel downstream, and the rest will flow into the sea.

Besides the construction of reservoirs on the main course and the tributaries, soil conservation work in the badly eroded area is the most important measures to tackle the silt problem. In the past few years, experimental soil conservation works have been done in typical regions with good results, and this has in turn prepared the ground for the further development of soil conservation work on an extensive scale.

The Great Plan for Permanently Controlling the Yellow River and Exploiting its Water Resources

In harnessing the Yellow River, we have the aim not only to eliminate the flood disaster permanently in its middle and lower reaches, but also to utilize its water resources to meet the demand in the development of our national economy for power generation, irrigation and navigation, to convert the world-famous treacherous river into one which will serve the people. With the completion of the afore-mentioned preparatory works, necessary conditions have been provided for the permanent control of the Yellow River. With the selfless aid of Soviet experts, a multiple-purpose plan for the development of the Yellow River has been prepared in 1954.

Now, the "Multiple-purpose plan for permanently controlling the Yellow River and exploiting its water resources" has been adopted by the Second Session of the First National People's Congress. Under the leadership of the Chinese Communist Party and Chairman Mao and the selfless aid of our great ally, the Soviet Union, our people are now facing a new era, the era of thoroughly eliminating the disasters caused by the Yellow River and the comprehensive use of its water resources.

According to the need and possibility of our national construction nowadays, a first-stage plan — part of the multiple-purpose plan — has been submitted, which will be carried out within three five-year plans. The most important projects in the first-stage plan are: two reservoirs for the comprehensive purposes of

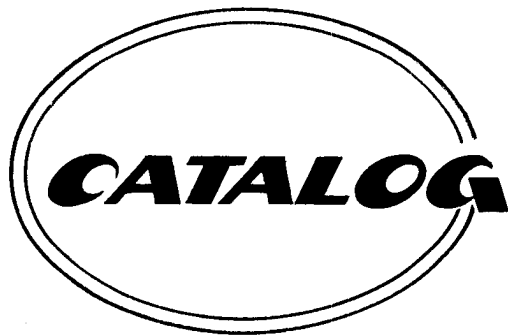
flood prevention, irrigation and power generation, one at Sanmen Gorge in Honan Province and one at Liuchia Gorge in Kansu Province; three diversion dams on the main stream; and also more than a dozen reservoirs of medium and minor sizes on the tributaries. With the completion of these projects, the threat of disasters downstream will be a thing of the past; industries and farm-lands along the river will be supplied annually with cheap electricity amounting to 9.8 billion Kw-hr; almost half of the river flow will be used for irrigation with the increasing of irrigated area by 30,250,000 *mou*; this practically unnavigable river will have a length 1,800 km navigable in stretches; the soil conservation works in the loess plateau will double the local agricultural production and will cut the silt content in the Yellow River by half. The investment of the first-stage development is 5,324,000,000 *yuan*, but this amount will be recovered in 6 years by the benefit of irrigation alone. As to the eventual solution of the flood problem of the Yellow River, it is impossible to be estimated in figures.

The over all plan calls for the construction of 46 dams on the main stream and numerous flood preventing and silt detenting reservoirs on the tributaries. The entire river will then run clear. The huge hydro-electric power plant scattered on the entire river will generate 110 billion Kw-hr of cheap electricity every year, i.e. ten times the total output of the country in 1954. This electrical energy will be supplied to meet the demand of industrial development and also the cities and villages. Nearly all of the river flow will be used for irrigation and the irrigated area will be extended to 116,000,000 *mou*, i.e. seven times the present value. The annual yield in grains will be increased by 6,800,000 tons, and the cotton by 600,000 tons. Navigation facilities will be greatly developed, with the entire middle and lower reaches of the river about 3,600 km in length navigable to steamship. Tug boats of 500 ton capacity will be able to sail right from the estuary to Lanchow. Barren loess plateaus in the middle reaches will be converted into an afforested, verdure-carpeted and highly productive land, suitable for the development of agriculture, forestry and pasturage. The Yellow River and its tributaries will then become highly valuable rivers in our national economy.

The bright future of the Yellow River encourages the Chinese people. Under

the leadership of the Chinese Communist Party and Chairman Mao, with the unceasing efforts of all our people and the assistance of the Soviet Union and our international friends, the Yellow River will certainly be harnessed, and the "Multiple-purpose plan for permanently controlling the Yellow River and exploiting its water resources" will certainly be completely realized, so that the Yellow River will not only serve the socialist construction, but also the communist construction in the future as well.

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CHINA NATIONAL CEREALS, OILS & FATS
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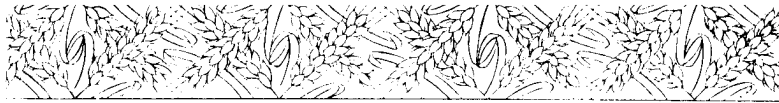
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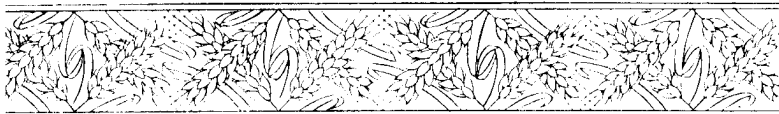
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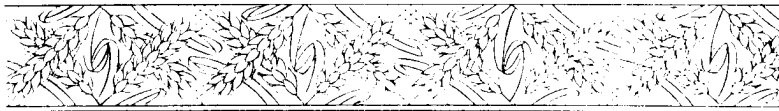


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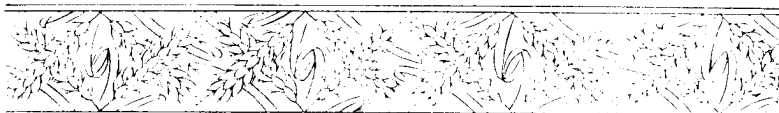
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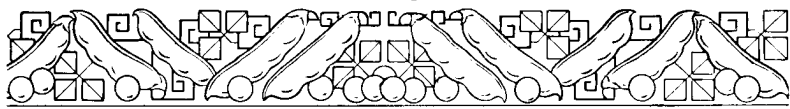


糧穀類

Cereals

大	米	RICE
	粳 米	Round-shaped Rice
	秈 米	Long-shaped Rice
	糯 米	Glutinous Rice
小	麥	WHEAT
麵	粉	WHEAT FLOUR
麩	皮	WHEAT BRAN
玉	米	MAIZE
高	粱	KAOLIANG
大	麥	BARLEY
燕	麥	OATS
裸	麥	RYE
蕎	麥	BUCK WHEAT
小	米	MILLET





豆 類

Beans

大 豆

SOYA BEANS

黃 大 豆
青 大 豆
黑 大 豆

Yellow
Green
Black

紅小豆

SMALL RED BEANS

天 津 紅 小 豆
唐 山 紅 小 豆
山 東 紅 小 豆
崇 明 紅 小 豆
安 徽 紅 小 豆
張 家 口 紅 小 豆

Tientsin Origin
Tangshan Origin
Shantung Origin
Tsongming Origin
Anhwei Origin
Kalgan Origin

綠 豆

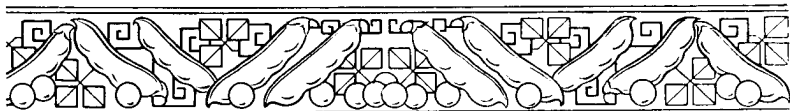
SMALL GREEN BEANS

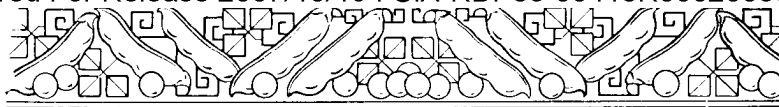
張 家 口 綠 豆
漢 口 綠 豆
明 光 綠 豆
四 川 綠 豆

Kalgan Origin
Hankow Origin
Mingkwong Origin
Szechuan Origin

白小豆

SMALL WHITE BEANS





雜豆類

Pulses

蠶豆

BROAD BEANS

嘉興手揀
寧波手揀
張家口

Kashing origin, handpicked
Ningpo origin, handpicked
Kalgan origin

馬料豆

HORSE BEANS

中國馬料豆
漢口
陝西

Chinese Horse Beans
Hankow Origin
Shensi Origin

云豆

KIDNEY BEANS

扁豆

LENTILS

大白扁豆
小扁豆

Large, White
Small

豌豆

PEAS

大白豌豆
小白豌豆
花豌豆

Large, White
Small, White
Mixed Coloured

豇豆

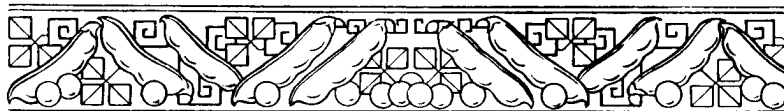
STRING BEANS

竹豆

BAMBOO BEANS

青竹豆
花竹豆

Green
Mixed Coloured





油籽類

Oilseeds

花生果

手揀分級及不分級

GROUNDNUT IN SHELL

H.P.S. Graded & Ungraded

花生仁

大路貨
手揀分級及不分級

GROUNDNUT KERNELS

F.A.Q.

H.P.S. Graded & Ungraded

棉籽

COTTONSEED

芝麻

白, 黃, 黑,

SESAMESEED

White, Yellow & Black

葵花籽

SUNFLOWERSEED

菜籽

RAPESEED

芥菜籽

MUSTARDSEED

大麻籽

HEMPSEED

蘇籽

PERILLASEED

胡麻籽

LINSEED

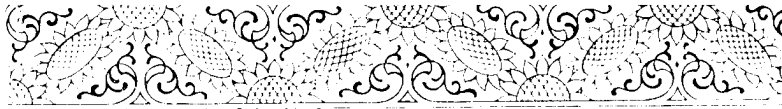
蓖麻籽

CASTORSEED

椰子乾

COPRA





油 品 類

Oils

工業用油

INDUSTRIAL OILS

桐 油
梓 油
大 麻 籽 油
胡 麻 油
蓖 麻 油
菜 籽 油
蘇 籽 油

Tung Oil
Stillingia Oil
Hempseed Oil
Linseed Oil
Castor Oil
Rapeseed Oil
Perilla Oil

食 用 油

EDIBLE OILS

豆 油
花 生 油
棉 籽 油
芝 麻 油
茶 油
芥 菜 籽 油
椰 子 油

Soyabean Oil
Groundnut Oil
Cottonseed Oil
Sesame Oil
Teaseed Oil
Mustardseed Oil
Coconut Oil

香 料 油

ESSENTIAL OILS

茴 油
桂 油
黃 檀 油

Aniseed Oil
Cassia Oil
Yellow Sandal Wood Oil



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其 他

Others

鹽

SALT

各 種 穀 類
豆 類 及 油 料
作 物 種 籽 等

Selected Seeds of
Cereals, Beans,
Oleaginous plants, etc.



樣 品 函 索 即 寄

Sample to be supplied upon request



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