JPRS 84730

10 November 1983

China Report

AGRICULTURE

No. 278

FBIS FOREIGN BROADCAST INFORMATION SERVICE

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PEOPLE'S REPUBLIC OF CHINA

ABSTRACTS

WEATHER STATION ISSUES WARNING ON TYPHOON NO 16

OW222110 Beijing Domestic Service in Mandarin 1200 GMT 23 Oct 83

[Text] The Central Meteorological Station issued a typhoon warning at 1800 hours [1000 GMT] on 23 October. This year's No 16 typhoon has taken shape this afternoon in the eastern area of the South China Sea. At 1400 hours [0600 GMT] this afternoon, the center of the typhoon was located about 400 km east of Yongxing Island of China's Xisha Islands at a 16.4 degrees north latitude and 116.2 degrees east longitude. Maximum winds near the center of the typhoon are of wind force 8. The center of the typhoon is expected to move west by north at a speed of 20 to 25 km per hour, gradually approaching the coastal areas in the southern part of Hainan Island. It is possible that the typhoon will land or pass through the coastal areas in the southern part of Hainan Island in the evening of 24 October.

Under the influence of the typhoon and the cold atmosphere, the central and northwest parts of South China Sea, the coastal areas of west Guangdong and the Beibu Wan near Hainan Island will gradually experience winds of force 6 to 8 from this evening to tomorrow. In areas near the path of the typhoon's center, strong winds of force 8 to 10 with heavy and torrential rains are expected.

Units concerned, please listen to the weather forecasts of local meteorological stations.

CSO: 4020/22

RADIATION SUCCESSFULLY USED IN AGRICULTURE

OW181052 Beijing XINHUA in English 0733 GMT 18 Oct 83

[Text] Beijing, October 18 (XINHUA)--Chinese scientists have developed 160 new crop strains using radiation, or about one-third of the world's total, according to Professor Xu Guanren, president of the Chinese Society for Application of Atomic Energy in Agronomy.

Professor Xu said that the new strains have been sown on eight million hectares of farmland in China and account for an annual increase of three million tons of grain. New rice, cotton, soya bean, corn and wheat strains are planted to about 330,000 hectares each.

China now has 140 units with more than 2,000 researchers engaged in applying nuclear technology to agriculture. A nationwide network including a crop strain breeding system has been established.

Professor Xu Guanren said that crop strains bred using radiation techniques are early-ripening, disease- and cold-resistant and high-yielding with a high content of protein. For instance, "Lumian No. 1" cotton which was sown to 1.92 million hectares between 1979 and 1981, increased yields by 450,000 tons of ginned cotton, valued at 1,950 million yuan.

Shangdong Province began to develop new seed strains using radiation in 1960 and has so far developed 30 varieties of cotton, wheat, corn, peanuts, millet, soya beans and sweet potatoes. "Shannongfu 63" wheat developed in 1976 and planted to 600,000 hectares of farmland in 1982, yielded 15 percent more than conventional wheat strains.

Isotope tracing technology is also being used in the study of crop metabolism, fertilizer and water absorption and effects of saline soil. This work has helped improve plant cultivation techniques including manuring, irrigation and soil improvement.

Scientists have developed a radiation technique to induce sterility in harmful insects, including the corn borer, cabbage butterfly and silkworm fly. Progress has also been made in control of the pine moth, pink cotton bollworm and sugarcane borer.

Radiation technology is being applied to preservation of grain, vegetables, meat and aquatic products and radioactive isotopes are used to diagnose animal diseases.

Professor Xu Guanren pointed out that nuclear technology is vital to the country's agricultural modernization and that the scope of application in agriculture must be expanded. He said that the technology can be employed to utilize land, water and plant resources better, improve low-yielding and alkaline land, control animal and plant diseases, and process and preserve farm produce and sideline products.

He suggested that nuclear technology research centers be established in other places besides Beijing and more personnel be trained. Nuclear agronomy should be a compulsory course for students in agricultural colleges, he added.

CSO: 4020/22

RECENT AGRICULTURAL DEVELOPMENT STRATEGIES

HK251337 Beijing JINGJI YANJIU in Chinese No 9, 20 Sep 83 pp 76-79, 34

[Article by Zhang Lin [4545 3829]: "A Summary of the Discussions on China's Strategy for Agricultural Development in Recent Years"--written in April 1983]

[Text] Correctly selecting and formulating a strategy for agricultural development is of enormous significance to the development of our entire national economy and to attaining the strategic goals of our country's economic and social development. In recent years, in our country, economists, scientists and the comrades of departments of practical agricultural work have widely and thoroughly discussed the question of the strategy for our country's agricultural development. Below is a summary of several major issues discussed.

I. On the Strategic Goals of Our Country's Agricultural Development

The question of prime importance in the formulation of agricultural development strategy is the correct selection of the strategic goals of agricultural development.

According to some comrades, proceeding from our country's specific conditions, the long-term strategic goals (for about 30 to 50 years to come) of our country's agricultural development should be as follows: to build an intensive and rational socialist modern agriculture with emphasis on economic benefits and with highly developed production of commodities, so as to satisfy the needs for grain and other agricultural products which arise from agricultural development and the daily life of the people of our country; to greatly upgrade the income level and living standard of the broad masses of peasants; and to build a prosperous and rich new countryside with a comprehensive development of agriculture, industry, commerce and transport. (Footnote 1) (Zhan Wu [6124 2976] et al: "Tentative Ideas About Strategic Measures for Developing Our Country's Agriculture," in HONGQI No 10, 1982) Some comrades hold that the strategic goal of our country's agricultural development should be the establishment of two beneficial cycles, that is, to bring agriculture into a beneficial economic cycle in the development of social production, and to bring it into a beneficial material cycle in the growth and multiplication of living things in nature. (Footnote 2) (Liu Zhongyi [0491 0022 0001] and Liu Yaozhuan [0491 1031 0278]: "Bring About Two Beneficial Cycles in Agriculture," in JINGJI YANJIU No 5, 1982) Some others put forth the concept of "multigoaled agricultural economic strategy."

They hold that the first strategic goal is "to let some localities become well-off before others do"; the second strategic goal is to proceed form actual circumstances to gradually raise the overall level of agricultural production and to raise the standard of material and cultural life of all peasants; and the third strategic goal is to basically transform the structure of agriculture (including the structure of production, technology and industries). (Footnote 3) (Luo Hanxian [5012 3211 0341]: "Multigoaled Agricultural Economic Strategy," in "JINGJIXUE ZHOUBAO [ECONOMICS WEEKLY]" No 20 1982)

Some people have summed up the above views and summed up the strategic goals of agricultural development as follows: to achieve agricultural modernization in our country, we must have well-developed agriculture, a rich countryside, and a good environment. (Footnote 4) (Mu Yu [2606 7183]: "A Summary of the Viewpoints Presented at the Academic Forum Held by the Chinese Agricultural Economics Society," in "GUANGMING RIBAO" 7 Nov 1982)

II. Debate on "Agriculture in its Broad Sense" and "Liangshi [4752 7380] [a term which in the PRC is mostly used to mean grain, but in other Chinese communities is often used to mean food] in its broad sense"

In discussing agricultural development strategy, some people put forth the ideas of "agriculture in its broad sense" and "Liangshi in its broad sense."

The idea of "agriculture in its broad sense" is that this term includes the growing of crops (including grain and industrial crops), forestry, animal husbandry, fishery and [word indistinct] occupations. (Footnote 5) (Tan Xunming [6223 6064 7686]: "A Brief Discussion of the Ideas of Agriculture in its Broad Sense" and "Liangshi in its Broad Sense," in "JIANGXI CAIJING XUEYUAN XUEBAO [JOURNAL OF THE INSTITUTE OF FINANCE AND ECONOMICS OF JIANGXI]" No 2, 1982) The idea of "Liangshi in its broad sense" is that anything that is edible should be regarded as Liangshi. (Footnote 6) (Hou Xueyu [0186 1331 3558]: "What Is Meant by the Ideas of Liangshi in its Broad Sense" and "Agriculture in its Broad Sense," in RENMIN RIBAO 10 Jun 1981) Some comrades say that the economic system of "agriculture in its broad sense" should not be confined to production in the realms of farming, forestry, animal husbandry, sideline occupations and fishery, but should also include rural industry and commerce, such as the storing, processing and marketing of agricultural products and so on. (Footnote 7) (He Guiting [0149 2710 1656] et al: "Several Strategic Policies Concerning China's Agricultural Modernization," in JINGJI YANJIU No 3, 1982) Some comrades also put forth the concept of "agriculture in the form of a cross, in a broad sense," which means that "agriculture in the form of the horizontal bar of the cross, in a broad sense," which is a term for horizontally linked agricultural occupations including farming, forestry, animal husbandry, sideline occupations, and fishery, is added to vertically linked "services for agriculture" and agricultural products processing industries. It is maintained that this is the broadest and most complete concept of agriculture. (Footnote 8) (Yu Guangyuan [0060 0342 6678]: "Brief Comments on 'Agriculture in the form of a cross, in a broad sense,'" in JINGJIXUE ZHOUBAO" No 17, 1982) Comrades who hold this viewpoint think that the ideas of "agriculture in its narrow sense" and "Liangshi in its narrow sense" interpret agriculture merely as the growing of crops, interpret agriculture merely as the growing of crops, interpret the growing of crops merely as the growing of Liangshi, and interpret Liangshi merely as several crops

of the grass family, such as rice, wheat, corn and so on, which mainly provide starch. Some comrades say that in our country's agricultural production over the 30 years prior to the 3d Pleanry Session of the 11th CPC Central Committee, a principal error was the implementation of a strategy based on "agriculture in its narrow sense" and "Liangshi in its narrow sense." (Footnote 9) (Shi Shan [4258 1472]: "Basic Characteristics of China's Agriculture and Strategies for its Development," in "Nongye Xiandaihua Tantu [Study of Agricultural Modernization]" No 19, 1981)

However, some comrades disagree with the formulation of "agriculture in its broad sense" and "Liangshi in its broad sense." They hold that the two categories, "da nongye [1129 6593 2814] [which has been rendered in the foregoing paragraphs as 'agriculture in its broad sense,' and which literally means 'great agriculture']" and "Xiao Nongye [1320 6593 2814] [which has been rendered in the foregoing paragraphs as 'agriculture in its narrow sense,' and which literally means 'small agriculture']," usually refer to the scale of production and the degree of socialization, and not to the scope of agriculture as a sector of material production, so that the literal meanings of these terms would easily be misunderstood as large-scale production and small-scale production in agriculture. To express different concepts about the scope of agricultural production, we should adopt the relatively clearly worded categories which people customarily use, namely, "Guangyi Nongye [1684 5030 6593 2814] [literally, broad-definition agriculture]" and "Xiayi Nongye [3707 5030 6593 2814] [literally, narrow-definition agriculture]." This pair of categories do not have appreciative or derogatory implications. [Footnote 10) (Zhu Jiannong [2612 0494 6593]: "The Formulation of 'Da Nongye' is Open to Question," in "NONGYE JINGJI WENTI [AGRICULTURAL-ECONOMIC QUESTIONS]" No 2, 1982; also Qin Qiming [4440 0366 2494] et al: "An Analysis of 'Da Nongye' and 'Da Liangshi [1129 4752 7380] [which has been rendered in the foregoing paragraphs as "Liangshi in its broad sense," and which literally means "great food"], in NONGYE JINGJI WENTI No 4, 1982] Some people say that if we include all kinds of food in Liangshi, then Liangshi cannot be distinguished from other kinds of food. Moreover, confusing "Liangshi in its broad sense" with diversified occupations would be disadvantageous to the correct handling of the relationship between grain production and other diversified occupations. (Footnote 11) (Ding Shengjun [0002 5116 0193]: "A Discussion of the Role of Grain in Our Country's Agricultural Development Strategy," in JINGJI YANJIU No 3, 1982; also Qin Qiming et al: "An Analysis of 'Da Nongye' and 'Da Liangshi,' in NONGYE JINGJI WENTI No 4, 1982)

III. On the Role of Grain Production in Our Country's Agricultural Development Strategy

Some comrades say that at present, the significance of the idea that grain is the basis of all bases in our country has not disappeared, because for many years to come, the food consumption pattern of our people can only be characterized as relying mainly on grain, with nonstaple foods such as meat, eggs, milk and vegetables as a supplement. Therefore, in the light of our national condition, we must give priority to considering the question of providing rice for our population of 1 billion people. As to the view held by some people, that we must learn from the West, that we must alter the food consumption patterns of our people, and that we must increase the consumption of food from animals

is converted from grain and other botanical raw materials; that the condition of countries in the West has demonstrated that with a food consumption pattern characterized by relying mainly on food from animals with food from plants as a supplement, grain consumption has not decreased, but, on the contrary, has greatly increased. Moreover, the development of grain production is a constraint on the development of diversified agricultural occupations and many industrial sectors, affects the stability of market prices, and so on. Therefore, these comrades think that grain production is of decisive importance in our country's agricultural development strategy. (Footnote 12) (Luo Zicheng [7482 1311 4453]: "Several Questions of Our Country's Agricultural Development Strategy," in "XUEXI YU TANSUO [STUDY AND EXPLORATION]" No 3, 1982; also Ding Shengjun: Ibid; and Ding Shengjun: "The Question of Providing Rice for Our Population of 1 Billion People is Still a Matter of Prime Importance," in GUANGMING RIBAO 17 Jan 1981)

IV. On the Question of Location in Our Country's Agricultural Development Strategy

There are several different views on the question of regional distribution.

Comrades who cherish the ideas of "agriculture in its broad sense" and "Liangshi in its broad sense" stress the importance of building mountain areas in our country's agricultural development. their reasons are as follows: ours is a mountainous country, with mountain areas (including hilly land and plateaus) occupying two-thirds of our territory; the mountain areas can produce an enormous number of products to satisfy the people's needs, to improve the food consumption pattern, and to enable the peasants to become well-off; and, moreover, only by running the mountain areas well can be bring the ecological system into a beneficial cycle so that agricultural output can be both stable and high. Therefore, these comrades hold that running the mountain areas well is the key solution to our country's agricultural problems. (Footnote 13) (Shi Shan [4258 1472]: "The Ideas of Agriculture in Its Broad Sense and Liangshi in Its Broad Sense and the Relationship Between These Ideas and Our Country's Agricultural Development Strategy," in YUNNAN SHEHUI KEWUE [YUNNAN SOCIAL SCIENCES JOURNAL]" No 2, 1981)

Some comrades also think that the 1.5 billion mu of cultivated land we currently have is the source of food and clothing for the Chinese nation, the basis of our nation's survival, and the foundation on which overall agricultural development is to be achieved. (Footnote 14) (Liang Xiufeng [2733 4423 1496]: "A Discussion of Our Country's Agricultural Development Strategy" in JINGJI YANJIU No 7, 1982) Tapping the potentials of our existing cultivated land is an important question in our agricultural development strategy. How to turn low-yield and medium-yield cropland into high-yield cropland and how to achieve a balanced growth in output over the 1.5 billion mu of cultivated land should constitute the main direction of attack. (Footnote 15) (Li Shihui [2621 1102 1979]: "Speech at the Beijing Area Academic Forum Held by the Chinese Agricultural Economics Society" in NONGYE JINGJI WENTI No 6, 1982)

Some comrades also put forth the tentative idea of developing the "middle zone." They think that the northeast plain, the north China plain and the plain in the

middle and lower reaches of the Changjiang bind the eastern part (including the Yantai Prefecture of Shandong, the Changjiang Delta and the Zhujiang Delta) and the western part (including the Qinghai-Xizang plateau, the loess plateau, the Nei Monggol plateau and certain large basins) of our country, that is, they form a "middle zone." The cultivated land, population, and output of principal agricultural products in this region account for over 40 percent of national totals. Here, the foundation of agriculture, the natural conditions, the technological standard of production, and the socioeconomic conditions are relatively good; however, the output is merely at the middle level or halfway between the middle and high levels. There are great potentials. If the state assigns priority to using its limited financial and material resources to develop this region, it will be easy to achieve relatively good economic results. If this "middle zone" is satisfactorily built, then over half of our country's economic strength in the realm of agriculture will be satisfactorily under control, and a relatively solid material foundation can thus be laid for a large-scale and comprehensive transformation and development of the western regions in the next century. Therefore, with regard to strategic distribution, they put forth the tentative idea of "consolidating the east, stabilizing the west, opening up the south (including the tropical and subtropical hilly land and a few plains), and developing the central region." (Footnote 16) (Weng Yongxi [5040 3057 2569] et al: "Certain Views on Our Country's Agricultural Development Strategy," in JINGJI YANJIU No 11, 1981)

Concerning distribution of agricultural production, everyone agrees that we must implement the guiding principle of suiting measures to local conditions and fully develop the superiority of each locality. We must not again foolishly reclaim land from lakes or destroy forests to open up new land. Moreover, those areas of cultivated land which are suitable for forestry, animal husbandry, or fishery should be gradually diverted from cultivation back to forestry, animal husbandry, or fishery respectively. However, some comrades say that in doing this, we must fully consider our basic national condition and satisfy our country's needs. We must consider suiting measures to local conditions under the prerequisite of suiting measures to our national conditions. (Footnote 17) (Luo Zicheng [7482 1311 4453]: "Several Questions of Our Country's Agricultural Development Strategy," in XUEXI YU TANSUO [STUDY AND EXPLORATION] No 3, 1982) In developing local superiority in agriculture, we must not disrupt overall proportions. (Footnote 18) (Lu Wen [4151 2429]: "Various Localities' Superiority in Agriculture and Overall Proportions" in JINGJI YANJIU No 9, 1982)

V. On the Strategic Measures for Developing Our Country's Agriculture

Strategic measures for developing agriculture ensure the implementation of strategic principles, and the attainment of strategic goals, of agricultural development. In the discussions, which center on the question of how to create a path of agricultural modernization suited to our national condition and possessing Chinese characteristics, the following principal strategic measures were put forth:

1. With regard to ownership structure, many different economic sectors and many forms of operation should continue to coexist for a long time.

Our country's rural economy is rather backward. The conditions of the productive forces and the economy are very complicated. Therefore, with regard to the forms of ownership in our country's agriculture, we must not resort to only a single economic sector, but must enable many different economic sectors and many different forms of operation (including operation by the state, the collective, and the individual, various forms of combined operation, and so on) to continue to coexist for a long time to come. (Footnote 19) (Liang Xiufeng" "A Discussion of Our Country's Agricultural Development Strategy," JINGJI YANJIU No 7, 1982) Under our country's specific conditions, the economy under collective ownership is rather compatible with the current level of development of agricultural productive forces. Therefore, we must formulate a long-term and stable policy of establishing the collective economy as the main body. (Footnote 20) (Zhan Wu [6124 2976] et al: "Tentative Ideas About Strategic Measures for Developing Our Country's Agriculture," in HONGQI No 10, 1982) Many comrades hold that responsibility systems with contracts linked to output and with the rural household as the operation unit are compatible with the characteristics of our country's agricultural production, and are a form of socialist cooperative economy. This form has been selected by the masses of peasants after many years' practice and it reflects the requirements of objective laws. This form of operation possesses relatively great inherent economic strength. It is not only compatible with the requirements of the development of our country's productive forces at the present stage, but is also compatible with the requirements of our country's agricultural modernization in the future. Therefore, it will continue to exist for a long time to come. (Footnote 21) (Wang Songpei [3769 2646 7198]: "A Summary of the Viewpoints Discussed at the 1982 Academic Forum of the Chinese Agricultural Economics Society," in "Jingjixue Dongtai [Developments in Economics]" No 1, 1983) Some comrades say that at present, in the countryside, the appearance of various kinds of specialist households and key households on the basis of the assigning of responsibility to each household for task completion and the fixing of farm output quotas for each household, coupled with the development of various forms of economic integration on the basis of voluntary action and mutual benefit, constitute a new thing in the development of our country's agricultural economy. These developments are of great significance. They represent an embryonic form of development of socialized production of commodities in agriculture under out conditions. They represent an important step, based on the development of responsibility systems in agricultural production, toward the specialized production of commodities in our country. They help reveal the prospects for development of our country's agriculture toward specialization and socialization. (Footnote 22) Wang Songpei [3769 2646 7198] and Qiao Tongfeng [0829 2717 1409]: "Agriculture is the Basic Ling in the Entire Chain of the National Economy," in JINGJI YANJIU No 10, 1982)

2. In our planning system, directive planning, guidance planning, and regulation by market mechanism should be integrated. Some comrades say that with the implementation of assigning each household responsibility for task completion, we have broken through the planning system characterization by administering regulation by directive planning alone. Assigning each household responsibility for task completion requires us to practice regulation by planning according to the characteristics of agricultural production and according to the nature of the cooperative economy in which ownership is by the production team but operation is by the household. The scope and limits of each of the following:

directive planning, guidance planning, and regulation by market mechanism, must be correctly defined. To rely solely on regulation by directive planning conflicts with the nature of the cooperative economy and is also incompatible with the characteristics of agricultural production. Any directive, no matter how scientific it may be, can hardly incorporate an accurate estimation of changes in various national conditions. No directive plan can substitute for the agricultural workers' initiative. (Footnote 23) (Yu Zuyao [0060 4371 1031]: "Assigning Households Responsibility for Task Completion in Agriculture is the Prelude to the Reform of Our Country's Economic Systems," in JINGJI YANJIU No 3, 1983)

Many comrades say that in reforming systems of planning for agriculture, we must particularly develop the role of the contract system. The economic contract is a contract with binding power, whereby two parties agree to bear certain economic responsibilities. This system is a means which helps strengthen state planning and which has been proved to be effective in practice. (Footnote 24) (Wang Songpei [3769 2646 7198]: "A Summary of the Viewpoints Discussed at the 1982 Academic Forum of the Chinese Agricultural Economics Society," in JINGJIXUE DONGTAI No 1, 1983) Some comrades hold that contracts can fully safeguard the peasant household's decisionmaking power over operation, can also effectively ensure the state's regulation of agriculture through planning, and can help coordinate and give due consideration to the interests of the state, the collective and the peasant household. Contracts include those concerning output, supply of means of agricultural production, purchase and marketing of agricultural products, and so on. Various kinds of contracts are interrelated and limit one another, forming a contract network. Thus, various links of agricultural production and various aspects of the rural economy can be brought into the track of planning. The contract system can integrate the roles of directive planning, guidance planning and various economic levers. It is more effective than directive planning alone in developing the role of regulation by planning. (Footnote 25) (Yu Zuyao [0060 4371 1031]: "Assigning Households Responsibility for Task Completion in Agriculture Is the Prelude to the Reform of Our Country's Economic Systems," in JINGJI YANJIU No 3, 1983)

3. The structure of agricultural production should include the simultaneous development of grain production and diversified occupations and the integration of production under specialization with comprehensive development.

Some comrades say that there are two objective laws governing the interrelationships between various sectors of agricultural production: first, specialization in agricultural production coexists with the overall development of a multisector economy; and second, the scale and speed of development of the multisector economy depends to a great extent on the level of development of the grain producing sector. Whether a country or locality can carry out multisector operation, what scale of development can be attained by various sectors of production, what sectors are principal ones, and what pattern of production is adopted, do not depend on people's subjective aspirations, but depend to a great extent on the level of development of grain production, that is, on the scale and speed of this development. Therefore, if the pattern of our country's agricultural production is to be rational, a 67.33 ratio should be maintained between the value of output of the crop growing sector and that of the animal husbandry

sector. Forestry should account for 30 percent of the total land area. The value of output of industrial enterprises run by communes and production teams should be over 50 percent of the total value of rural industrial and agricultural output. The precondition for achieving this agricultural production pattern is that the actual quantity of grain available to each person in our country is 800 jin. (Footnote 26) (Yan Ruizhen [0917 3843 3791]: "A Discussion of the Interrelationship Between Grain Production and the Diversified Economy," in JINGJI YANJIU No 7, 1981)

Some comrades say that although, with the development of agricultural modernization, we must reform our country's agricultural structure, which is marked by the existence of "small and complete" units, develop production under specialization, and raise the level of socialization of agricultural production, however, because specialization in agriculture is more strictly limited by the level of grain output and other conditions, therefore, in our country, we must not blindly pursue a high degree of specialization, especially in this century, but we should stress the integration of specialization with comprehensive development. In particular, there should be a relatively balanced distribution in grain production. Under the precondition of striving for a complete or basic degree of self-sufficiency, various localities should develop various categories of specialized production. (Footnote 27) (Zhu Daohua [2612 6670 5478]; "An Examination of Our Country's Agricultural Development Strategy," in JINGJI YANJIU No 4, 1983)

4. Intensive operation is the basic path to agricultural development.

Our country has a large population but a small land area. The per capita quantities of various categories of agricultural land resources are markedly lower than the average world levels. Moreover, reserves of resources for development into cultivated land are very scanty. Therefore, in developing agriculture, our country cannot rely on increasing land area to increase output. The way out is to carry out intensive operation, to vigorously riase land productivity, and to raise the output for each unit area of cultivated land, forest land, grassland and water. (Footnote 28) (Luo Zicheng [7482 1311 4453]: "Several Questions of Our Country's Agricultural Development Strategy," in XUEXI YU TANSUO No 3, 1982) However, there are several considerably different views on what forms of intensive operation we should adopt in modernizing our country's agriculture. Some comrades hold that our country should resort to labor intensive agriculture which is mainly based on an appropriate level of technology. The reason is that our rural workforce includes as many as 300 million people. Our abundant labor resources constitute an enormous motive force for the development of production. However, there is a shortage of production funds and energy resources. Therefore, we should develop labor intensive operation in agricultural production. Moreover, we must stress applying the fruits of modern agricultural and biological sciences to transform agriculture, and we must upgrade and put to use the traditional experience in organic agriculture. (Footnote 29) (Sun Han [1327 7318] and Shen Yuqing [3088 3558 3237]: "Several Questions of Strategy for Our Country's Agricultural Development," in "ZHONFFUO NONGYE KEXUE [AGRICULTURAL SCIENCE IN CHINA]" No 1, 1982) Some comrades also think that under our country's specific conditions, each of the three methods: the labor intensive method, the capital intensive method and the technology intensive method, cannot be used alone. A combination of these three methods, playing their roles jointly, forms a complete system

of agricultural production factors. This is an effective path to solving the many practical problems in our country's agricultural development. (Footnote 30) (Bai Jinbing [4101 3871 0393]: "On Intensive Operation in Our Country's Agriculture," in NONGYE JINGJI WENTI No 1, 1982)

5. Our technological structure should integrate organic agriculture with inorganic agriculture and traditional agriculture with modern agriculture.

Some comrades hold that strategically speaking, our country's agricultural technology system should be governed by the guiding principle of developing both organic agriculture and inorganic agriculture in a coordinated way and integrating them. In the short term and medium term, we should first develop organic agriculture. This is based on a consideration of our national conditions and resources. (Footnote 31) (Li Weiwu [2621 5898 2976]: "Initial Examination of Organic Agriculture," in NONGYE JINGJI WENTI No 9, 1982) We should not and cannot rely on large-scale mechanization and building projects, as advanced, highly industrialized countries do. We should take the path of assimilating the fruits of modern science and technology while maintaining the fine traditions of our country's organic agriculture. (Footnote 32) (Luo Zicheng [7482 1311 4453]: "Several Questions of Our Country's Agricultural Development Strategy," in XUEXI YU TANSUO No 3, 1982)

6. With regard to industrial structure, we should practice joint agricultural-industrial-commercial operation.

If our country is to achieve greater agricultural development, we must take the path of relying on the commodity economy. Vigorously developing the rural commodity economy, and ending the condition of our economy as a natural economy, constitute a path we must necessarily take if our country's agriculture is to advance from a low level of development and a state of backwardness to a high and advanced level of development, and if the countryside is to develop from a state of poverty and backwardness to a state of prosperity and civilization. (Footnote 33) (Luo Zicheng [7482 1311 4453]: "Several Questions of Our Country's Agricultural Development Strategy," in XUEXI YU TANSUO No 3, 1982) Therefore, some people hold that developing the rural commodity economy is a strategic question related to the overall situation. (Footnote 34) (Liu Zhicheng [0491 1807 3397]: "Developing the Rural Commodity Economy is a Strategic Question," in JINGJI YANGJIU No 4, 1982)

Some people hold that developing those commercial enterprises and rural industrial enterprises directly linked to the forward stages and backward stages of agriculture, and practicing integrated agricultural-industrial-commercial operation, are of great importance to the development of production of commodities in the countryside and to the achievement of agricultural modernization. It is because in this way, agricultural production and the development of the rural commodity economy can be boosted in range and quality; and, moreover, this is the indispensable means of building medium-sized and small towns and gradually reducing the differences between workers and peasants as well as between the cities and the countryside. An organizational form of agricultural economy, characterized by having collective ownership as the main body and joint agricultural-commercial-industrial operation as the content, will be the core and link promoting and integrating the development of various economic sectors.

(Footnote 35) (Xia Defang [1115 1795 5364]: "Basic Strategy for Quickening Our Country's Agricultural Development," in "JINGHAI XUEKAN [JIANGHAI [3068 3189] ACADEMIC JOURNAL]" No 3, 1982) Integrated agricultural-industrial-commercial enterprises (including forestry-industrial-commercial, animal husbandry-industrial-commercial, and fishery-industrial-commercial enterprises, and so on), are a new thing. These enterprises integrate the three links: agricultural production, processing and marketing. They will exert a profound influence on our national economy. They change the structure of the rural economy, reduce the differences between cities and the countryside, promote the production of commodities by the agricultural sector and increase the channels of circulation while reduing the links of circulation. Moreover, they help end the isolation of departments and localities from one another, and help end the situation of segregation due to the system of ownership by departments or localities. (Footnote 36) (Xu Dixin [6079 3321 2450): "On the Role of Enterprises Run by Communes and Production Teams and the Role of Integrated Agricultural-Industrial-Commerical Enterprises, and the Relationship Between Them," in JINGHAI XUEKAN No 2, 1982)

7. A good agricultural-ecological system must be established.

A good ecological environment is the basis of, and a very important condition for, the development of agriculture. Over many years in the past, under the influence of erroneous "leftist" ideology, natural laws governing agricultural production were seriously violated, leading to a serious sabotage of resources in the sectors of farming, forestry, animal husbandry, sideline occupations and fishery. In the future, we should earnestly remember the lesson of this experience. We must comprehensively implement the guiding principle of simultaneously developing the following five sectors on a full scale: farming, forestry, animal husbandry, sideline occupations and fishery. In the farming sector, we must bring about a rational combination of various crops and a rational farming system; we must implement the principle of integrating the use of land with the conservation of land; and we must earnestly and more vigorously undertake the great endeavor of forest conservation, which helps transform nature and is beneficial to both the present generation and future generations. We must satisfactorily protect the existing forests, reduce the quantity of trees felled, which is already excessive, and increase the reserves of trees by earnestly undertaking the principal task of afforestation. For a relatively long time to come, in animal husbandry, we should mainly raise livestock in farming areas and should vigorously develop herbivorous animals and poultry. We must strengthen the building of grasslands in pastoral areas and raise the capacity of these areas in supporting livestock. In freshwater fishery, we must shift the main occupation from the catching of aquatic creatures to the raising of aquatic creatures, and so do a good job of protecting and increasing resources. To sum up, we must guide our country's agriculture according to the laws of ecological balance. All construction projects, mechanical measures and technological measures, as well as the overall farming system, composition and distribution of crops, and so on, must be compatible with ecological balance. (Footnote 37) (Zhan Wu [6124 2976] et al: "Tentative Ideas About Strategic Measures for Developing Our Country's Agriculture," in HONGGI No 10, 1982) Some comrades also say that although we should resolutely stop and correct mistakes, like those committed in the past, of disregarding laws of natural ecological cycles and robbing nature of its resources, we must not think that we can only passively adapt ourselves to the existing relationships of ecological balance in nature, without altering such relationships. We should adopt an

active attitude, fully develop man's initiative in production and construction, and fully and rationally transform and make use of nature. We can break the existing ecological balance in nature and establish new relationships of balance to replace the existing ones. We must integrate the opening up and utilization of natural resources with the conservation and development of these resources. (Footnote 38) (Footnote missing in original article)

8. With regard to the composition of energy resources, we should open up various categories of energy resources.

At present, there is an acute shortage of energy resources in the countryside. With the development of agricultural modernization, the problem will become increasingly more serious. Everyone agrees that the implementation of our agricultural development strategy will be unthinkable if the problem of energy resources is not solved. To solve this problem, aside from vigorously popularizing various measures for economizing on energy resources, we must also open up energy resources in many different ways. At the present stage, we must mainly vigorously plant trees that yield firewood, popularize the use of methane, develop small hydroelectric plants, small wind power stations, and small coalpits in the countryside, and use biological energy resources such as solar energy, and so on. However, some comrades say that if we merely rely on these things in the future, it will be very difficult for us to build a modern agriculture. The large-scale use of petroleum products in agriculture is a major form of progress in the history of agricultural development. Judging from existing modern technology, there is no effective substitute. There must be technical breakthroughs in biological science before biological energy resources can be fully used and the rate of conversion of solar energy can be greatly raised. Under this condition, we must definitely not still adhere to a closed or semiclosed system. We should increase the input of industrial energy resources and advance toward an open agricultural system. (Footnote 39) (Zhu Daohua [2612 6670 5478]: "An Examination of Our Country's Agricultural Development Strategy," in JINGJI YANJIU No 4, 1983)

CSO: 4007/276

BRIEFS

COTTON PROCUREMENT WORK--Beijing, 10 Oct (XINHUA)--This year's new cotton became available in early September, and since then procurement work has been under way. Up to the end of September, a total of 16.37 million dan had been procured. This was twice as much as the quantity procured during the corresponding period of last year. Of this quantity, some 6.01 million dan were obtained from Shandong, some 4.02 million dan from Hebei, and more than 2.07 million dan from Jiangsu. [Beijing XINHUA Domestic Service in Chinese 0808 GMT 10 Oct 83 OW]

CSO: 4007/276

BRIEFS

CONTRACTUAL LIVESTOCK PRODUCTION--Beijing, 8 Oct (XINHUA)--According to statistics of Nei Monggol, Sichuan, Qinghai, Xinjiang, and Gansu, China's major pastoral areas, there are a total of more than 16,400 stock-raising teams in these five provinces and autonomous regions, of which more than 13,300, or 81 percent of the total, have adopted the all-round contractual production responsibility system. [Beijing XINHUA Domestic Service in Chinese 0816 GMT 8 Oct 83 OW]

CSO: 4020/22

BRIEFS

CABBAGE HARVEST--Beijing, 27 Oct (XINHUA)--Beijing this year expects to have 400,000 tons of Chinese cabbage, the same level as last year, today's BEIJING DAILY reports. Chinese cabbage is one of the main winter vegetables consumed in this part of China. The paper notes that per-hectare yield on the 5,000 hectares planted in the near suburbs this year averages 4.5 tons. The 1,300 hectares planted further out give a per-hectare yield of four tons. The 90-day cabbage sown in early August was affected by diseases caused by heavy rains in early August and many overcast days in September and October. The vegetable growers intensified the field management. Pays by the municipal departments to growers of fine-strain cabbages were higher to encourage such planting, the paper says. [Text] [OW270758 Beijing XINHUA in English 0744 GMT 27 Oct 83 OW]

CSO: 4020/22

BRIEFS

AGRICULTURAL MECHANIZATION MEETING--From 18 to 20 October, the Henan Provincial Department of Machine Building and Electronic Industry held an appraisal meeting in Zhengzhou on zoning of agricultural mechanization. An appraisal committee was organized by 34 experts, professors and leading cadres of the China Rural Development Research Center; the China Agricultural Mechanization Scientific Research Institute; the Nanjing Agricultural Mechanization Research Institute of the Ministry of Agriculture, Animal Husbandry and Fishery; the Beijing Agricultural Machinery and Chemistry College; the Shanxi Agricultural University; agricultural departments of Shandong, Hebei, Shanxi and Tianjin; and various committees and departments in Henan. He Zhukang, governor; and Hu Tingji, vice governor and chairman of the provincial agricultural zoning committee; and Shi Shan, adviser to the China Rural Development Research Center, attended and spoke. In light of the factors which affect agricultural mechanization, such as the nature, agriculture, and the social economy, the province has been divided into four agricultural mechanization zones. [Summary] [HK271520 Zhengzhou Henan Provincial Service in Mandarin 1100 GMT 21 Oct 83]

CSO: 4007/276

BURIED ANCIENT RIVER COURSES INVESTIGATED

OW111249 Beijing XINHUA in English 1107 GMT 11 Oct 83

[Text] Shijiazhuang, October 11 (XINHUA)--About 300 sections of buried ancient river courses have been located in Heilonggang, North China, during a survey by the Geographical Institute of Hebei Province.

The find has provided valuable data for exploiting shallow groundwater resources for irrigation and lent clues to the evolution of the waterways on the North China plain and future trend of development.

The old river courses covered an area of about 14,000 square kilometers, one-third of Heilonggang area, a promising agricultural center north of the Yellow River. The project is one of the key research items undertaken by the state.

The survey showed that there are 30 billion cubic meters of groundwater in the area, and 666,000 hectares or 25 percent of the farmland there can be irrigated. Geographers also located 20 sites suitable for building underground reservoirs.

Scientists suggest that big factories, railway and highway junctions and high buildings should not be built on the ancient river courses because of the thick sand layers and soft soil.

CSO: 4020/22

HUNAN USES COMPUTER TO GUIDE RICE CROPPING

OW211126 Beijing XINHUA in English 1110 GMT 21 Oct 83

[Text] Changsha, 21 October (XINHUA)--Agronomists in central China's Hunan Province are now using computers in guiding rice cropping.

The Hunan computer center is working out software to provide optimum rice plans.

"We can now advise anybody giving us the basic data," said Zhou Congyao, a researcher at the computer center who worked out the programing. "We have replaced much field work with prior calculations."

Applied on an experimental basis in the province's Loudi Prefecture, the computer system has boosted rice output by at least 50,000 tons on 260,000 hectares of land in the last 4 years, the prefecture's agricultural department reported. More and more peasants in Hunan are now turning to the computer data on the local climate, application of fertilizer, prevention and control of pests and crop diseases and other field conditions.

A number of mathematical models have been worked out that make it possible to stimulate the growth of rice and other crops. When the necessary data are fed in, the computer prints out an optimum plan in the form of simple charts for the given conditions, which ensures high output, low cost and protection of the environment.

"With more and more data stored in it, our computer system will become a real "rice expert," Zhou Congyao said.

Scientists in Hunan are also working on application of computers in agricultural undertaking other than growing crops.

CSO: 4007/276

BRIEFS

PORK PRODUCTION CENTER--Nanjing, 25 Oct (XINHUA)--The first large lean pork production center is to be set up in Jiangsu Province. The center, located in Suzhou City, expects to provide 500,000 lean pigs next year and one million by 1985. Suzhou City, which has six counties with a rural population of 4.2 million, markets 2.6 million pigs each year. Lean pigs at the center are crosses between local fine breeds and foreign ones. In recent years fat pork has been overstocked in a lot of Chinese cities as vegetable oil output doubled between 1978 and 1982. Per capita consumption of meat reached 13.45 kilograms in 1982, one-third more than in 1978. [Text] [OW251144 Beijing XINHUA in English 1126 GMT 25 Oct 83 OW]

CSO: 4020/22

PEASANT EXPENDITURES ON FOOD, WARES INCREASE

SK211047 Changchun Jilin Provincial Service in Mandarin 1030 GMT 20 Oct 83

[Text] Our province has reaped a bumper harvest this year. The income of peasants will remarkable increase and the rural markets in the busy season will be more flourishing. A survey by the relevant departments shows that the peak period of rural markets will come earlier and will last longer than usual. There will be a big increase in the people's purchasing power and new changes will be taking place in the way the people spend their money. The characteristics are:

1. Peasants have markedly increased the proportion of investment for expanded reproduction. A survey among 50 peasant households shows that in the coming winter-spring period the expenses for expanded reproduction will increase by 2.1 times over the same period last year and the proportion of their total expenditure will increase from last year's 37.5 percent to 53.3 percent.

2. The purchasing structure of daily consumer goods has changed to a certain extent. The consumption of food, clothing and commodities for daily use has comprehensively increased. The general expenses of 50 peasant households for buying daily consumer goods this winter and next spring will increase 51.8 percent over [the] same period last year. Of this, the expenses for food will increase 19.3 percent and for clothing, 27 percent, over the corresponding period last year. Apart from cotton cloth which has dropped in consumption because less cotton overcoasts are required, the purchase of chemical fibers and cotton-padded shoes and leather shoes has increased to a greater extent. The purchase of durable consumer goods has increased 2.2 times over the same period last year. The purchase of bicycles, sewing machines, clocks and watches has doubled that of last year. The peasants' requirement of brand-name durable consumer goods in pressing.

3. The repair and construction of houses remain an important matter of peasants. The expenses of peasants for buying building materials in this winter-spring period will increase 3.9 times over the same period last year.

CSO: 4007/276

VICE GOVERNOR ON DIVERSIFIED ECONOMY

HK260338 Xining Qinghai Provincial Service in Mandarin 1100 GMT 25 Oct 83

[Excerpts] The Qinghai provincial meeting on diversified economy held by the provincial government opened at the provincial people's auditorium yesterday morning.

Vice Governor Yin Kesheng gave an opening speech. He said that the main tasks of discussion for this meeting were: Using as ideological weapons the important speeches given by Comrade Hu Yaobang when he inspected our province to sum up and exchange experiences in developing diversified economy and becoming rich through diligence in our rural and pastoral areas; commending the advanced; studying the new features and problems in developing commodity production under the new situation; and adopting further effective measures related to policies, science and technology and administration and management, thus striving to open up a new prospect for our diversified undertakings.

He said that the success of this meeting will produce a positive impact on bringing a radical turn in the guiding thoughts on the development of agriculture and animal husbandry, promoting the transformation of our agriculture and animal husbandry from self-sufficient or semi-self-sufficient economy into a commodity production of a considerable scale and from a traditional mode into a modern mode of production; raising labor productivity and the ratio of commodity; and enabling our rural and pastoral areas to become rich as soon as possible.

After making an analysis of the situation of diversified economy in our province, Yin Kezhong said that judging by the whole situation, the development of diversified economy and commodity production was only a beginning. There are still many new matters and problems that we urgently need to explore, study and solve. Most of the diversified undertakings are of the nature of commodity production. It is necessary to provide the service of supply, marketing, processing, storing, transportation, technology, information and credit. Only when all these service links operate smoothly can we guarantee the smooth progress of production. Therefore, we must further emancipate our minds, enthusiastically support and help the peasants' and herdsmen's demand for developing commodity production, and thus open up a new prospect for the diversified undertakings in our province.

CSO: 4007/276

SHAANXI URGES SUPPORTING SPECIALIZED HOUSEHOLDS

HK241216 Xian Shaanxi Provincial Service in Mandarin 1130 GMT 23 Oct 83

[Summary] Under the guidance of the party's various rural economic policies, specialized households, major households and new economic combines in rural areas in Shaanxi Province has developed vigorously. In 1981, specialized households and major households accounted for 1.9 percent of the total number of peasant households throughout the province. However, the number of specialized households and major households in rural areas in the province by the first half of this year was some 552,700, or 10 percent of the total number of peasant households. With the development of the specialized households and major households, the province now has some 17,000 economic combines of various kinds. Some specialized villages and specialized teams have emerged one after another. With the emergence of the specialized households, major households, and some new economic combines, the rural economy has undergone a profound change, the production of commodities has quickly developed, and the production of agricultural and sideline products has increased, and the urban and rural economy has been more enlivened. The average net income of each peasant throughout the province in 1982 was 23 percent more than last year, and the rural surplus labor force was well used. The upsurge in studying and applying science has been quickly whipped up in the rural areas. At present, counties, communes, and brigades throughout the province have set up some 1,400 science popularization associations of various kinds and have some 130,000 scientific and technological specialized households.

The province recently held a symposium on work concerning specialized households and major households. The symposium seriously summed up and exchanged experiences in grasping the work concerning specialized households and major households, analyzed existing problems, and put forward measures to develop specialized households and major households.

At the symposium, Dong Jichang, secretary of the provincial CPC committee, pointed out: "It is necessary to continue to overcome the ideological influence of left and small-scale production, solve the ideological problems of failing to be bold, being not to one's liking, and being uncertain. We must use many ways and forms to do everything for the development of, and production in, specialized households and major households. In the wake of the development of specialized households, major households and economic combines, we must promote social economic and technological services before and after pro-

duction. We must adhere to the principle that the state, the collective, and individuals must all be promoted simultaneously."

Dong Jichang demanded: "CPC committees and governments at all levels must include on their agenda grasping work concerning specialized households and major households. They must promptly get hold of the new situation, sum up new experiences and solve new problems so that the new things--specialized households, major households and economic combines--will develop even more quickly and better."

CSO: 4007/276

GOVERNOR STRESSES COLLECTIVE ECONOMY

HK270609 Xian Shaanxi Provincial Service in Mandarin 0500 GMT 27 Oct 83

[Summary] The Shaanxi provincial meeting to commend progressives in developing collective and individual economy and providing jobs for urban young people opened in Xian yesterday. Present at the opening were provincial CPC committee secretary and Governor Li Qingwei, and Vice Governors Bai Jinian, Zhang Bin and Xu Shanlin.

Comrade Li Qingwei made a speech. He said: "The province's collective and individual economy has developed quite a lot in recent years, but its proportion in the national economy remains too small. Total output value of collective industry last year was only 1.55 billion yuan, 13.68 percent of the province's total industrial output value. In the future great development should be recorded in the province's collective and individual economy. This should be set down as a guiding principle." He said: "At present the state is not building many key construction projects in Shaanxi. Hence the speed of development of the province's industrial development will have to be determined by the development of collective economy and technical transformation of existing enterprises. In the future the employment of educated young people will also mainly depend on the development of collective industry. If the collective economy develops fast, the employment problem will be solved well. At the same time, the production and supply of large numbers of small commodities, small farm tools and clothing and foodstuffs will also have to depend on the development of collective economy." Li Qingwei demanded that party and government leaders attach importance to the development of collective economy and help to solve problems of material and capital.

CSO: 4007/276

BRIEFS

AGRICULTURAL LOANS--From January to September this year, the system of agricultural banks throughout Shaanxi Province issued agricultural loans of some 740 million yuan and recovered overdue loans of some 340 million yuan, or 48.5 percent and 21.7 percent, respectively, more than in the same period last year. The amount of deposit of all kinds was 31.7 percent more than in the corresponding period last year. Of the deposit, the amount of rural savings was some 160 million more than in the beginning of this year. [Summary] [HK271502 Xian Shaanxi Provincial Service in Mandarin 0500 GMT 21 Oct 83]

PILOTLESS PLANE TESTED--Xian, 17 Oct (XINHUA)--A pilotless plane, designed for aerial photography and agricultural or marine surveys, has gone through a successful test flight in Xi'an, Shaanxi Province. Designated D-4, the 3.3-meter-long radio-controlled plane with a 4.3-meter spread of wing was launched by a recoverable rocket. During the test, the plane performed such stunts as climbing, circling and diving at an altitude of 350 meters and then landed with the aid of a parachute. The plane, designed and manufactured by Northwest Engineering University, can be launched from aboard a truck or a ship. [Text] [OW171209 Beijing XINHUA in English 1146 GMT 17 Oct 83]

CSO: 4020/22

AUTHOR: WANG Wanzhong [3769 8001 1813]

ORG: Northwest China Institute of Water and Soil Conservation, Academy of Sciences of China

TITLE: "Study on the Relationships Between Rainfall Characteristics and Loss of Soil in the Loess Region"

SOURCE: Xian SHUITU BAOCHI TONGBAO [BULLETIN OF SOIL AND WATER CONSERVATION] in Chinese No 4, Aug 83 pp 7-13, inside back cover

ABSTRACT: The five parameters of precipitation (P), duration of rainfall (T), intensity of rainfall (I), the quantity of rain of a short-duration storm (I_{max}), and number of rains (n) of the loess region are studied and correlated with the quantity of soil loss of individual topographical areas. Results of statistical computations indicate that the maximum rainfall within a duration of 10-30 minutes is the parameter most closely related to the quantity of soil loss, while the correlation is the closest between the maximum rainfall in a duration of 15 minutes and the quantity of soil loss, with a correlation coefficient reaching 0.90.

6248
CSO: 4011/54

AUTHOR: CHEN Yongzong [7115 3057 1350]
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ORG: Both of Institute of Geography, Academy of Sciences of China

TITLE: "Reality of Soil and Water Loss in China and Problems To Be Urgently Studied"

SOURCE: Xian SHUITU BAOCHI TONGBAO [BULLETIN OF SOIL AND WATER CONSERVATION] in Chinese No 4, Aug 83 pp 1-6

ABSTRACT: This paper begins with a description of conditions of erosion and its alarmingly damaging effects on production and ecological environment in the loess plateau, the south, and the north. The causes are summarized to be (1) Forms of land utilization contrary to the natural regional conditions; (2) Unplanned population increase resulting in growing pressure on grain and fuel supplies; (3) Serious destruction of forest vegetation; (4) Disregarding soil and water conservation in the process of basic construction. The problems urgently in need of study are listed as: (1) Classification of types and regions of soil and water losses in the country; (2) Standards of permissible losses and treatment results; (3) Dynamic mechanism of erosion; (4) Origin of silt in the streams of the loess plateau; (5) Basic principle of erosion, transfer, and accumulation; (6) Changes in an erosion environment.

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CSO: 4011/54

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TITLE: "Brief Discussion on Harnessing Wuding He River Basin"

SOURCE: Xian SHUITU BAOCHI TONGBAO [BULLETIN OF SOIL AND WATER CONSERVATION] in Chinese No 4, Aug 83 pp 22-27

ABSTRACT: Since the liberation, a great deal of work has been performed to harness the Wuding He basin and rich experiences of both positive and negative aspects have been gained. The annual quantity of sand entering the Huang He from this basin, judging from the silting of the 113 reservoirs of the basin, has remained basically unchanged in spite of work of these 30+ years. However, but for such measures as afforestation, artificial construction of grasslands, terraced fields, and diked fields, etc. the quantity of silt would have been 11.5 percent greater than the actual figure in the year 1981 alone while the percentage of grain production of the reconstructed fields in the total production of the basin is also rapidly increasing. The paper proposes future treatment measures as follows: (1) Rational use of slope land to improve the soil, prevent erosion, and preserve its productivity; (2) Scientific use of water in paddy irrigation; (3) Repair and construct more terraced and diked fields; (4) Plant grass, shrubs, and trees to protect sloped wasteland; (5) Plant grass and trees on the banks of small streams or use other measures to reduce runoff; (6) In the process of establishing factories, mines, villages, and roads, consideration should be given to conserving runoff for the maximum use of land and water resources; (7) Establish standards of drainage systems for various types of soils of the basin so as to give full consideration to the protection of effluences to prevent erosion.

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CSO: 4011/54

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TITLE: "Some Technical Problems To Be Considered in the Current Process of Controlling Small Watersheds Under the System of Household Contracts"

SOURCE: Xian SHUITU BAOCHI TONGBAO [BULLETIN OF SOIL AND WATER CONSERVATION] in Chinese No 4, Aug 83 pp 59 inside back cover

ABSTRACT: Since the summarization in July last year of experiences in harnessing small streams under the household contract system, many similar projects have sprung up resulting from the support of its extension given by party organizations of all levels. In the 14 counties of the Xinxian Prefecture, 1,820.49 mu of small watersheds have already been thus contracted. The concept and characteristics of this system remain unclear in some regions, however, and there are no uniformed provisions to the extent that some household is awarded

contracts of distant or scattered areas to make it impossible to produce optimal ecological and economic benefits. The paper details a principle of combining micro and macro efficiencies and proposes some necessary technical rerequirements for the purpose of enacting feasible and practical standards of small watershed control so that every household under contract may have a complete small watershed as a unit of operation to be responsible for its effective harnessing and development.

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CSO: 4011/54

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TITLE: "Resource Development and Utilization of Shoal Lands of the China Coast"

SOURCE: Xian SHUITU BAOCHI TONGBAO [BULLETIN OF SOIL AND WATER CONSERVATION] in Chinese No 4, Aug 83 pp 32-35

ABSTRACT: According to a recent survey, there are 30 million mu of fields in the inter-tidal zone above the theoretical base plane along the China coast, 200 million mu more below the plane to the -15m level, and about 7 million mu of unutilized land beyond the zone. With the 2 billion tons of silt entering the seas from China's major rivers every year, carrying her prime land resources with it, the coastal shoals are expanding continuously to form a rich material foundation for the development of agriculture, forestry, animal husbandry, fuel, and salt production. This paper reviews the resources conditions of the coastal shoals and suggests methods of continuous expansion of utilization. Problems of ecological balance and comprehensive development, including the accumulation of metal pollutants, are also briefly discussed.

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CSO: 4011/54

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TITLE: "Several Characteristics of Development and Distribution of Cities and Towns in China"

SOURCE: Hunan JINGJI DILI [ECONOMIC GEOGRAPHY] in Chinese No 3, Aug 83 pp 205-219

ABSTRACT: Using KOLMOGOROV-SMIRNOV equation and LORENZ curve, the spatial distribution of urban areas is computed to determine the degree of concentration for the paper to arrive at the following conclusions: (1) There are three types of distribution: the concentrated type, the random type, and the evenly distributed type. (2) The concentration is mostly in the east, with Beijing to Guangzhou and Beijing to Harbin railway lines as the border. (3) Almost all regions of concentration are in plains and deltas where towns and cities are concentrated in strips or blocks. (4) The density of distribution is the greatest in the five provinces of Jiangsu, Zhejiang, Anhui, Guangdong, and Fujian and the smallest in the seven provinces of Yunnan, Nei Menggu, Gansu, Ningxia, Xinjiang, Qinghai, and Xizang. Since 1953, the density of distribution has been rising, the distance between towns shrinking, and there has been a general tendency toward random or even types of distribution, with population centers shifting slightly toward the west and the northwest, but also signs of trend reverse in recent years.

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CSO: 4011/53

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TITLE: "Tentative Plan of City Development in Guangdong Province"

SOURCE: Hunan JINGJI DILI [ECONOMIC GEOGRAPHY] in Chinese No 3, Aug 83 pp 213-219

ABSTRACT: With the Nanling mountain range and the ocean to serve as its borders, Guangdong Province has long been densely populated and has had an early and well-developed commercial and export trading economy. Many of its cities have a history of several thousand years. The province has not been a key region of construction since the liberation, however, and it is not grain self-sufficient; the growth of population of its cities is only 0.74 fold while the cities of the rest of the country had an average rate of growth of 3.6 fold in the years 1949-1979. The distribution of its urban areas remains mostly along the coastal areas. At present, there is still no metropolis of 500,000+ inhabitants in the province. The paper proposes: (1) Economic regionalization

of the province to emphasize rational urban development; (2) Accelerating the development of industries with emphases on attracting foreign capital and introducing raw material processing factories; (3) Creating conditions for urban development by establishing energy supply industries; and (4) Rapidly constructing small cities and rural townships.

6248
CSO: 4011/53

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TITLE: "Concerning the Problem of Rational Use of Hilly Lands in the South"

SOURCE: Hunan JINGJI DILI [ECONOMIC GEOGRAPHY] in Chinese No 3, Aug 83 pp 169-173

ABSTRACT: The region to the south of Changjiang, north of Nanling, west of the mountains of Zhejiang and Fujian, and east of Hunan's western mountains is mostly hilly but extensively distributed with small basins. The climate is warm and moist; the transfer of waters and conversion of energy are extremely fast; and all types of soils often appear like a complex mosaic within a small area. In spite of the long history of cropping, only about 23 percent of the lands are suitable for agriculture and these lands are often distributed in the midst of lands suitable for animal husbandry or forestry only. The current problems include an overemphasis on continuous cropping of dual-season paddy rice. With afforestation, the projects have always been much too large, covering tens of thousands of mu of uniformly firs. As a result, the ecological environment and the land resources have suffered a great deal of damage while more than half of the farming households have no fuel over half of the time. Following descriptions of the conditions and problems of the region, the paper presents long-term solutions of diversification and readjustment for the purpose of establishing a rational production structure based upon the natural conditions of topography, soil, water, etc. of every small locality.

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CSO: 4011/53

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TITLE: "Concerning a Rational Arrangement of Sugar Cane Production in Hunan Province"

SOURCE: Hunan JINGJI DILI [ECONOMIC GEOGRAPHY] in Chinese No 3, Aug 83 pp 180-184

ABSTRACT: In Hunan, the cane sugar industry has had a history of more than 1,500 years. Although there are four sugar cane production regions in the north, the south, the central, and the west, the eight state-operated farms in the north have 53.4 percent of the acreage and produce 59 percent of the sugar of the province. The paper agrees in principle that while in the country as a whole, Guangdong, Fujian, Guangxi and Taiwan are the most suitable for sugar cane cultivation, the cane sugar production of these Hunan state farms is beneficial for the society and the economy. The industry does not affect grain acreage but it does take over some cotton fields. Due to the breakthrough in cotton production in North China, it is no longer necessary for Hunan to cultivate so much cotton. The Dongting Lake region is one of China's important commercial grain bases; therefore, consideration should perhaps be given to the effects of sugar cane acreage there. As specialization should not be the way of Chinese agriculture, the development of some economic [cash] crops such as sugar cane, especially in places unfavorable for cotton due to a high water table, should be good for improving the income of grain farmers.

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CSO: 4011/53

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