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# China Report

AGRICULTURE

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8 January 1985

# CHINA REPORT

## AGRICULTURE

### CONTENTS

#### PEOPLE'S REPUBLIC OF CHINA

##### NATIONAL

|                                                                                                                          |    |
|--------------------------------------------------------------------------------------------------------------------------|----|
| Grain Purchase by Stages Urged<br>(Cha Zhenxiang; NONGYU JINGJI WENTI, No 9, 23 Sep 84) ...                              | 1  |
| Strategic Shift in China's Grain Circulation Discussed<br>(Ding Shengjun; NONGYE JINGJI WENTI, No 7, 23 Jul 84) ...      | 9  |
| Three Characteristics in This Year's Bumper Summer Grain Harvest<br>(Zhou Yichang; BAN YUE TAN, No 14, 10 Jul 84) .....  | 20 |
| Agricultural Restructuring in Rural Areas<br>(Nong Xuanshi; GONGREN RIBAO, 7, 8 Aug 84) .....                            | 23 |
| Pricing for Rural Commodities Production Discussed<br>(Zhao Xinghan; JIAGE LILUN YU SHIJIAN, No 4, 20 Jul 84)            | 30 |
| Agricultural Product Price Standard Explored<br>(Tang Tianhua; JIAGE LILUN YU SHIJIAN, No 4, 20 Jul 84)                  | 38 |
| Major Economic Indicators of Agricultural Production Technology<br>(He Guiting; NONGYE JISHU JINGJI, No 7, Jul 84) ..... | 45 |
| Contract Responsibility System Defended<br>(Wang Yiju; YANGCHENG WANBAO, 8 Aug 84) .....                                 | 52 |
| Income Differential in Agriculture Studied<br>(Du Shangfu; JINGJI WENTI, No 7, 25 Jul 84) .....                          | 54 |
| Forests of Great Xingan Mountains Discussed<br>(Yang Fengjun; Dai Tian; RENMIN RIBAO, 6 Sep 84) .....                    | 62 |

|                                                                                                                     |     |
|---------------------------------------------------------------------------------------------------------------------|-----|
| Strong Efforts in Quarantine of Forests Urged<br>(Wang Shuying; RENMIN RIBAO, 6 Sep 84) .....                       | 63  |
| Economic Benefits of Plastic Film Technique Outlined<br>(Zhu Rong; NONGYE JISHU JINGJI, No 7, Jul 84) .....         | 65  |
| Water Conservancy Construction Promoted<br>(Li Boning; NONGYE JISHU JINGJI, No 10, Oct 84) .....                    | 75  |
| Strategic Development of Water Conservancy Projects Discussed<br>(Jin Wen; ZHONGGUO SHUILI, No 5, 15 May 84) .....  | 85  |
| Development of Woody Grain, Oil Production Discussed<br>(Li Yuanzhu; NONGYE JISHU JINGJI, No 8, Aug 84) .....       | 90  |
| Briefs<br>Water Management Unified .....                                                                            | 96  |
| TRANSPROVINCIAL AFFAIRS                                                                                             |     |
| Construction of Mechanized Wells in Hai-Luan River Basin<br>(Yang Gingtao; ZHONGGUO SHUILI, No 10, 15 Oct 84) ..... | 97  |
| Briefs .....                                                                                                        | 102 |
| Shaanxi Summer Grain Output .....                                                                                   | 102 |
| Henan Wheat Production .....                                                                                        | 103 |
| Record Shanxi Wheat Harvest .....                                                                                   | 103 |
| North China Grain Harvests .....                                                                                    | 104 |
| Hebei Grain Output, Marketing .....                                                                                 | 105 |
| Shaanxi Bumper Grain Harvest .....                                                                                  | 105 |
| Guangzhou Grain Output .....                                                                                        | 105 |
| ANHUI                                                                                                               |     |
| Use of Grain To Expand Animal Husbandry Advocated<br>(ANHUI RIBAO, 24 Sep 84) .....                                 | 106 |
| GUANGDONG                                                                                                           |     |
| Further Reforms on Agricultural Sideline Products Reported<br>(NANFANG RIBAO, 22 Aug 84) .....                      | 109 |
| Sugar Refining Industry Before, After Liberation Compared<br>(NANFANG RIBAO, 11 Aug 84) .....                       | 111 |
| GUIZHOU                                                                                                             |     |
| Cost Accounting, Commodity Production Examined<br>(Tang Wenhan; NONGYE JISHU JINGJI, No 8, Aug 84) .....            | 113 |

HUBEI

Briefs

Questions on Grain Prices Answered 124

JIANGSU

Development of State Farm System in Jiangsu Province  
(Yang Daolian; NONGYE JISHU JINGJI, No 10, Oct 84) ..... 125

SHANDONG

System Management in Cotton Production Reviewed  
(Xu Hong'ao, et al.; NONGYE JISHU JINGJI, No 10, Oct 84) 129

SHANXI

Briefs

Wheat in Reserve 136

SICHUAN

Rapid Increase in Agricultural Production Reported  
(SICHUAN RIBAO, 28 Sep 84) ..... 137

Economic Benefits of Hybrid Rice Production Assessed  
(Chen Zhongqi, Ma Xiaoya; NONGYE JISHU JINGJI, No 5, May 84) 139

YUNNAN

Yunnan's Specialized, Priority Households Discussed  
(Liang Lin; JINGJI WENTI TANSUO, No 7, Jul 84) ..... 145

ZHEJIANG

Improvement in Living Standards Reported  
(ZHEJIANG RIBAO, 25 Sep 84) ..... 154

GRAIN PURCHASE BY STAGES URGED

Beijing NONGYU JINGJI WENTI /PROBLEMS IN AGRICULTURAL ECONOMICS/ in Chinese,  
No 9, 23 Sep 84 pp 52-56

/Article by Cha Zhenxiang /2686 2182 4382/ of the Agricultural Economics  
Department of Beijing Agricultural College: "Change Grain Purchase From a  
Single Purchase to Purchasing in Stages"/

/Text/ Grain is a product which affects the national economy and the people's livelihood. Dredging the grain circulation channels and solving the problem of peasants' having grain-selling difficulties are problems in present agricultural circulation which urgently need solutions. Since the Central Committee decided on the policy of enlivening agricultural circulation channels, commercial and administrative grain departments at all levels have done a lot of work in the area of dredging the grain circulation channels. For example, state-run commercial grain departments have expanded the purchase network, built more granaries and promptly bought up by every possible means the grain which peasants needed to sell; and after basically fulfilling state grain purchase duties, supply and marketing cooperatives, other cooperative rural businesses and individual peasants have been permitted to manage, transport and sell grain to other parts of the country, thus breaking up the practice of single management. These efforts have had a positive effect. But since these efforts have only dredged the grain circulation channels in terms of spaces, they have not yet been able to solve the problems thoroughly. Grain circulation channels no doubt have provisions for space, but at the same time they also have ones relating to time. Whether each annual circulation channel, and particularly the major one, is a single-circulation or a continuous-circulation channel similarly affects the problem of whether it can be dredged or not. First, a single-circulation channel itself cannot ensure the successful accomplishment of grain circulation. Circulation implies continuous circulation, and a single one will not do. Second, a single grain circulation channel does not accord with the needs of all social and economic activity. Since grain circulation is certainly not an isolated activity, it is closely related to activity in other sectors of the national economy. All social and economic activity is continuous, and grain circulation should also be continuous. But circulation in our major grain channels is now in fact a single-circulation channel. Since a large amount of the grain purchase activity of the state commercial grain departments in all areas each year is only carried out during the period of time after the fall harvest, there is almost no purchasing during the winter and the following

spring and summer. (There is a purchase in the multicrop areas when the following summer's new grain goes on the market, but only a small amount after the summer grain is mainly used for the peasants' self-sufficient grain for that year.) This method has the year's grain purchase period closely following its harvest period, is contrary to the objective needs of grain circulation and naturally cannot solve the problem of grain-selling difficulties. This single purchase should be changed to purchasing in stages, and grain purchase work should be freed from its rigid methods. This article will try to explore the necessity, possibility and specific methods of grain purchasing in stages by the state grain departments.

### Necessity of Grain Purchasing in Stages

First, the problem of peasants having difficulties selling grain can only be solved by having grain purchasing in stages. Where is the difficulty in selling grain? The difficulty is certainly not that the amount of commodity grain produced exceeds the amount needed, for commodity grain is still in very short supply in China. The difficulty in selling grain is in storing, shipping and caring for the commodity grain.

Commodity grain is a daily necessity of life for the 200 million nonagricultural population. There is thus a very great contradiction between its purchasing and marketing times, i.e., purchasing is done once a year but marketing is done each day. In order to solve this contradiction, it must be stored between purchasing and marketing. Whether the state can purchase all the grain which peasants offer for sale depends primarily on what storage conditions permit. The total granary capacity needed by a country is determined by the total amount of commodity grain which it buys each year and the rate of its average annual granary turnover. If the average rate of national granary turnover is several times a year, the total national granary capacity then equals a certain percentage of the total amount of commodity grain purchased each year. If the average national granary turnover rate is only once a year, the total national granary capacity then equals the total amount of commodity grain purchased annually. The way to save on national granaries is thus to raise the average annual granary turnover rate. The average annual granary turnover rate is determined by the annual purchase rate and the average annual marketing rate. If the average annual marketing rate is 10 times, the annual purchase rate will also be 10 times. If grain is purchased once and marketed once, the average annual granary turnover rate will then be 10 times; and if it is purchased once and marketed 10 times, the average annual granary turnover rate will then be 1 time. The ways to raise the average annual granary turnover rate thus lie in two areas: the first is to increase the average annual grain marketing rate, and the second is to increase the annual grain purchase rate.

The average annual grain marketing rate depends on the average grain consumption period of commodity grain consumers and on how often they buy grain from the commercial grain departments. The shorter the average grain consumption period of commodity grain consumers, the faster the average annual commodity grain marketing rate; and conversely, the longer the period, the slower the rate. Since the average grain consumption period of commodity grain consumers is affected by their income period and work time, the possibility of reducing it

is definitely limited. Moreover, it cannot be achieved by the subjective wishes of the commodity grain departments. The key to raising the average annual national granary turnover rate thus lies in increasing the annual grain purchase rate, thus enabling it to approach as far as possible the average annual grain marketing rate. This will be an effective way to save on national granaries.

It is quite clear that our present single grain purchase is not favorable to saving on national granaries. Since this purchasing method causes the average annual granary turnover rate to be basically only once, the result is that total national granary capacity must equal the total amount of commodity grain purchased each year. If the total national granary capacity cannot reach the total amount of commodity grain purchased each year, then grain-selling difficulties will be produced. China's commodity grain population equals the population of the United States and it now purchases approximately 100 billion jin a year of commodity grain. If purchasing and marketing methods are not changes, the amount it purchases each year will possibly still have to be doubled and reach 200 billion jin by the end of the century. What kind of a concept is 200 billion jin of grain? It equals one-fifteenth the total amount of grain now produced each year throughout the world. If the country has to build enough granaries to satisfy the needs of this much grain storage in the next 16 years, thus enabling a single grain purchase to be successfully carried out, not only will national financial resources not permit it but the pace of building granaries cannot be kept up. In addition, this method would also be irrational. This is because after grain is stored each fall, granaries are left unused for the first half of the next year, which is equivalent to allowing a large amount of national funds to accumulate, and this is not in accord with the principle of improving economic results.

If the method of purchasing grain in stages is adopted and the purchase rate is increased, but if grain marketing is still carried out on a monthly basis, the granary turnover rate can be raised from the present rate of approximately once a year to several times a year. Existing warehouse strengths can be used in this way, and the purchases will equal to several times their commodity grain capacity. Doing it this way not only can save funds for the country in building warehouses but can also solve one aspect of the problem of the peasants' having grain-selling difficulties, and economic results can be greatly improved.

The essence of purchasing in stages is to allow small peasant granaries to replace large national ones and to transfer grain storage duties to the peasants, thereby having the national granaries play only a transfer storehouse role. The small granaries of nearly 200 million households of grain growers have a huge storage potential. Approximately 600 billion jin of self-sufficient grain are now stored in these small granaries each year. The volume of grain is approximately 1 cubic meter per 1,000 jin. The grain growers' housing is now still fairly spacious, and it would not be very difficult for each household to increase its storage capacity by 1 or 2 cubic meters. Thus, the country would solve the problem of storing 100 to 200 billion jin of grain.

When referring above to the time difference in purchasing and marketing commodity grain, it was presumed that there was no space in all areas throughout the

country to which to move commodity grain between purchasing and marketing. In fact, commodity grain is provided to the residents of the cities and towns and to peasants in the nongrain-producing and the grain-deficient areas, and there is also a very great spatial contradiction between its purchasing and marketing, i.e., the purchase places are not at the marketing places and the marketing places are far from the purchase places. In order to solve this contradiction, shipping problems are produced between purchasing and marketing. The key to the shipping problem is in the "transfer": From the standpoint of the whole country, all grain purchase sites are established in grain-producing rural areas, but grain-marketing sites are mainly in the cities and nongrain-producing rural areas. After shipping in grain from purchase sites, grain-marketing sites must provide it to the commodity grain consumers. And after shipping out the grain purchased in the preceding year, grain purchase sites must clear out warehouses in order to purchase the next year's grain. From the standpoint of the whole year, grain marketing sites hope to ship in more grain from purchase sites in order to ensure a supply, but in each period, they are unwilling to accept all of the grain which can be immediately shipped in from purchase sites because storage capacity is limited. In each period, grain purchase sites wish to ship more grain out to marketing sites because storage capacity is also limited, but during the whole year, they wish to ship out less grain to the marketing sites in order to guard against disasters. Planning for both purchasing and marketing is exactly opposite, thus affecting the progress of grain purchases and aggravating the situation of grain-selling difficulties. The origin of this contradiction is a single grain purchase. After changing to the method of purchasing in stages, this contradiction will be solved because grain will be purchased and shipped out in stages. When formulating plans for purchasing and shipping grain, grain departments in the grain-producing areas can arrange plans for purchasing and shipping the last batch of grain before new grain goes on the market the next year. If the next year is a good year, this batch of grain can be shipped out any time after it is purchased; if it is a bad year, this batch of grain cannot be purchased but must be given to the peasants for disaster relief and to supplement deficiencies, and all batches of grain purchased formerly can be promptly shipping out. This will eliminate the phenomena of "swelled stomachs" at grain purchase sites in all areas, and, moreover, it will also solve the situation of grain marketing sites not being full throughout the year but temporarily being too full. The result of doing it this way will be a change from the country being prepared for disasters to the peasants themselves being prepared. There are many advantages to the peasants themselves being prepared for disasters over the country representing them in being prepared: for the country, it would save on granaries and reduce "price collapse" losses in purchasing and reselling grain to the places of production; for the peasants, it would both help them to handle properly the relationship between selling and keeping grain and between expanding reproduction and preparing for disasters and would also eliminate the irrational transportation phenomenon of their selling grain and then buying it back.

Time and space differences between the purchasing and marketing of commodity grain not only result in storing and shipping problems but also correspondingly produce the additional problem of caring for it. Food commodities are different from other commodities and have the characteristics of high moisture content, strong hygroscopicity and vulnerability to mildew. When the moisture content

of grain exceeds the safe moisture content limit of 17-18 percent, it will mildew. Caring for grain is thus difficult work for national commercial grain departments. This situation can be changed by using the method of purchasing in stages because most commodity grain is cared for in small peasant granaries before being sold. Grain is kept in small batches in small peasant granaries, keeping it easily ventilated and dry, facilitating timely inspection, turning and drying in the sun and preventing mildew. Caring for commodity grain for a period of time in small peasant granaries first has the effect, in fact, of ensuring quality.

Storage, shipping and care are the three major factors in successfully carrying out grain circulation. These problems, which have not been solved well, are the three major reasons why grain circulation channels are now obstructed and why peasants have grain-selling difficulties. If these three problems were solved, our grain circulation channels would basically be dredged.

Second, normal agricultural circulation can only benefit from having grain purchasing in stages. Grain circulation is the major source of rural commodity circulation activity and three circulation activities simultaneously accompany it: the countermovement of rural industrial product circulation, the intermediate activity between the two of rural currency circulation and rural transportation activity. The length of time of grain circulation restricts the length of time of the three succeeding circulation activities. But rural industrial product circulation, currency circulation and transportation activity must themselves be carried out throughout the year in order to benefit coordination among the production and marketing of industrial products, relative reductions in money supply and the full utilization of transportation forces. It is thus clear that the needs of all circulation activities to be carried out throughout the year can only be adapted by carrying out grain purchasing in stages. Since the method we have long used has been the single purchase, this has created seasonal agricultural circulation activity. Four peak periods appear simultaneously in the rural areas each fall: the peak grain purchase period, the peak industrial product marketing period, the peak currency circulation period and the peak transportation period. But by the first half of the next year, they all change into slack periods. The "peak" and "slack" phenomena are unfavorable to improving economic results in the field of agricultural circulation and to developing the promotional effect of circulation on production:

1. When a year's peak rural industrial product circulation period occurs near the end of the year, the year's planned industrial production is drawing to an end. If rural markets have not provided planning lists in advance for the amount of all industrial products needed, it will cause the supply of some industrial products to fall short of demand and that of others to exceed demand. And these industrial products for which supply exceeds demand must wait for the next peak period to be marketed and will be overstocked for a year. If the products are replaced and exchanged during the 1st year, it is not the factories which will suffer losses but the rural supply and marketing cooperatives or individual businesses. Finally, this overstocking also slows down the fund turnover rates of the factories or rural industrial product marketing departments.

2. A large part of rural currency circulation is in the form of cash circulation, and 60 percent of our social money supply is tied up in rural markets. The amount of currency needed in circulation is in inverse proportion to the currency turnover rate, but the currency turnover rate depends on the commodity circulation rate, and a single grain purchase results in a single, large currency turnover. During the peak grain and agricultural sideline product purchase period each year, the amount of currency that needs to circulate in the rural areas suddenly increases. In order to support purchasing, the state has had to adopt many measures: it has controlled putting currency into circulation for industry and other departments, has rapidly shrunk the money market and has loaned as much currency as possible to the commercial grain departments; it has mobilized the peasants to deposit promptly and support the rural supply and marketing cooperatives in replenishing their stocks and has accelerated the withdrawal of currency from circulation through credit and commercial channels; and it has increased the amount of currency issued when necessary. This method has resulted in the following problems: it has created the phenomena of a shortage in the seasonal flow of money funds for nonagricultural departments, of commercial grain departments that use a lot of money funds at one time and are unable to withdraw them promptly from circulation, of numerous peasants who make deposits in the last half of the year and loans in the 1st half and of the market prices of certain agricultural products that rise in the fall and fall in the spring and summer.

3. Transportation is an area in which China is now rather deficient. Whether in railroad, steamship or automobile transportation, the annual work load is very heavy. Transportation departments must thus place more emphasis now on the problems of work efficiency, a major one being the need to maintain an even distribution of freight volume for each period, and only in this way can all existing transportation forces be fully utilized. But transportation activity in the rural areas has a peak and a slack period each year. In the peak period, rural transportation creates a lot of pressure on transportation departments, even affecting the freight transport of other departments; and in the slack period, many means of transport are often idle, thus greatly lowering the utilization rate of the rural means of transport.

4. The manpower invested in all sectors of agricultural circulation such as the commercial grain departments, rural supply and marketing cooperatives, rural financial departments and transportation departments is determined according to the needs of the greatest work volume period in a year. During the peak period, the work of personnel in these departments is indeed very scarce, and sometimes they must engage a lot of temporary workers. But during the slack period, most workers in these departments are idle and have no work to do. The unevenness of the utilization of these working times increases circulation expenses and lowers the utilization rate of the labor force in the field of agricultural circulation.

5. After a year's grain production is finished, there is still a period of time until the next year's production, as much as half a year in some places, and production pressure is thus not great. Affected by social customs, peasant purchasing power is thus greatly attracted to the area of consumer products. The spring season particularly encourages the tendency of the peasants to spend cash on consumption. This situation is very unfavorable to agricultural production.

The above analysis shows that from the standpoint of agricultural circulation and industrial and agricultural production, a single grain purchase is unsuitable and should be changed at the right moment to purchasing in stages.

#### Possibility of Purchasing Grain in Stages

To carry out grain purchasing in stages is to separate the grain purchase time from the harvest time, the harvest time being determined by natural laws and the purchase time by economic ones. There are two presuppositions here: that the purchased grain is indeed surplus grain beyond peasant consumption needs, and that the peasants must offer this surplus grain for sale. If it is not surplus grain, the peasants will consume it as time passes; and if this surplus grain cannot be sold, it can be lost as time passes.

The reason why there has long been created a situation of a single grain purchase directly after the grain harvest is that during the period when we began carrying out the state monopoly for the purchasing and marketing of grain, our agriculture was still in a traditional and self-sufficient stage. The grain produced by peasants at that time could basically only be self-supporting, and there was not much surplus. Social conditions have changed now, and our agriculture is in a period of two changes: the first is the change from traditional agriculture to modern agriculture. The agricultural production system has broken through the stage of the internal energy and material cycle, and a large amount of energy and material such as chemical fertilizer and machinery must be invested in agricultural production each year from outside. Along with the increasing amounts invested from the outside, the surplus grain which peasants must offer for sale in exchange for them must increase. The second is the change from self-sufficient agriculture to commodity agriculture. During this change, surplus grain in the peasants' hands must also be sold. This shows that China has begun to develop the social conditions for purchasing grain in stages. We should make the best use of the situation and change grain purchase methods according to the inherent needs of our social and economic development.

#### Specific Methods of Purchasing Grain in Stages

There are three specific methods of purchasing grain in stages: the first is to conclude grain purchase contracts; the second is to use scientific methods to purchase grain in stages; and the third is to carry out fair price differences based on time.

Concluding grain purchase contracts will have a major effect on the two areas of selling and buying. As for the peasants, contracts will legally guarantee that all grain be sold, and they will be relieved; as for commercial grain departments, they will know fairly well how to plan purchasing and shipping work after concluding contracts, and successful grain circulation will be ensured.

The effect of using scientific methods to purchase grain in stages will be to enable grain purchasing, production and circulation to be better integrated with peasant consumption. Specific methods are as follows:

First are the methods of separating the stages: 1. Select the period of time. Select the purchase periods based on the principle of benefitting grain production, circulation and peasant consumption. For instance, purchase a batch before the beginning of agricultural production each year in order to enable the peasants to buy the means of production; purchase a batch during production to facilitate grain circulation; and purchase a batch after production is finished to facilitate peasant consumption. 2. Set the dates. Properly select certain slack agricultural periods during the year to set purchase dates in order to enable the exchange of industrial and agricultural products to be carried out normally and to eliminate the difference between the peak and slack periods. 3. Make the times flexible. Purchase nonperiodically according to how busy grain purchasing and shipping are and to other needs as well.

Second are the methods of separating groups: 1. Separate the amounts. Purchase various amounts of each peasant household's unsold surplus grain according to each purchase period, thus ensuring the continuation of production and consumption. 2. Separate households. Separate grain-selling peasant households into groups according to each purchase period with some selling first and others selling later in order to solve the problems of households specializing in grain. 3. Separate parts. Unify organization and purchasing part by part according to the division of local peasant villages into districts.

There are nine purchase methods that integrate the division of stages by time and the division of batches by space: choosing periods by amount, household or part; setting dates by amount, household or part; and making dates flexible by amount, household or party. Commercial grain departments at all levels can select one or more of the above methods based on actual local conditions. But purchase contracts should be concluded in advance regardless of which method is adopted.

The principle of carrying out fair price differences based on time is: the further the purchase time is from grain harvest time, the higher the corresponding purchase price. Its effect will be to compensate peasants for grain storage expenses, to raise peasant enthusiasm to store grain voluntarily and to enable the peasants to accept willingly the method of purchasing grain in stages.

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# STRATEGIC SHIFT IN CHINA'S GRAIN CIRCULATION DISCUSSED

Beijing NONGYE JINGJI WENTI [PROBLEMS OF AGRICULTURAL ECONOMICS] in Chinese  
No 7, 23 Jul 84 pp 32-37

[Article by Ding Shengjun [0002 5116 0193] of the Economic Research Institute of the Ministry of Commerce: "An Approach to the Strategic Shift in Grain Circulation in China"]

[Text] It is generally acknowledged that tremendous achievements have been made in promoting grain circulation in our country since the founding of New China, especially since the 3d Plenary Session of the 11th CPC Central Committee. However, the new situation and new problems facing grain circulation today require that we explore a new way and a new strategy in developing grain circulation.

In sharp contrast to the reduced food output the world over, the grain situation in our country in recent years has never been so excellent as before. The total grain output in our country in 1983 came to 774.55 billion jin and the per-capita grain distribution amounted to 760 jin. Although this amount is short by 100 jin as compared with the world's average level of 850 jin, the difference is enormous compared with the amount of grain needed by the people in our country in order to live a comparatively well-off life (based on the experience at home and abroad, one generally needs about 1,000 jin of unprocessed grain in order to attain the level of a comparatively well-off life). It is thus clear that the grain problem in our country is still unsolved. Instead of grain abundance, we do not have enough. Therefore, we must continually concentrate our efforts on grain production.

What puzzles people now is that while our country is not rich in grain, the peasants in many places are having "difficulties in selling grain." While some grain-producing provinces have urgently asked to ship their grain out, the state is having "difficulties in storing, allocating and transporting grain." One of the most important causes of these contradictions is that the channels of grain circulation are clogged. The only solution is to institute drastic reform and bring about a strategic shift in grain circulation in our country. My views in this connection are as follows:

## I. Basis of Strategic Shift in Grain Circulation

The Marxist principle on social reproduction elucidates that the process of production and the process of circulation are the two mutually interdependent and relatively independent processes of economic movement. Production in a way determines the depth, the scope and the method of circulation. However, circulation has an important counterreaction on production. Circulation is a key factor in social production and an essential link to satisfying the daily increasing consumption needs of the people. If circulation is clogged, production and marketing will be hampered, and the live labor and materialized labor consumed by the workers in turning out the products will not be properly compensated, thereby seriously dampening the workers' enthusiasm and initiative in production. Circulation, therefore, must be adapted to the needs of developing production. This basic Marxist principle provides us with the theoretical basis for making the strategic shift in grain circulation.

The necessity and urgency of making a strategic shift in grain circulation are very distinct as viewed from the new situation around the country:

(1) The great historical period of the "two changes" has dawned in the countryside. As a result of the implementation of the output-related system of contracted responsibility based on household operations, the vast rural areas have begun the transformation from traditional agriculture to modern agriculture and from a self-sufficient and semi-self-sufficient economy to large-scale commodity production. The facts in recent years have shown that this process of the "two changes" is accelerating. Comparing 1982 with 1978, the total sales of various kinds of products as commodities in terms of cash in the countryside jumped 89.1 percent, of which the sales of agricultural and sideline products in terms of cash rose 98.9 percent; the percentage of marketable products turned out by various trades in the countryside increased on the average from 40 percent to 59.4 percent. Grain production, which ranks first in agriculture in our country, has also entered a new stage. While the old commodity grain bases are being consolidated steadily, new commodity grain bases are also developing and improving, and more grain-related specialized households have emerged in large numbers, thereby accelerating the increase in grain production and elevating the percentage of marketable products. Between 1950 and 1959, after the founding of New China, the annual grain increase in these 9 years averaged 8.4 billion jin; the annual grain increase in the 9 years between 1960 and 1969 averaged 15 billion jin; the annual grain increase in the 9 years between 1970 and 1979 reached 20.5 billion jin; and during the first 3 years in the 1980's, the annual grain increase averaged 44.46 billion jin. The percentage of marketable grain throughout the country has now increased by more than 30 percent. The momentum of continual development of grain production, particularly commodity grain production, has posed a new more serious challenge to grain circulation.

(2) Major changes in the grain consumption pattern. With the development of production and improvement of the people's livelihood, the broad masses of consumers are now more particular about nutrition, sanitation and convenience in food grain consumption, thus bringing about three significant changes: they demand not only sufficient quantity but also quality, not only a supply of raw materials but also a supply of finished products and not only a single kind of

food grain but also many different kinds of food. All this has also brought about a significant change in the grain consumption pattern marked by the increase in the amount of flour and rice and greater precision, an increase in fast foods and a rise in grain for industrial and commercial use and an increase in animal food and a higher consumption of grain for fodder. Take flour, for instance. In 1981 our country produced 2.367 million dun of refined flour; by 1983, the amount rapidly increased to 3.9 million dun, a net increase of 1.533 million dun or over 64.7 percent. In spite of such a big increase in refined flour, the supply still fell short of demand. This tendency of changes in the consumption pattern, from must having enough to eat and wear to wanting ample food and clothing and then to having stylish clothing and delightful food, has put forth a new task in grain circulation.

(3) Tremendous changes have taken place in the rural economic structure. Tremendous changes have taken place in the country's present rural economic structure and still greater changes are expected. These changes will in due course shift from unitary agriculture to an all-round development of agriculture, forestry, livestock breeding, sideline production and fishery and from a simple operation to comprehensive operation by combining agriculture, industry and commerce. Likewise, the structure of the rural labor force will also undergo changes, with the large surplus labor force continually moving toward various specialized trades in the fields of forestry, livestock breeding, sideline production and fishery and with industry, commerce and transportation changing from grain producers to grain consumers. A vast rural grain market has come into being. All this will naturally change the one-way circulation of purchasing grain from the countryside and supplying it to the cities, as in the past, to a multiform circulation.

(4) The rural commercial circulation channels have undergone profound changes. Rural commerce as a whole has now changed from a closed and exclusive operation to an open, multichannel operation. Since the 3d Plenary Session of the 11th CPC Central Committee, state grain commerce has resumed negotiated purchase and marketing operations. With the reopening of the rural fairs for agricultural and sideline products, grain can now be put on sale in the market. Beginning in 1984, the market is open to multichannel operations at the time of summer grain purchases, allowing supply and marketing cooperatives, rural and other cooperatives and individual peasants to make local purchases and sales and even transport their grain for sale beyond the county and provincial limits. Naturally, the peasants are also allowed to market their products themselves. This has brought about competition in the many channels of circulation and new problems such as how to handle correctly the relations between the main channel of circulation and branch channels and how to give full play to the role of multichannel circulation and market regulation on the premise of taking the state grain commerce as the dominant factor.

(5) The channels of grain circulation are clogged, the grain price is inverted, financial subsidies are growing bigger and the state is burdened with a heavy load. The core problem of having "difficulties in buying grain," "difficulties in selling grain," "difficulties in transporting grain" and "difficulties in allocating grain" was brought on by the inverted grain price. Under the current measures, the more grain the state purchases as a result of a bumper harvest, the bigger the central financial subsidies incurred will be,

thus exerting heavy pressure on state finances. The channels of grain circulation will remain clogged if this problem is not solved.

(6) Our country has implemented the policy of enlivening the domestic economy and opening to the outside world to give a new lease on life to the development of the social economy. To attain this goal, the grain market must be "enlivened" instead of "rigidly controlled"; the domestic grain market, on the other hand, must establish contact with the international grain market. The grain export and import operations in our country have been expanded in recent years and the domestic grain market has kept in touch with the international grain market. This contact with the international grain market must continue and be strengthened further from now on.

Summing up the above, China's rural economy has undergone a momentous and profound change in the 1980's with both grain production and consumption rising notably. All these changes have brought forth a new challenge, a new task and a new demand to grain circulation, the intermediary of grain production and consumption. To meet this new challenge, fulfill this new task and satisfy the new demand, we must make a strategic shift in grain circulation because we will go nowhere if we stick to old ways, stand still, refuse to make progress, remain conservative and treat the symptoms but not the disease.

## II. Features of Strategic Shift in Grain Circulation

In making a strategic shift in grain circulation, it is necessary to emancipate our minds, be brave in innovation, seek truth from facts and proceed from the principles that are beneficial to promoting and guiding grain production, helpful to guiding and improving grain consumption and conducive to streamlining grain circulation of a Chinese character. At present, we should make the shift in the following major areas:

(1) The guiding thought of shifting the strategy. It is necessary to change, in essence, the idea of highly centralized grain-control power from "leaving grain control to me and let me take care of your meal" to a more open idea of "allowing me to take care of things within the necessary plans and letting everyone share responsibilities to manage things outside the plans."

It goes without saying that under the present conditions in our country, it is necessary to continue the planned purchase and supply of grain (that is, the state monopoly for purchases and marketing) and to take state grain commerce as the dominant factor. However, the strategic guiding principle governing grain circulation must be shifted. Our grain work in the past can generally be described as an operation proceeding from a "small scale," emphasizing "control" and resulting in "rigidity." In other words, we made a big issue around the "small scale" and went after exclusive and meticulous "control," thereby giving birth to the monopolist idea of "leaving grain control to me and letting me take care of your meal." Such an attitude seemed above criticism under historical conditions when the contradictions between the grain supply and demand were strained. But now the grain situation has changed significantly, turning from supply falling short of demand to "supply exceeding demand," and this situation will continue to develop. Consequently,

certain policies, regulations and measures dealing with grain circulation in the past, particularly the guiding thought, may become incompatible and should be sorted out earnestly. Efforts should be made to eliminate the "leftist" ideological influence, abolish the outmoded measures and basically shift the strategic guiding thought by turning "small scale" into "large scale" (relatively speaking, of course) and changing "control" to "relaxation" and "rigidity" to "enlivening." In other words, we must proceed from handling commodity grain in our country on a "large scale," blaze new trails boldly, reform grain circulation and "relax" the policies so as to "enliven" grain circulation. Tremendous new vitality will surge forward after the monopolist idea of "leaving grain control to me and letting me take care of your meal" in grain circulation has been eradicated.

So long as the state grain commerce can influence the grain situation and the state plan is taking the leading role, we can boldly expand market regulation instead of remaining overcautious. This approach will enable the state to get rid of some unnecessary "baggage" to the satisfaction of producers and consumers. We can proceed from these tentative ideas: reducing the variety of state grain control, curtailing the scope of planned supply and cutting down on grain items selling at preferential negotiated prices. The state is only responsible for the most fundamental and most essential areas from now on:

1. The state will only be responsible for the planned purchase and supply of several major grain varieties including paddy rice, wheat, corn and soybeans and for implementing the mandatory plans and for enforcing guidance plans or market regulations dealing with other varieties of grain.

2. The state will only be responsible for the planned supply of the most needed grain: the supply of fixed quantities of food grain for the non-agricultural population in the cities and towns and in the industrial and mining enterprises and the countryside (referring to the party and government cadres, teachers and agricultural scientific and technical cadres in the countryside); the supply of grain needed in industry and commerce (foodstuffs, reagents, alcohol and medicine); the supply of food grain under a fixed quota for marketing to the salt industry, fishery, animal husbandry and forestry units and households specialized in vegetable growing in the suburban districts in large and medium-size cities; the supply of grain for the army; the supply of relief grain for areas hit hard by extraordinary natural disasters; and the supply of grain supplementing the necessary state grain reserve. Summing up the above six items requiring the supply from the state, the whole country needs roughly 130 billion jin of grain a year. By fixing the output on the basis of the volume of sale and leaving some adequate leeway, the state will only need to purchase 140-150 billion jin of grain a year. The amount of grain for state purchases under the guidance plans must be fulfilled. The state will not purchase grain outside these plans. However, this does not mean that the state relinquishes control but rather operates through many channels involving the state, the collectives and the rural cooperative economy in all its forms as well as individual entities. Peasants growing cotton, tobacco, sugar cane and hemp in the countryside, who are all interrelated with grain production and have incomes higher than grain-growing peasants, may solve their grain problem through the negotiated price channel. As for some

other agricultural and sideline products having nothing to do with grain, the practice of purchasing them by the state at preferential negotiated prices, which in essence amounts to subsidizing the fixed parity, may be abolished. This way will reduce the state burden and at the same time help enliven grain circulation without affecting agricultural production.

(2) Changing the system of exclusive operation in grain circulation. It is necessary to change from a highly centralized and closed system of exclusive operation by the state grain commerce to a more open multichannel system of circulation by taking the state grain commerce as the dominant factor.

As mentioned above, the amount of grain in excess of the prescribed amount to be purchased by the state may be considered as the portion under regulation by the market which can be handled jointly by the state, the collective and individual entities either in the form of exclusive operations or combined operations. The state grain departments in charge of negotiated purchases and marketing may participate in market regulation with initiative and flexibility and boldly develop operations on negotiated prices; rural supply and marketing cooperatives may expand the scope of business operations and actively develop grain operations; other cooperative economies in the countryside may transport grain for sale in other places; and adequate measures may also be taken to encourage some individual households to transport grain for sale in other areas. In this way, the main channel of grain circulation will be interwoven with the branch channels and the long and short channels mutually coordinated to form a new grain circulation system.

(3) Shifting the focus of grain circulation. In shifting the focus of grain work in the past, it is necessary to improve distribution and management and set a new focus on business operations.

Our past grain work may be described as an operation for grain distribution and administration instead of developing grain circulation. With the changes in historical conditions, circulation and business operations in grain work should be further developed. Of course, the grain work in the past also involved operations but they were simple ones involving primary processing in general. But now the conditions are ripe for more diversified operations. We must foster earnestly the operational viewpoint of providing what the masses need and not letting the masses eat what the grain departments supplied. Conditions are now fully ready to make this goal come true. To this end:

1. We must further develop comprehensive operations by combining purchasing, processing and marketing.
2. We must enlarge the new sphere of grain utilization and develop the grain food industry and the beverage industry.
3. Grain departments must give full play to the advantages of the raw material, production and marketing situation; develop compound feed, pre-mixed feed and concentrated feed; and raise their output and increase their varieties for sale. Various fodder companies must develop feed services at the same time.

(4) Shifting the grain reserve policy. It is necessary to shift from the policy of paying attention to the state grain reserves to the policy of paying attention to building up a multiform grain reserve for the state and in the peasant households.

It is far from enough to build up an ample grain reserve by relying on the strength of the state alone; instead, we must promote the building of multiform grain reserves.

1. Rational state grain reserve. The so-called state grain reserve includes for the most part a turnover reserve, a reserve for processing and a strategic reserve. The first two ensure the needs of grain turnover and the needs of grain for the processing industries; the last ensures the state's security needs in the event of an emergency. These reserves are all indispensable. The state grain reserve must be built on a rational basis, not on the concept of the more the better. If the grain reserve exceeds the desired limit, the grain may become stale, not to mention the increase in storage fees and spoilage. Besides, stale grain will also lose its nutritive value. As some people correctly put it, it will turn grain, a form of wealth, into "baggage." Grain that exceeds the rational reserve limit should be sold and boldly put to wider use.

2. Replenishment of peasant household grain reserve. The slogan of storing grain among the people should be reiterated loudly and clearly. Some peasants in the grain-producing areas, however, do not wish to store grain today, the reason being that they want to sell the grain they have in store in the state as the grain in excess of the state purchase quota at a higher price. They think that they will ask the state for relief grain in time of natural disaster because the Communist Party will not let people starve to death, come what may. In view of this attitude, the state must energetically convince the peasants to store grain. It should be noted that our countryside is a vast and dispersed expanse embracing large numbers of peasants and with limited communications and transportation facilities. It is therefore a cardinal matter of strategic significance to call on the peasants to store grain to prepare against natural disasters and make up for poor harvests in the year of rich harvests. There are 200 million peasant households in the country with over 800 million peasants. If each peasant household stores grain sufficient for half a year to 1 year, there will be a grain reserve for 200-300 billion jin throughout the country.

Thus, by integrating the rational state grain reserve with the replenished peasant household grain reserve, we can formulate an integral strategic policy governing grain reserves in our country. The implementation of this policy will give the state the initiative to manage grain under any unusual circumstance.

(5) Changing the outmoded rules of overly rigid regulation and restriction in the grain market. It is necessary to change the overly rigid regulation and restriction of the grain market and to take bold steps to relax and enliven market regulation further.

Implementing the unified planned management of production and the circulation of vital goods and materials bearing on the national economy and the livelihood of the people is an important aspect of upholding the fundamental principle of the leading role of the planned economy and the supplementary role of market regulation and at the time of giving play to the supplementary and regulatory role of the market. It is also an essential measure to maintain the basic stability of the macroeconomy and harmonize both the macroeconomy and the microeconomy. It is imperative to handle correctly the relations between the planned portion of grain and the portion under market regulation. Proceeding from the actual conditions in our country, we must from now on reduce step by step the ratio of grain for planned purchases and marketing to about 60 percent in relation to the total circulation in society and at same time raise the ratio of that portion of grain under market regulation to approximately 40 percent in relation to the total circulation in society. With regard to the portion of grain under market regulation, the state grain departments in charge of negotiated prices may maintain the operational volume at the 50 percent level. For other departments, collectives and individuals, the operational volume may be increased to 50 percent. It goes without saying that all these are general variable rates.

In the sphere of state grain commerce today, with the exception of the planned market taking the leading role, organs of negotiated purchases and marketing that perform the functions of market regulation in the main have begun to take shape. Nearly all provinces, municipalities and regions have set up companies to take care of negotiated purchases and marketing. However, one of the main reasons that other roles have still not been given full play is that state grain commerce has not changed the strategic relationship between the planned market and market regulation on the principle that a planned market is its duty whereas market regulation is an extra burden and even that market regulation may influence the planned market. As a result, while paying attention to the planned market, it is generally easy to overlook or elbow out market regulation. To give full play to the role of negotiated purchase and marketing and enliven the market, we must change the outmoded rules and make every effort to do the following well from now on:

1. We must emancipate our minds, set to rights our understanding, seriously consider the negotiated purchase and marketing of grain as a necessary supplement to the state monopoly for purchases and marketing and set aside part of the planned market for market regulation.
2. We must make the prices flexible, try to make less profit on a quick sale, smash the set pattern that the negotiated price for grain purchase must not be lower than the preferential negotiated price paid by the state in purchasing the amount of grain in excess of the prescribed quota, follow the market trend, set the prices according to quality and adjust them up or down accordingly.
3. We must operate in multiple forms and expand the scope of business operations, and administrative departments should not intervene excessively in negotiated grain purchases and marketing operations.

4. Enterprises that handle the negotiated purchase and marketing of grain should be given certain decision-making powers such as the power to allocate grain, float prices and retain profits at a rational level.

(6) Changing the old practice of egalitarianism and "eating from the same big pot" in distribution in the grain circulation sphere. Egalitarianism and the system of "eating from the same big pot" generally existing in grain operations should be changed to a system of operational responsibility by combining responsibility, power and profits.

Man is the most active factor in the forces of production, and to arouse fully the enthusiasm and initiative of the broad masses of grain workers and staff members at present, the following tasks must be fulfilled:

1. Implementation of the responsibility system. The system of operational responsibility combining responsibility, power and profits must be implemented, proceeding from the actual conditions in the grain departments.

2. Clear definition of rewards and penalties. Those who work hard should be given bonuses and those who are lazy should be penalized.

3. Establishment of a new atmosphere. Steps must be taken to change the "government grain" workstyle, improve ways of operations, raise service quality, simplify procedures for the convenience of the masses and establish a new style of running business courteously.

(7) Changing the outmoded and backward technical equipment in grain circulation. It is necessary to change the outmoded and backward technical equipment in the grain purchasing, marketing, allocation and storage links into modernized technical equipment.

Modernizing the grain commerce further is an important step in streamlining grain circulation. In this age of electronic computers, grain circulation in our country still relies on newspapers for information, biting off bits of grain to verify grain quality and using old equipment for processing and very limited facilities for storage and transportation. This state of affairs is completely incompatible with the needs of enlivening grain circulation. In the face of the upsurge of the burgeoning technical revolution, grain departments must carry out the following pressing tasks:

1. Concentration on knowledge renewal among workers and staff members. Comrade Chen Yun [7115 0061] pointed out recently that while financial and economic cadres are facing the task of knowledge renewal, most of them still do not realize the urgency of the task. Comrade Chen Yun's critical remarks are fully applicable to all grain workers and staff members throughout the country, and we must fulfill this strategic task. To this end, the broad masses of grain workers and staff members must acquire economic and scientific knowledge about commodity circulation, modern technical knowledge and scientific knowledge about management.

2. Concentration on the technical transformation of various trades. Energetic efforts should be made to raise the level of modernization and promote the use of instruments and electronics equipment and the full use of micro-computers in the sphere of grain circulation and set up an electronic computer control center for controlling information and the application of scientific data and storage control.

3. Introduction of a large amount of new technology. The introduction of technology mentioned here has a dual meaning: first, to introduce from abroad certain essential and adequate technology and equipment which are still an unfilled blank in the country. However, this constitutes only a very small portion. Second, to introduce advanced technology by introducing advanced technology from the coastal regions to the inland and advanced technology from the grain departments to other departments. This involves a lot and can achieve results very quickly.

(8) Shifting the initiative-lacking attitude toward the international grain trade. We must change our inactive and passive attitude toward the international grain trade to a more positive, progressive and promising attitude.

In the past, we devoted our attention to the domestic market and are not ready to deal in the international grain market. At that time, we thought only of importing grain whenever we experienced a grain shortage, and we failed to exploit the special advantages in our country and export famous and specialty products. This was due chiefly to the thinking that our country had a huge population but little grain and was not in a position to export anything. Now is the time for a change. A small country in Europe like the Netherlands is able to use imported potatoes as a raw material to produce many kinds of potato food and other products for sale in many countries all over the world. Our country, the biggest grain-producing country, has a great variety of grains, vast natural resources and many unique advantages and many famous and specialty products are selling very well in various parts of the world. We must give full play to the advantages of our country and actively seize and expand the market with our rich and varied famous and specialty grain food products so as to expand trade and increase foreign exchange income. This can be developed to the fullest.

### III. Steps and Goals of the Strategic Shift in Grain Circulation

Shifting the strategy in grain circulation is undoubtedly an arduous reform and a process of continual exploration and blazing new trails. The strategic shift in grain circulation, therefore, should be carried out step by step in the following tentative ways:

#### (1) Systematic preparatory stage

1. Mental preparation: the broad masses of grain workers and staff members must be made to realize the inevitability of the transformation of agriculture toward commodity production, to realize the new situation and new challenge facing grain circulation and to foster the idea of reform.

2. Study preparation: efforts should be made to organize the people from all circles to conduct investigation and study, apply systematic working methods,

engage in comprehensive study and overall demonstration and put forth a strategic plan for grain circulation suited to the needs of the new historical conditions by the end of this century.

3. Material preparation: this should be done together with the above-mentioned mental preparation and study preparation. Steps must be taken to strengthen technical equipment and circulation facilities.

(2) The stage of exploration at selected points. Different areas, enterprises and models should be selected to test out the plans formulated and sum up the experiences and lessons of success and failure so as to revise further the strategic plans mapped out.

(3) The stage of all-round shifts. Necessary reform must also be carried out during the first and second stages at the same time; as soon as the work is completed in the first and second stages, a strategic shift should be made in the grain circulation sphere according to local conditions to bring about a new situation with a Chinese character in grain circulation.

The goals to be achieved through a strategic shift in grain circulation are: the transformation from a grain circulation that is strongly identified with the supply system and adaptable to the characteristics of the self-sufficient and semi-self-sufficient economy in the countryside to a grain circulation that is suited to the historical period in which the countryside is moving toward large-scale commodity production and the people are reaching a well-off standard of living; the transformation from a highly centralized and exclusive operation and closed grain circulation to more open multichannel grain circulation under the guidance of the state plans with the state grain commerce as the dominant factor; and the transformation from a grain circulation that is plagued by poor-quality workers and staff members, outmoded technical equipment and low economic results to a grain circulation system of efficient workers and staff members, new technical equipment and high economic results capable of reducing financial subsidies by a wide margin and guiding and promoting grain production and improving consumption.

Is there any risk in proposing the strategic shift in grain circulation at this time? This is a question that worries some people. I am of the opinion that there is not much risk. Backed by the strong leadership of the CPC Central Committee and the State Council, guaranteed by the correct line and policies adopted since the 3d Plenary Session of the 11th CPC Central Committee and the growing material foundation that provides that more and more commodity grain be made available from continual bumper harvests and the support of large numbers of grain workers and staff members, the time for the strategic shift in grain circulation has finally come! We must take advantage of this general trend of events, institute reform and be bold in blazing new trails. So long as we maintain a clearcut orientation, set our minds, undertake comprehensive planning and advance steadily, we will certainly succeed in making the strategic shift in grain circulation. We must have confidence in this endeavor.

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## THREE CHARACTERISTICS IN THIS YEAR'S BUMPER SUMMER GRAIN HARVEST

Beijing BAN YUE TAN [SEMIMONTHLY TALKS] in Chinese No 14, 10 Jul 84 p 14

[Article by Zhou Yichang [6650 6318 2512]: "New Record Achieved Again in Summer Grain Harvest"]

[Text] "From the way the wheat looked last winter, who would expect a bumper harvest this year? Thanks to Document No 1 of the Central Committee, we have been assured and our enthusiasm roused!" This is what the peasant with the new bumper wheat in his hands in Zhoukou Prefecture of Henan Province told the reporter. What he said illustrates the general summer grain production situation in all of China.

Our country's summer grain production development this year is rather unexpected. Last year during the sowing period of wheat, in many places the 3- to 5-year contract period for land, which had originally been fixed, already reached the date of termination, and some peasants dared not go to the field to work and fertilize the soil for fear of a change in their contract field. During the autumn sowing, the weather was overcast and rainy, and sowing in a fifth of the wheat fields in the whole country occurred 10 days later than that of the previous year. The main wheat-producing regions are in Huanghai and Huaihai where the lack of rain and snow had been serious since the beginning of winter and the wheat area suffering from drought had doubled that of the previous year. In early spring of this year, there were low temperatures in the North China region, some of the wheat seedlings which had survived the last winter perished in the frost and even those that had survived were universally late in turning green. The growth of wheat seedlings in many regions was worse than last year. At that time, some experts who had worked in agricultural analysis for many years thought that because the summer grain harvest in our country had broken records for the past 2 years, it would be hard for this year's harvest to surpass last year's level. This year, when Document No 1 of the Central Committee was transmitted to the villages, all the peasants were especially happy about the decision to extend the land contract period. This decision set the peasants' minds at ease and encouraged their initiative in production. During the Spring Festival, many peasant households went without delay to buy chemical fertilizers and farm tools, stressed watering and fertilizing and managed with care and

did their best to improve seedling conditions. The departments concerned of the State Council and all the provinces, municipalities and autonomous regions enthusiastically organized and allocated diesel oil, chemical fertilizers, agricultural chemicals and other necessary materials. Meanwhile, great numbers of agricultural scientific and technical personnels also went to the fields to investigate seedling conditions and proposed management measures in accordance with both local and seedling conditions. Because the policy pleased the peasants, the authorities and the peasants cooperated. In addition, the climate in the middle and late spring normalized, and under this circumstance, seedling conditions unexpectedly changed for the better. During the period of the wheat harvest, the happy news of a bumper harvest was heard everywhere; it was estimated that the total output would be more than that of last year, which was already the highest record in history, and a new record would be achieved once more this year.

One of the outstanding characteristics of our bumper summer grain harvest of this year is the increase of production on large acreages. In the whole country, with the exception of individual provinces with reduced production, the summer grain output in most provinces, municipalities and autonomous regions increased in different degrees compared with that of last year. In Hubei Province, the total summer grain output for 28 million mu increased more than 10 percent compared with that of last year.

The second characteristic of the bumper summer grain harvest is the continuing increase in production. In 1982, the total output of summer grain in all of China increased by 18.5 billion jin compared with that of the previous year. In 1983, it again increased by 22.4 billion jin compared with that of 1982. It is rare in history that a new record has been achieved in 2 consecutive years. Under a circumstance of not only having a higher base but also suffering from various natural disasters, it will be very hard to gain another increase in production this year. In our country, Henan Province has the largest acreage under wheat and the highest output and contributes the most. Last year it produced a big bumper summer grain harvest, and its output increased by nearly 5 billion jin compared with that of the previous year. This was the first time that a historic change where the "summer harvest was bigger than the autumn harvest" was realized. This year 70 million mu of wheat in the whole province again saw a bumper harvest. According to the statistics up to 5 July, the total output of summer grain in the whole province reached 32.23 billion jin, and the output increased by 2.45 billion jin, which, compared with that of last year, is the highest level achieved. In Jiangsu Province, which is a high-production region of summer grain in China, a bumper harvest of more than 40 million mu of summer grain has been harvested again this year. It is estimated that the total output will increase about 4 percent compared with the highest increase in history, which occurred in 1983.

The third characteristics of the summer grain bumper harvest is that a great number of grain specialized households have displayed their skill to the fullest during the bumper summer grain harvest. A few years ago, there were almost no such peasant households that "produced 10,000 jin of grain and delivered 10,000 jin of wheat," but this year those households have emerged in droves. Li Liufu [2621 3966 1381], a peasant in Xiangfen County of Shanxi Province, produced a harvest of 88,800 jin of wheat this year; by the end of June he had already sold 82,000 jin of wheat to the state, and the commodity rate had reached 92 percent. In many places, the good condition in which "the wheat harvest of one season is sufficient for 1 year" which the peasant had long hoped for has been realized. The peasants said happily: "Before the stored grain is finished, the new wheat is heaped up like a mountain, and the party's good policy is getting better and better every year."

After the bumper summer grain harvest, the peasants enthusiastically sell grain to the state. Once again, the problem of "hard to sell" has appeared in the principal wheat-producing regions. The authorities of Henan, Jiangsu, Anhui and other provinces try to tap potentialities and guarantee unlimited procurement by the state, that is, the state will procure as much as the peasant will sell. At the same time, grain storage specialized households are being actively developed to encourage peasants to reserve grain for the state, and the authorities have done their best to procure the grain produced by the bumper harvest.

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## AGRICULTURAL RESTRUCTURING IN RURAL AREAS

Beijing GONGREN RIBAO in Chinese 7, 8 Aug 84

[Article by Nong Xuanshi [6593 3551 1395]: "China's Agriculture Takes on New Appearance"]

[7 Aug 84 p 2]

[Text] Ever since the 3d Plenum of the 11th CPC Central Committee, the Party Central Committee, in order to stimulate the economy of the rural areas and to speed up agricultural development, has brought order out of chaos in the area of ideological guidance by breaking through the ideological restrictions laid down by the "left," readjusting productive relations in the rural areas and relaxing restrictions set by the economic policy in the rural areas so that the broad masses of peasants would be stimulated to take the initiative in production and the productive forces in agriculture would once again be liberated. After over 5 years of hard work, the present situation in the rural areas is more optimistic, the development in agricultural output more rapid and the peasants' enthusiasm higher than one could have hoped for. The 3d Plenum of the 11th CPC Central Committee was a great turning point in our party's history; it was also a turning point in the history of our nation's agricultural development. Therefore, our nation's agriculture has entered a new stage of flourishing development after years of stagnation.

The Practice of the System of Contracting Responsibility with Remuneration Linked to Production Was a Significant Restructuring of the Agricultural Economy

Soon after the founding of the PRC, the socialist transformation of agriculture was carried out by our party, and peasants were guided toward socialism through the cooperative movement; this was completely necessary and correct. However, during the latter stage of the cooperative movement, because of the eagerness for accomplishment, we were caught in the error of "leftism." In 1958, the organization of the people's communes had led to the "prevalence of communism" and the "prevalence of equalitarianism and indiscriminate transfer of resources" which brought destruction to agricultural production. Although corrections had been made afterward, an incomplete correction allowed a unitary and overcentralized agricultural system to last for a long time, thus oppressing the peasant masses' initiative in production and hindering the development of agricultural production. After the 3d Plenum of

the 11th CPC Central Committee, the Party Central Committee, in order to solve this problem, promptly summed up the diversified system of contracting responsibility with households participating in production. The system was a creation of the peasants of Anhui Province and other prefectures and was spread progressively throughout the nation. Under such circumstances, the basic economic structure of our nation's rural areas changed from a highly centralized mode of control to an economy with integrated collective and unified management and household decentralized management and from a unitary system, characterized by the "three levels of ownership--the commune, the production brigade and the production team--with the production team as the basic accounting unit" to a coexistent system of a diversified cooperative economy. Blind dictatorship in production and equalitarianism in distribution, which had lasted for a long time, were overcome, and small-scale, decentralized management was integrated with specialized and socialized production. At the same time, the unification of the superior features of the collective economy and the positive features of family management was elaborated, thus stimulating the development of agricultural production as well as changes in the face of the rural areas.

Within 29 years--from 1950 to 1978--our nation's annual increase in food grain averaged 6.6 million tons and the average annual increase in cotton almost reached 60,000 tons. After the system of contracted responsibility was implemented, within these 5 years--1979 to 1983--the annual increase in food grain averaged 16.5 million tons and the average annual increase in cotton was close to 500,000 tons. Over these 5 years, the situation in which imports of major agricultural products such as food grain, cotton, oil crops, sugar-bearing crops, etc. were required changed. Imports of grain food and sugar decreased. The domestic supply of cotton was self-sufficient, and there was a surplus. Cooking oil switched from being an import to an export. In 1983, the net income of the peasants averaged 310 yuan per person, which increased 1.3 times compared with that in 1978. During these few years, the area of newly built houses in the rural areas was about 2.2 billion square meters. The average living area per peasant increased by nearly 3 square meters. The living conditions of about 20 percent of the peasant households in our nation improved. After the basic needs in food and housing were satisfied, the peasants had extra money to deposit in the banks. The savings of the peasants in 1983 increased over 4 times compared with that in 1978. All these fully indicated that good changes had taken place in the area of agricultural production since the 3d Plenum of the 11th CPC Central Committee.

Practice has shown that carrying out the responsibility system is an important reform of the system of agricultural economy in our nation and is a new form of socialist cooperative economy. It is a great creation of the 800 million peasants. It is suitable to the situation of China and the current standard of the productive forces in agriculture, and it is in conformity with the welfare and the will of the vast number of peasants. It has taken root, blossomed and born fruit in China's soil. Further improvement and development of this system will lay a road of development, bearing the characteristics of China's socialist agriculture and forming a new feature in our nation's agriculture.

Some people believe that the practice of the responsibility system will polarize the peasants into two opposing camps and will result in returning to the old way of "individual farming." Such thinking is incorrect. Throughout the process of implementing the responsibility system, we have paid attention and have upheld the public ownership of major productive resources such as land, etc., have upheld the principle of more labor and more rewards, have upheld the planned guidance of the state and have upheld the road leading to common wealth. The present responsibility system that we are practicing is merely an improvement of the management of production and administration; it does not go astray from the road of socialism. Therefore, it will not polarize the peasants into two extremes and certainly will not "go backward to the old road of "individual farming."

Follow the Road to Overall Development of Farming, Forestry, Animal Husbandry, Sideline Production and Fishing and to Comprehensive Management in Agriculture, Industry and Commerce

Our nation's large rural population and scarce cultivated land are a big contradiction to the development of agricultural output. However, the considerably rich natural resources have provided us with favorable conditions for suiting measures to local conditions, launching a diversified economy and providing overall development in farming, forestry, animal husbandry, sideline production and fishing and comprehensive management in agriculture, industry and commerce. To utilize fully the rich resources of labor to develop the rich natural resources is a major factor in forming a new feature in agriculture.

In the past, under the ideological guidance of the "left," our nation's agriculture, for a long period of time, had been directed toward an erroneous tendency: agriculture was concentrated only on the production of grain crops, while forestry, animal husbandry, sideline production, fishing and cash crops were ignored. As a result, food crops had crowded out cash crops and forestry, animal husbandry, fishing and sideline production. The 3d Plenum of the 11th CPC Central Committee summed up the experience learned from this aspect in agricultural production, emphasizing work according to the law of nature and economies, suiting measures to local conditions, readjusting gradually the former, irrational agricultural structure and crop distribution and returning those cultivated lands, which were unfavorable for growing food crops to forestry, animal husbandry and fishing. Some of the lands were replaced by cash crops such as cotton, oil-bearing crops, sugar cane, beets, etc. After years of readjusting, and parallel to the steady increase in food grain, the rate in the development of animal husbandry accelerated. In 1983, the total output value of animal husbandry increased over one-fold compared with that in 1978. Pork, beef and mutton increased 3 times. Basically, the tense situation in the meat supply in the past years was reversed. The increase in the output of various cash crops multiplied; not only was their rate of increase in output above that of food grain, but such a situation had never been witnessed since the founding of the state. At present, our nation's erroneous tendency to concentrate only on the output of food grain in agriculture has been reversed, and a new feature with an overall development and mutual promotion among farming, forestry, animal husbandry, sideline production,

fishing, industry and food crop and cash crops has taken place. In many places, imbalances in agriculture have been addressed, and the proportional relations between food crops and cash crops in planting has shown a trend toward rational development.

At present, the three realms of economic diversification and comprehensive development in the rural areas are as follows: first, economic diversification in planting allows mutual promotion between cash crops and the output of food grain; second, a general economic diversification in agriculture allows mutual promotion among forestry, animal husbandry, sideline production and fishing and planting; third, economic diversification and comprehensive development within all rural areas refer to comprehensive management in agriculture, industry and commerce, thus allowing mutual promotion between industry and agriculture, and more commodities will be produced to satisfy the various needs of the people. The transformation from the one-track production of food grain to economic diversification and the practice of comprehensive development in agriculture have transferred the large surplus of labor and labor time in the rural areas to industry, the construction industry and transport activity and have activated the development of commerce and the service industry in the market towns, speeding up radical changes in the economy of the rural areas. Experiences from many advanced prefectures have proved that peasants can really be better off after economic diversification and comprehensive development have entered the third realm.

[8 Aug 84 p 2]

#### The Development of Commodity Production Is a Basic Characteristic of the New Aspect of Agriculture

For a long period of time, our nation's agriculture had been characterized by small production in which commodity production was not developed. During a relatively long period of time since the founding of our state, we lacked a necessary policy to encourage the economic development of commodities in the rural areas, and sometimes restrictions were even erroneously exerted. In the area of the distribution of production, the development of economic diversification, for a long time, had been neglected, and the division of labor in agriculture was not developed. Thus, except for over 10 percent of the teams of the communes whose commodity production had reached a considerable standard, most of the teams remained in a subsistent or semi-subsistent economic formation, which was "small but complete in production." In the agricultural area of planned control, undue emphasis was placed on centralization. Overcentralization resulted in overlooking the function of market regulation. The agricultural sideline products were centralized and sold to the state collectively by the production teams and production brigades. The circulation channels for product procurements and sales were too unitary; however, too many links would hinder peasants taking the initiative in the development of commodity production. Under such circumstances, development in agriculture remained comparatively slow, and new aspect could not appear.

In recent years, the relaxation of restrictions from the economic policy in the rural areas and the continuous, overall increase in agricultural production

have prepared the ground for the development of a division of labor in agriculture, and the exchange in commodities has become active. At present, the average quantity of commodities supplied by each rural population has started to increase considerably. The increase within 5 years--from 1979 to 1983--was almost equivalent to the total procured value of the agricultural sideline products--which increased at the rate of over 10 percent a year--in the past 20 years. In order to conform to and promote the growth of commodity production, restructuring and readjustment in the planned operation of agriculture and the policy of the procurements and sales of agricultural sideline products were carried out by the state: the methods of procurements and sales have been improved; the country fair trade has been allowed to resume in the urban and rural areas; multiple channels with a few links are practiced in the circulation of commodities; and the principle of using the planned economy as a principal and market regulation as a subsidiary is being upheld so that the rural economy will be stimulated. Through the readjustment and restructuring in these years, the malpractice of state overcentralization and overextension of restrictions in planned operations has initially been overcome. At present, the state only practices centralized procurement and assigned procurement on agricultural sideline products, which are important to the national economy and the people's livelihood, and on some commodities which are in great demand. After the peasants have achieved their quotas of centralized and assigned procurements, they are allowed to operate their products--excluding cotton--and other products, which are not under centralized and assigned procurements, via multiple channels. Prices are allowed to vary according to the market situations so that there will be variations in the buying and selling prices. Under such circumstances, peasants, after having achieved the quotas of state procurements, can sell their products freely and have direct relations with the market. Thus, peasants, engaging in the economic activities of the rural areas, have a more extensive right in acting on their own and a much wider realm of activities; their initiative in the development of commodity production will be much higher.

At present, in some prefectures, peasants have entered a new stage of developing commodity production on a relatively large scale, and a large number of specialized households, who are engaging in the production of various commodities, have emerged. They are specialized in technology and competent in management. These specialized households represent the trend of progress in the vigorous development of commodity production in the rural areas, pushing the entire rural economy forward for new reforms and enabling our nation's agriculture to be transformed from a subsistent and semi-subsistent natural economy to an economy of specialized commodities. They process the various resources from local villages into products which are then manufactured into commodities, supplying great wealth to the society. These specialized households have reached over 24 million households, occupying 13 percent of the nation's total peasant households. Because they are good at management and use advanced technology and facilities, the rate of labor production created by them is several times to over 10 times above that of local general peasant households, and the commodity rate has increased considerably, reaching 70 to 90 percent. With the increase in specialized households, a large number of organizations, providing services in production such as feed companies, seed stations, etc. and a new economic integrated body have emerged as the times require. The appearance and

development of these new economic organizations have given impetus to the further development of the division of labor and activity in the rural areas and have speeded up the formation of a new feature in our nation's agriculture.

#### A Vigorous Mass Campaign for Studying and Applying Science Has Unfolded in the Rural Areas

Practice has shown that the implementation of the responsibility system was not only an important readjustment in the relations of production, allowing peasants to march into all realms in which they could exploit their own capabilities, but it promoted the development of the productive forces in agriculture and greatly stimulated a vigorous mass campaign for studying science and applying science among the large number of peasants. Since implementation of the responsibility system, the amount of earnings is directly linked with individual benefits. Therefore, every household considers the study and spread of scientific farming as a measure to increase output, to increase income and to become rich. A large number of agricultural technicians have been honored as "gods of wealth," receiving the great respect that they never had. In the agricultural scientific research units and the agricultural academies and schools and among the vast number of peasants in all places throughout the nation, various ways of technical cooperation such as technical services, technical consulting, technical training, technical joint-production contracting, repayment for using a finished technical project, etc., have been widely launched. The function of science and technology in the area of productive forces has been fully elaborated, thus accelerating the development of agricultural production. Parallel to that in the agriculture of the rural areas, hundreds of thousands and millions of "scientific and technological households" have recently emerged. On one hand, they have received new technology from the technological section and have undertaken scientific testing projects; on the other hand, they have spread modern agricultural knowledge to the masses. Their achievements and experiences have attracted millions upon millions of peasants. The upsurge in the studying and application of science in the rural areas has spread to every corner.

Never before the years from 1979 to 1983 had the achievement of scientific research in agriculture been that rapid nor had the expansion of advanced technology in production been that efficient. For example, the acreage under the cultivation of hybrid rice spread from 2.08 million mu in 1976 to 100 million mu in 1983, occupying roughly one-fifth of the acreage under rice in the nation. The film-covering cultivation techniques, imported to our nation from overseas, has been expanded since 1978. During that time, the covered acreage was only 660 mu; in 1983, it spread to 9.33 million mu. The result in yield increase was very obvious. The general yield increase ranged from 30 to 50 percent; the increase in income per mu was around 30 yuan. In 1983, it was estimated that the earnings of peasants could increase by 300 million yuan if this technique were adopted throughout the nation. Consequently, the force of scientific technology is boundless. In order to speed up the growth of agricultural production, besides practicing correct policies, the key lies in studying science, applying science and practicing scientific farming.

The 12th CPC Congress advocated a magnificent strategic goal which called for struggle in order to quadruple the gross industrial and agricultural annual output value by the end of this century, and agriculture was defined as one of the strategic focal points. At present, the broad masses of the peasants throughout the nation are struggling hard to achieve this lofty goal. After years of consruction, our nation's agriculture has taken on a new aspect of prosperity. The prospects for agricultural development are good. To achieve the stratetgic goal in agriculture set by the 12th Party Congress is completely possible because the conditions are right. Among the nation's 2,000 counties, the gross annual agricultural output value of 111 counties in 1983 doubled that of 1978; this is convincing evidence. It can be accurately predicted that after the above strategic goal has been achieved, the average income per peasant would reach 800 yuan, and we are striving to exceed 1,000 yuan. The relevant scientific technology, culture and education and various undertakings in social services in the rural areas will be developed. Tens of thousands of prosperous, civilized and new villages will emerge before us.

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## PRICING FOR RURAL COMMODITIES PRODUCTION DISCUSSED

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[Article by Zhao Xinghan [6392 5281 3352]: "Pricing Must Promote the Development of Rural Commodity Production--Also a Discussion of a Few Problems in Understanding Differences in Price Parities"]

[Text] Currently, many irrational problems exist in the price parity differences of different commodities. We will look into rational and feasible methods for reform and so suit the needs for developing rural commodity production. This essay will put forth a few opinions concerning a number of these problems and so produce something worthwhile.

## Give Full Play to Currency's Effect on Planned Pricing

Currency is the equivalent of commodity exchange and is the vehicle for commodity exchange. During the early period of commodity exchange, the equivalent had many forms. With the development of commodity exchange relationships, these equivalents with special use values gradually replaced currency. The appearance of currency also further promoted the development of commodity production and commodity exchange. Therefore, we developed from many different types of equivalents to a single currency, and this was a sign of the advancement of human social exchange relationships. In the past 20 years, in order to ensure reasonable benefits for the people, we successfully completed the sales tasks for agricultural products, and outside of state-regulated planned pricing, we had no choice but to continue to increase such supplementary pricing measures as giving rewards for the sales of materials and subsidizing and returning profits, and we complicated the situation of commodity equivalents. In fact, these supplementary measures have created a portion of the real sales prices for agricultural products. What particular commodities the peasants produce depends not only on how high the planned sales price is but also on how many advantages are given by supplementary pricing measures. Because all supplementary pricing measures are set by the localities and each department and because they are numerous, they cannot be included in the unified management of the state's planned pricing. Thus this weakens the effect of planned pricing and does not reflect the actual prices of commodities and the regulatory role of pricing, and a number are replaced by supplementary pricing. The coexistence of planned procurement prices and many different supplementary prices has increased the difficulty of accounting. If we think we know the actual price

of a certain commodity, the price must undergo a complex conversion. This situation is extremely detrimental to the control of planned pricing and is also detrimental to commodity circulation. Although supplementary pricing measures are conducive to completing the purchasing tasks, their negative effect is also obvious. The goods and materials that peasants receive as a reward for selling agricultural products are not all what they themselves need, and the peasants often must sell what they have received. For example, some peasants do not need any or do not need as much grain and fertilizer as they have been rewarded. Marx, when analyzing the characteristics of commodities production, pointed out: "In commodity production, the use value is usually not the item that a person has his mind set on. Thus, the use value will be produced only because (using this as a limit) it is the material base of the exchange value and is the material expression of the exchange value" (Capital, "The People's Press 1953 Vol 1, p 203). This material expression of exchange value that Marx talked about, under the social pattern of unadvanced commodity production and exchange, can be certain kinds of materials in common use (such as burlap, jackets, animal skins, wheat, salt, etc.), yet these objects can only satisfy a certain special need. Under the circumstances of fairly advanced commodity production and exchange, the needs of commodity producers are diverse. Thus, the material expression of exchange value is no longer in a diverse pricing form but can only be in a centralized currency form. In order to promote the development of China's rural commodity production and commodity exchange, commodities must have a single form of pricing, and in a unified way, a multifaceted form of pricing must replace the form of pricing manifested in currency. This is an important problem that we must solve in order to develop commodity exchange and promote commodity circulation.

Currently, there is not a consistent understanding of the problem of abolishing supplementary pricing measures. Some comrades feel that carrying out supplementary pricing measures is conducive to maintaining the stability of planned procurement prices, and if we cancel supplementary pricing we will raise the level of procurement prices. There are also comrades who feel that there is flexibility in the areas where we are carrying out supplementary pricing. I feel that first of all, using supplementary pricing as a method for increasing the income of peasants only maintains a stable level of planned procurement prices in form, when in fact the pricing level still rises, and it is only then that not using a certain amount of currency is directly manifested. For example, peasants take the quota of grain that they have been awarded from sales, and according to a negotiated price or an excessive price, they turn around and sell it to the state, the state cannot reduce the currency put into circulation and, in fact, the procurement price has already surreptitiously risen. If we changed from surreptitious increases to open increases in price, it would be beneficial toward planning pricing, pricing management, accounting and commodity exchange. Second, so-called supplementary pricing gives increased flexibility to localities, and it is actually unified management that destroys planned pricing. Concerning agricultural products of the first and second category, the state has determined that planned pricing must have a certain seriousness, and the different forms of supplementary pricing used by the localities as well as the variety and volume are determined by the localities themselves. The differences between each area's supplementary pricing are both created discrepancies in the actual prices of each area and given rise to contradictions in the

pricing links between each area. This has left the state with no way to implement planned pricing regulations. Concerning the prices of secondary commodities and commodities of the third category, the state allows the localities to have a little bit of flexibility, yet this type of flexibility can utilize the volume of currency to manifest itself directly and need not draw support from these types of supplementary pricing measures.

#### We Must Have Reasonable Regional Price Differences for Agricultural Products

Commodity production is production carried out for exchange; a large number of commodities must be sold and this requires commercial development. But the development of commerce must use regional price differences as a premise. Without differences there is no flow, and commodity circulation is also like this. In a purely economic sense, without regional price differences there is no flow of commodities between regions. For many years, in order to push out and transform commerce and in order to reduce regional price differences, we reduced or eliminated the regional price differences of a few industrial and commercial products. The economic side effects got in the way of commodity circulation. Individual commerce disappeared and state-run commerce lacked management initiative for commodities that yielded little or no profit. Area A has a shortage of a supply of commodities, Area B is overstocked, no one is selling, products do not become commodities, the commodities rot and deteriorate and are thrown away and social wealth is wasted. The financial resources of producers are blocked up and life becomes difficult, consumers are unable to suit their needs and the state has increased its financial difficulties concerning the subsidies and increase of goods of daily use of state-run commerce. In the future, with the development of rural commodity production, the volume of commodities transported and sold must increase daily. If there were no reasonable regional price differences for buying and selling, not only would individual commerce and collective commerce have no way to develop, but the subsidies for state-run commerce would become a heavier burden on our finances.

Setting reasonable regional price differences for buying and selling is also a requirement for tapping the potential of transportation and developing the transportation industry. Currently, China's communications and transportation industry is a weak link in the development of China's national economy, and merely depending on state-run transportation enterprises will in no way enable us to suit the demands of commodity circulation in the villages and between the city and the countryside. Expanding villages also have great transportation capabilities, and many production teams have a few motorized cars and boats, such as automobiles, tractors and animal-drawn carts. There are more individual households and collectives that are combining to purchase motorized cars and boats. Most peasant households have bicycles, and together with personal transportation, this adds up to an amazing transportation force. With reasonable regional price differences, peasant households can go into action, participate in the production and sales activities of industrial and commercial products and promote the development of commodity production. The central government clearly points out that this year the key to rural work is this: on the basis of stabilizing and perfecting the production responsibility system, we must raise the level of productive forces, carve out circulation channels and develop commodity circulation. Reasonable regional pricing differences for buying and

selling are the economic premises for carving out circulation channels and developing commodity production. Therefore, we cannot underestimate the significance of solving the problem of regional price differences. We must carry out a readjustment, we must start out by developing commodity circulation for those commodities that the state has approved and we must agree on reasonable regional price differences.

A few comrades fear that carrying out regional price differences will enlarge differences between the regions and will affect the production and livelihood of people from the backward regions. This really is an important policy issue, and we must earnestly study it and integrate our understanding. I feel that pricing has the role of regulating and readjusting, yet the basic role of pricing is to account for labor, and to serve accounting and the exchange of commodities at equal value. The differences between the city and the countryside and the differences between economically developed villages and economically backward villages are the result of the unequal development of commodity production. Depending on pricing and redistribution to support economically backward regions in an unsuitable manner violates the law of value and is detrimental to commodity production and commodity circulation. This is not the best plan, and it has an egalitarian flavor. We should mainly depend on raising the level of productive forces in backward areas to eliminate the discrepancies between the city and the countryside and the discrepancies between different agricultural areas, and we should not rely on raising prices. Concerning impoverished regions, raising the procurement price undoubtedly can increase the income of the peasants. But in most circumstances, an increase in revenue uses the means of livelihood and is not very useful for expanding reproduction. Objectively speaking, it hinders commodity circulation, is detrimental to the development of commodity production and is unable to improve the basic economic situation of the backward regions. The basic path to developing the economies of backward regions is to develop circulation and transportation, to develop educational institutions, to raise the scientific and cultural levels and to engage in production. You can imagine that if the state uses the expenditures that are currently being utilized for pricing subsidies and develops the communications and the educational institutions of backward regions and promotes advanced production technology, the backward regions will then be able to change their appearance fundamentally, and the results will probably be much better than the results from using the current method of merely depending upon subsidies.

#### The Problems with "One National Price" and "One Provincial Price"

What we mean by "one price" is basically one level of prices, and the regional price differences between provinces and between counties are extremely small. In fact, this is also a problem of regional price differences. Yet because this problem has its own specific characteristics, we must discuss it separately. For many years, the method of "one price" was said to be an advantage of a planned economy. In fact, this is detrimental to commodity circulation and commodity production. China is vast in territory; there are great differences in each region's natural conditions and there are also disparities in production costs. There are also differences in each area's consumption conditions; some agricultural products only circulate within their region and some need to be transported far outside their region. The "one price" of the entire nation and

province restricts the transportation and sales of these commodities and is detrimental to the development of commodity production and to giving play to the superiorities of each region. Using wheat as an example, in 1981 in the five provinces and cities in which production costs exceeded 18 yuan per 100 jin, the average production cost was 19.46 yuan; and in the three provinces and cities in which production costs were less than 11 yuan per jin, production costs averaged 9.9 yuan. This is a difference of 97 percent. The difference between the highest production costs in Liaoning Province and the lowest costs in Anhui Province was 120 percent. Yet the difference between the highest and lowest procurement prices was only 7 percent. The difference in production costs at 28 inspection points in Henan Province was 450 percent, yet the difference between the procurement prices was only 1.8 percent. Grain comes under the category of cumbersome goods, and as the saying goes: "You do not travel 100 miles to resell coarse goods." The averaging of procurement prices increases the costs of the commercial departments and is detrimental to the sales and transportation business of the commercial departments. This is also one of the reasons that the problem of "difficulties in selling" has currently appeared for numerous agricultural products. Thus, changing the present situation of "one national price" and "one provincial price" and replacing this with procurement prices set by the region according to the scope of commodity circulation is a trend that is necessary for stimulating commodity circulation.

#### Price Parities for Commodities Must Promote Even Development Within Agricultural Industries

Production must stress economic results. Peasants carrying out commodity production, in the selection of production projects, must choose production projects with the highest economic results within the scope permitted by our national policies. Reasonable price relationships for products can promote proportionate development within agriculture. Conversely, the state's plan for proportionate development cannot be satisfactorily completed. In order to have an even development with agricultural industries, in one respect we must strengthen the propaganda education of the concept of a socialist plan. Yet it is not permissible to rely only on education: under the circumstances of the great differences in the results from growing grain and cotton, we are unable to require that the peasants abstain from growing cotton and grow grain instead. Comrade Deng Xiaoping said: "Not paying attention to material benefits is possible for a small number of advanced elements, but for the broad masses of people it is not feasible, and it may be all right for a short period of time but will not work in the long term.... If we are only talking about sacrificing our spirit and are not talking about material benefits, then it is idealism" ("Selected Works of Deng Xiaoping" p 136.) Therefore, we must adopt economic levers, readjust for material benefits and cause pricing to become an important measure for guiding agriculture to assume control of the national plan.

In the past few years, we have consistently considered the study of price relationships between agricultural products to be an important basis for determining planned procurement prices. In the past few years, due to the uneven development of science and technology in agricultural production, changes have also occurred in the results of production, and in the new situations that have emerged in these price relationships there are two problems that are particularly worth taking note of when we study price relationships.

First, we must use actual prices to calculate the price relationships of different agricultural products. Currently, besides the list procurement price, we still have many supplementary pricing measures such as goods and materials as rewards for sales, increased prices, subsidies and returned profits. According to Guangdong's statistics from 1981, with all the different supplementary pricing measures, the actual procurement price was higher than the list price by 35 percent for grain, 58 percent for oil crops, 43 percent for cash crops, 48 percent for fish and 50 percent for pork. Therefore, in accounting only for the price parities between list prices, we are unable to explain the differences in the actual income of the peasants.

Second, we must determine the comprehensive targets for the level of the prices of agricultural products. Currently there are three main targets being used: the profit margin, the net value of output per mu and the net value of output per worker. I feel that the profit margin cannot illustrate the size of the price, and the net value of output per mu and the net value of output per worker also have certain limitations. Regions fairly advanced in commodity production must supplement their targets for profit margins. This is because:

1. The period of production is of a different duration for different agricultural products: some are a few months and some are calculated per annum. Although products with a short period of production have low profit margins, the actual gain per year can be quite high. Even if products with a long period of production have a fairly high profit margin, the actual earnings per annum can be low. Further, the profit margin cannot reflect the reasonable amount of land resources that is necessary; thus, this is detrimental toward higher results from agricultural production and proportionate development.

2. Targets for the net value of output per mu can reflect the circumstances for using the land, yet some crops only yield one harvest per year and some crops in 1 year can be rotated with other crops. Thus, if we calculate the net value of output per mu for only one crop we cannot reflect the net value of output for different crops planted in 1 mu in 1 year. Further, targets for the net output value per mu cannot reflect the amount of labor or funds put into the land. Agricultural products for which a large amount of labor and funds has been invested should yield a greater net value of output. Therefore, there are definite limitations in using targets for the net output value per mu to analyze the level of agricultural prices.

3. Targets for the net output value per worker have many advantages compared to the two targets mentioned above, and they are more suitable to the special characteristics of agricultural production under the conditions of commodity production, especially under the circumstances of the many ways there are to produce. There are a new production projects that do not take up a lot of cultivated land, and some even take up no land. Under these circumstances, it is completely feasible to use the net value of output per worker to determine whether the level of pricing is reasonable. Yet the net value of output per worker only reflects the ratio between the net value of output and labor expenditures and cannot reflect the necessary proportion of funds (including material expenses) and natural resources (including land) in production. With the scientific and technological advances in agriculture, the level of intensity

in agricultural production is continually rising, the proportion of funds used in agricultural production is gradually rising, the role of funds is becoming more important daily and the limitations of targets for net output value per worker are becoming manifest.

4. The targets for profit rates on funds are comprehensive, and they both reflect the proportion of funds and the material consumption and labor expenses (in accounting we must consider labor expenses such as wages as a part of floating capital). The state determines the right of succession for contracts in the mountain and forest regions, and when the contract is changed for mountains, forests and land, there must be reasonable compensation for the investment. These factors must all be considered in the makeup of funds. In the future, in order to use natural resources rationally, we must consider the form of estimating prices to be the portion of the makeup of the funds involved both in the forming of prices and in profit distribution. This also will be a factor worth considering when we set the prices of agricultural products.

#### Pricing Must Promote the Coordinated Development of Industrial and Agricultural Production

Recently, the CPC Central Committee clearly stated: we allow the funds of peasants and collectives to circulate freely in an organized manner, and they should not be regionally restricted. We encourage peasants to become shareholders with different types of enterprises; we encourage collectives and peasants to amass funds and join together to set up different enterprises in line with the principles of voluntary participation and mutual benefit. These stipulations will speed up the process of the peasants leaving their land and will bring them into a broader area of production. Both peasants and collectives can use funds and labor for growing and breeding within agriculture and can use them for the processing of agricultural products, the feed industry, the small energy resources industry, commerce, the catering and services industry, the transportation industry, the building materials industry, the building industry and other industrial sectors which the government allows in accord with state policies. The direction of investment that peasants and collectives choose for their funds and labor reflects the size of the effect of the profit rate of comprehensive economic results (which is determined by the level of prices). The current problems are caused by the results from the industries that have been started being higher than the results from engaging in agriculture, and the future funds and labor of agricultural production will be insufficient for production. In the suburbs, peasants invest first in hotels and second in industry, and vegetable growers grow "political vegetables" and are controlled by the command plan. If the situation continues like this, nothing will work out. Economic construction works according to economic laws. We rely on state subsidies to grow vegetables, there are many flaws and neither vegetable growers nor workers are satisfied. Therefore, we must carry out a rational readjustment and restructuring for problems in the price parities of industrial and agricultural products, and we must change the unreasonable situations of abandoning agricultural business and of stressing sideline industries while ignoring agriculture.

The price relations in effect for industrial and agricultural products are detrimental toward controlling the direction of locally planned investment. In the past few years, locally planned funds have all been invested in industry. An important reason for the insufficient development of the forestry, animal husbandry and fishing industries, the short supply of commodities and the lack of funds being invested in these departments is that the products of these departments have low prices and there is little or no profit.

Under the circumstances of not having the complete conditions to restructure the price relations of industrial and agricultural products thoroughly, we feel that in the near future we can make a few small improvements in the following few areas: first, we must accelerate the second step of restructuring in the substitution of tax payments for profit delivery, levy taxes on industrial and commercial enterprises run by the peasants and collectives according to the tax rates of state-run enterprises and make industrial and commercial enterprises hand their profits over to the state mostly in the form of taxes so as to relax the serious contradiction of taxes among the industrial, agricultural and commercial sectors. And we can funnel some of the funds into expanded reproduction of the farming industry and the forestry, animal husbandry and fishing industries. Second, we must reduce high prices and high profits and prices of industrial products that are competitive with the products of peasants. We must avoid the duplicate construction of factories and blind production and we must ensure the coordinated development of industry in the city and the countryside. Third, we must integrate and reform the method of setting excessive purchasing prices for grain, establish a fixed and proportionate price increase, appropriately raise the list prices of grain sales areas and low-price areas and ensure the steady increase of commodity grain.

In short, correctly determining the price difference of commodities advantageously compels producers and production units to arrange production and supply commodities according to the national plan and the needs of society. In this problem, the leverage effect of pricing is extremely clear. We must be adept at summarizing our past experiences and earnestly seek lessons from the phenomenon of the "adverse" role of prices influencing production and consumption. We must quickly draw up measures for improvements and so suit the needs of great developments in future rural commodity production.

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CSO 4007/227

## AGRICULTURAL PRODUCT PRICE STANDARD EXPLORED

Beijing JIAGE LILUN YU SHIJIAN [THEORY AND PRACTICE OF PRICING] in Chinese  
No 4, 20 Jul 84 pp 18-21

[Article by Tang Tianhua [3282 1131 5478]: "An Initial Look at Current Agricultural Product Pricing Standards"]

[Text] Since the 3d Plenary Session of the 11th Central Committee, the Central Committee has brought order to a chaotic situation, put the initial stress on agriculture and adopted a whole series of correct rural economic policies. There have been three major policies. The first is to correct "leftist" errors, liberalize policies, put into effect diversified forms of the household contract responsibility system, give autonomy to production brigade and commune members, turn peasants in the collective economy from the previous system where they were merely laborers into genuine masters, bring their intelligence into full play and mobilize their enthusiasm to the greatest possible extent. The second policy has been to import 15 million tons of grain a year into the country in order to promote a readjustment of the agricultural structure and a forward movement in the development of diversified businesses. The third has been to upgrade to a comparatively large extent the state purchase price of farm products. Since 1979, there has been unprecedented growth in the scope, variety and extent of farm product price rises. Comparing 1983 to 1978, the overall national index for assigned procurement prices on farm products has gone up 25.29 percent (of which grains were up 26.42 percent, economic crops 23.82 percent and meats and poultry 29.24 percent). The overall purchase price index including assigned procurement, excess procurement and negotiated prices went up 47.72 percent, for an average of over 9 percent per annum. By contrast, in the 28 years from 1950 to 1978, the overall index for farm product purchase prices went up a total of 117.4 percent, or an annual increase of only 2.8 percent. The extent of price rises for state procurement of farm products in the last few years has been larger than for the 20-year period from 1957 to 1978. The thoroughness of the implementation of these policies has gladdened the hearts of the peasants more than the policies of any period since collectivization, and it has redoubled their initiative. Agriculture, which had been stagnating for some time, is now flourishing more and more as the days pass, and the situation in the villages is much better than ever before.

From the standpoint of farm production, 1983's total agricultural output value was 312 billion yuan. By comparable calculation methods, this was an increase of 49.6 percent over the 1978 figure, or 7.5 percent per annum. By contrast, in the 28 years from 1953 to 1980 the annual average increase was only

3.4 percent. Under conditions where the area planted decreased by over 100 million mu, grain production still increased from 609.5 billion jin in 1978 to 774.56 billion jin in 1983--up 27 percent. Cotton had its highest annual output in the 1950's of somewhat more than 30 million dan, and in the 1970's this figure was around 50 million dan. In 1983 it reached 92.74 million dan--a 1.14-fold increase over 1978 and the highest such figure on record. In the 29 years prior to 1978, the average annual increase in edible fats and oils was 2.5 percent. From 1978 to 1983 it went from 104,360,000 dan to 211 million dan--a 1.02-fold increase. There were substantial increases in other crops over the past 4 years as well.

From the standpoint of total assigned procurement for all sectors of state enterprise, the total value of all assigned procurement of farm products in 1982 was 85.56 billion yuan, which, discounting other price increase factors, was an increase of 46 percent over 1978. As far as the purchase of the major product groups is concerned, from 1978 to 1982 grain went up 42 percent; cotton up 62.9 percent; edible fats and oils up 166 percent; sugar up 52.1 percent; cured tobacco up 61 percent; tea up 34.9 percent; live hogs up 30 percent; and fresh eggs up 86 percent.

As for farm income, the farmers realized a 25.09 billion-yuan increase in the period from 1978 to 1982 because of higher prices, which amounts to 30 yuan per capita. And this does not include the increased income derived from price rises that occurred in trading done in the country markets. Moreover, according to a survey of over 22,700 typical farm households by the National Bureau of Statistics, pure income from secondary farm collective and household industries in 1982 amounted to 270 yuan per capita--an increase of more than 136 yuan over 1978, or 102.2 percent. Of this, the figure for collectives was 140 yuan, or 58.3 percent. Pure income for household secondary industries was 102.3 yuan, for an increase of 187.2 percent over 1978. Other unsecured income was more than 27 yuan. Subsequent to these farm income increases, there has been a proliferation of home building in the villages. There have been improvements in food, clothing and housewares and a marked betterment in daily life. Investment in production has increased as well.

Comparing farm product purchase price rises to tax liabilities, there have been real gains. According to reports from 1981 which bring together surveys of costs for farm products throughout the nation, the ratio of state purchase prices to tax liabilities per 100 jin are as follows: for the five major grain categories of rice, wheat, corn, sorghum and millet, profitability was 23 percent. (If price increases and negotiated prices are included, the figure is somewhat higher.) Products with price-to-cost ratios on state purchases which exceeded 30 percent were: peanuts, rapeseed, cotton, hemp, sugarcane, tea, cured tobacco, silkworm cocoons and bamboo. Profits on others such as fruits, raw lacquer and certain valuable medicinal materials were somewhat higher.

The situation described above illustrates that China's farm production picture is excellent, and that this is only the beginning. As long as policies remain stable and actions are adroitly tailored to circumstances, it is bound to

get even better. Current state purchase prices for farm products are in the vast majority of cases favorable to developing production and are ultimately reasonable, and the peasants are rather well satisfied with them. For this reason, as was suggested in the report to the 12th Party Congress on the 5-year period between the current National People's Congress and the succeeding one, there must be a general turnaround in the financial and economic situation. A fundamental balance must be firmly secured in the areas of finances and credit, and prices must fundamentally stabilize. Overall levels of farm prices must be stabilized over the next few years and cannot be raised any further. Only in the case of a small number of products with markedly unreasonable prices must be stabilized over the next few years and cannot be raised any further. Only in the case of a small number of products with markedly unreasonable prices will there be consolidations or adjustments up or down. Increases in farm income over the next few years can only come from efforts to develop production--not from increases in the price of farm products.

Some comrades allege that in current cost calculations for farm products, the figure of 1 yuan set as the value of a single live worker is too low and holds down the cost of farm products. It is our feeling that the 1-yuan figure was fixed for the value of live labor per worker in 1981 on the basis of the individual allocation of the labor value for the nation's grain production as a whole, and was basically reasonable given the situation at the time. In the last 2 years, production has developed rapidly. There have been numerous increases in farm income and new changes in the situation. The figure may possibly be lowered somewhat. Even if the estimated value of labor of 1.30 yuan recommended by some comrades were adopted, the real income value for farm products currently (including state purchases, supplementary purchases and negotiated purchase prices), when compared to tax liabilities per 100 jin, would be as follows: the six grain categories of rice, wheat, corn, etc. would still show a 15 percent profit; the three oil-producing products--peanuts, rapeseed, and sesame seed--would still average 55 percent; averages for the eight economic crops such as cotton, cured tobacco, hemp, sugarcane and sugar beets would still be 41 percent profit; and apples and citrus fruits would still show approximately a 1-fold increase in profits. The benefit to agricultural production would still be there. Of course, therefore, the question of the estimated value of labor and of how to set a reasonable ratio is still open to discussion.

Some comrades say that "price scissors" not only continue to exist in China's present pricing of industrial and agricultural products, but that they are being broadened and that the prices of China's farm products are too low. This is a much debated question. In my view, the existence of "price scissors" in the pricing of industrial and farm products in old China was due to the fact that the imperialist, bureaucratic, comprador and capitalist classes together controlled the lifeblood of the national economy, monopolized markets and used the method of buying farm products low and selling industrial goods high in order to fleece the broad masses. Since the establishment of New China, the three great mountains have been overturned, and the state controls the lifeblood of the national economy. The price scissors between industrial and farm products have lost whatever class basis they had. Over the past 30 years and more, the party and government have adopted policies for reducing "price scissors" and for bringing about parity or near-parity of exchange. They have raised the

state purchase price of farm by-products time and time again, basically stabilized the retail price of industrial goods in the countryside and brought great benefits to the farmer. Taking 1950 as the base period, by 1958 the overall index for the purchase price of China's farm products had gone up 49.4 percent, while the overall index for the retail price of industrial goods in the countryside went up 11.4 percent. This was already back to the average levels of the 1930-1936 period for exchange ratios between industrial and agricultural goods. That is, the "price scissors" which took form after the outbreak of the war against Japan were gone. Subsequent to 1958, prices for farm products again went up extensively. Compared to 1950, the 1981 figure for China's overall index of farm product purchase prices was up 201.2 percent. Industrial product retail prices in the countryside went up a mere 11.9 percent. The peasant could exchange an equal number of farm goods for more than double the number of industrial goods than they could in 1950. This was around 80 percent more than the number of industrial goods they could get before the Japanese war. The farmer has already obtained real advantages in the exchange of agricultural for industrial goods. In my view the price ratio for the exchange of industrial and farm goods we have now is basically reasonable, given China's current industrial productivity.

Some comrades say that the "relative price scissors differential" may have shrunk in the exchange of industrial and agricultural products since the founding, but owing to the fact that the labor production rate has gone up faster in industry than it has in agriculture, the "relative value scissors differential" has actually expanded, and we must continue to raise prices on farm products. Otherwise there will still be no parity in the exchange of industrial and farm products. This needs to be looked into. In my view, China built socialism out of poverty and emptiness. Our first principle has been "enough to eat" and our second, "construction." Just as Marx pointed out concerning the state vis-a-vis the farm products produced by the peasant, over and above deductions which must be made at the outset for the means of production which are already expended are deductions for society to be used to expand production and satisfy all kinds of collective needs of laborers. But the state cannot allocate directly the pure profits created by units owned by farmers collectively. Besides a portion of that accumulated through farm taxes, it must use price differentials on the exchange of industrial and agricultural goods as a means of making deductions in order to establish socialism. Marx said: "Deduction of this portion is necessary for the economy." ("A Critique of the Gotha Programme," p 11.) For this reason, it cannot be called "a new unequal exchange value." We must take into full consideration the interests of three groups--the state, the worker and the peasant. The large part of the value created anew from increases in the labor production rate must be used for "construction." A smaller part will be used to "provide food" and to improve the standard of living of the industrial and agricultural masses.

This involves the question of what is a reasonable price for farm products.

In my view, in gauging whether or not the price of farm goods is reasonable, the first criterion is whether farm product costs can be compensated. This is the lowest economic limit in fixing upon the price of a commodity. Marx pointed out: "The lowest economic limit for the selling price of a commodity is fixed by the cost of the commodity. If a commodity is sold at a price lower than

its cost, the organic part of production capital already expended cannot be covered in the selling price. If this process continues, the capital value already advanced may disappear." ("The Complete Works of Marx and Engels," vol 25 pp 45-46.) This principle is equally applicable to the fixing of prices for socialist commodities. We must not only ensure sufficient compensation for the farmer's production costs but must also provide for a certain amount of profit, so that as the farmer exerts himself in production with normal harvests, his income can gradually go up and can be used to expand production further and improve his livelihood. At the same time, the state should garner a certain amount of accumulation through the exchange of industrial and farm goods.

The second criterion is to ascertain whether or not it can promote the planned, proportional development of farm production. The price of farm products is a major lever for promoting farm production. If our farm product pricing does not enhance production development, it is of course unreasonable. We must also promote the planned, proportional development of farm production which is in accordance with the requirements of state planning. It is necessary that when we set farm product prices, we focus on grains and preserve a reasonable price ratio between different farm products. From this aspect, the price ratios between farm products themselves right now do, as a matter of fact, have some inconsistencies, and the relative benefits comparing grain crops with other economic crops or regional specialties are comparatively lower. We must therefore stress investigation and research and come up with answers on how to make rational adjustments. We can gradually resolve the issue, based on how much the nation's financial capabilities permit.

The third criterion is whether or not it is adapted to China's current national economic situation. Over 70 percent of China's farm products are first purchased by the state before supplying our production, livelihood or export requirements. The price of farm products is the basis for pricing goods in the marketplace. Grain, cotton, oil and hogs are all major commodities which involve national plans and the people's livelihood. In order to sustain the people's daily life, the selling price of these goods cannot be changed capriciously. After the state purchase price is raised, it automatically becomes an added burden to the state's finances. The amount of funds used right now for subsidies for farm products by the state is already great, and the financial burdens are heavy. If the price of farm goods goes up any more, the state will be unable to shoulder the burden. It is only for a few secondary farm products that state purchase prices will be allowed to be adjusted in tandem. However, if it goes too high, it will exceed the ability of staff and workers to accept and consume them, and if they cannot be sold, it will have an adverse effect on production. Some comrades are always referring to the price of farm products abroad for comparison with China's domestic price, or else they refer to the amount of goods needed to exchange industrial for farm products overseas to show that the Chinese price for farm goods is too low. In my view, there is still a great gap between the industrial production capacity of advanced capitalist nations and our own right now. China's broad masses of staff and workers still make low wages, and the conditions are not comparable.

As mentioned above, based upon these three criteria, I feel that the general level of current farm product prices is reasonable. Over the next few years state purchase price levels for such products should remain stable. Of course, given the condition that the overall price levels remain basically stable, a few products for which prices are too high or too low may be adjusted up or down, depending upon the situation.

Some comrades worry about whether farm product prices can remain stable over the next few years. In my view, it is feasible that the overall level remain stable. First, the central leadership has clearly indicated that the development of China's farm production depends first upon policies and second upon science. Ever since the 3d Plenary Session of the 11th Party Congress, the central leadership has set forth a whole series of correct policies for developing agricultural production which fit the national situation, meet the approval of the people and have greatly mobilized the peasants' enthusiasm for production. As the party goes a step further in liberalizing policies for various rural economic projects, as the household responsibility system becomes more perfect and as science and technology expand vigorously, as long as there are no major natural catastrophes, China's agricultural production over the next few years will inevitably develop further, and products will increase in number day by day. This will provide a firm material base for stabilizing farm product prices. Second, as the rural responsibility system becomes better established and strengthened, it will forcefully overcome the past situation of "eating from the same big bowl" and working without expending effort. Although there will be increased expenditures of material in farm production, there will be smaller amounts of human labor. Moreover, agricultural science and technology will improve, as will the labor productivity rate for farm products in great measure. Unit area output will increase, and unit costs of farm products will go down. According to 1982 survey materials for farm product costs, averages for the six grain categories such as rice and wheat show an increase of around 50 jin per mu between 1978 and 1982, or 14.5 percent. Per mu material expenditure averages went up from 21.14 yuan to 25.17 yuan, or 19.1 percent. However, the average number of laborers per mu decreased from 28.6 to 17.4. For this reason, total costs per mu went from 44 yuan down to 42.57, a decrease of 3 percent. Costs per 100 jin fell from 11.14 yuan to 9.28, or 12.3 percent. In such a situation, if there are no major fluctuations in the price of farm production materials, we believe that this should continue for a period of time. This is an objective indication of the outlook for stable prices for farm products. Third, stable markets and stable prices for goods have been a steadfast policy of our party all along. It is also the general trend of circumstances, what everyone desires and what is required for construction. The central leadership of the party is now adopting measures in such areas as controlling the scope of investment in basic construction, reducing money in circulation and upgrading the quality of enterprises. They are stabilizing markets and material prices thoroughly. All of these indicate that the basic stability of overall levels of farm product prices can be attained. Of course, we must note that stable overall levels of farm product prices also involve some unfavorable factors as well. One factor is the profusion and rate of the growth of the scope of basic construction and expenditure of funds. Control of basic construction and regulation of the money supply require a process. The number of goods which can be supplied to markets and the purchasing power are still unmatched to a certain degree. Increases in amounts produced

for some farm products--especially food products--cannot keep pace with increases in demand. There may be shortages in supplies, and objectively speaking, the possibility of inflation exists. The second factor is the price of such farm production materials as chemical fertilizers and pesticides. Due to losses in production and increases in imports, the trend is toward higher prices. This may influence farm costs. The third factor is that once the scope of negotiated purchases and sales of farm byproducts expands, there will be relatively greater increases in negotiated prices for goods in urban markets, and the price of some food products may go up. The fourth factor is that retail prices of goods have been vigorously controlled for over 2 years, and there is an accumulation of commodities with prices which should have been raised but have not yet been raised, giving rise to a situation in which price increases, potential price increases, disguised ones and peremptory ones may occur. In many enterprises, after the operational responsibility system has been put into effect, questions concerning requests to raise prices and peremptory price increases have become prominent. Therefore, when it comes to the stability of overall levels for prices of farm products at the present time, we must maintain complete confidence without becoming casual. We must strive to do our work well. First of all, we must unify our thinking and understanding and then put into effect methods which bring together management and guidance in order to make the overall price levels of farm products fundamentally stable. Those views which hold that if we stabilize, then we will not be able to make adjustments or strengthen necessary management and that any talk of strengthening management will not suit the requirements of "revitalizing the economy," or which hold that the only way to stabilize prices is to "manage everything," are all one-sided.

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## MAJOR ECONOMIC INDICATORS OF AGRICULTURAL PRODUCTION TECHNOLOGY

Beijing NONGYE JISHU JINGJI [ECONOMICS FOR AGRICULTURAL PRODUCTION TECHNOLOGY]  
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[Article by He Guiting [0149 2710 1656] of the Agricultural Economics Institute of the Chinese Academy of Agricultural Science: "The Meaning, Function and Measuring of Major Economic Indicators of Technology"]

## [Text] I. Land Productivity Indicators

This refers to the output and output value of agricultural products or the value of surplus products per unit area of land. The value of surplus products per unit area of land reflects the relationship between income and cost, and is an indicator of economic results. There are different views in academic circles as to whether output and output value per unit area are indicators of economic results. One viewpoint is that output and output value per unit area are indicators of technological and not economic results since they only reflect income and not the relationship between income and cost. Economic results are not necessarily good when per unit area output is high. If output per unit area is regarded as an indicator of economic results, people are apt to mistakenly think that the higher the per unit area output the better the economic results will necessarily be, and thus unilaterally seek for indications of high per unit area output and neglect the price paid. The phenomenon has occurred in some places of increased output without increased income and of poor groups with high output, which is definitely related to blindly seeking per unit area output. Another viewpoint is that this indicator of output per unit area also reflects the relationship between income and cost, and is an indicator of economic results. Cost here refers to the expenditure of economic fertility, and economic fertility is a result of the expenditure of people's labor. Based on the lessons of past experience, the author believes that it is more appropriate to regard indicators of output per unit area as indicators of technological results or of economic analysis; using indicators of net output value per unit area or of the amount of profit per unit area to reflect the economic results of land resources utilization conforms more to reality. Faced with different evaluation targets, various forms of expression and formulas of measurement can be used for land productivity, such as:

1. Output value per unit of agricultural land area:

Output value per unit of agricultural land area equals the total output value of agricultural products divided by the agricultural land area (1).

This formula can be used to reflect the comprehensive technological results of land resources utilization by agricultural departments, areas or administrative units resulting from the use of certain technological programs and systems.

2. Net output value and the amount of profit per unit of agricultural land area:

Net output value per unit of agricultural land area equals the total income of agricultural products minus the value of the means of production consumed, divided by the agricultural land area (2).

The amount of profit per unit of agricultural land area equals the total income from agricultural products minus the total cost of agricultural products, divided by the agricultural land area (3).

Formulas (2) and (3) reflect the relationship between income and cost, and are indicators of the economic results of land resource utilization.

The above are measured on the basis of all agricultural departments, areas and administrative units. They can be further separately measured on the basis of each agricultural department. The land productivity of the planting industry is the output per unit area of each crop or the product output value, the net output value and the amount of profit of all crops. When measuring the land productivity of the planting industry, land area can be measured on the basis of the area harvested, sown or cultivated. Measuring it on the basis of the area harvested can more accurately reflect the economic results of technology, and is more suitable to summarizing the results of scientific experiments and experience in getting bumper crops. Measuring it on the basis of the area sown can be used to check the fulfillment of plans and to reflect management and administrative standards as well as the adaptability of new technology to objective conditions. Some technical measures and programs involve how many crops are reaped a year such as in cultivation reform, and the annual income per mu of cultivated land must be measured on the basis of the area cultivated. The land productivity of grassland livestock enterprises is mainly measured by the output of livestock products such as meat, milk, wool and leather per unit of grassland area (separately measured on the basis of products such as meat, milk, wool and leather) or the output value, net output value and profits of all products. Forestry land productivity is mainly measured by the output, output value, net output value and profits of forest products per unit of timberland area. Aquatic product area productivity is measured by the harvest per unit of water area, and includes the output, output value, net output value and profits of all cultivated aquatic plant and animal products. When making macroscopic economic evaluations, using each of the above indicators of output value and net output value per unit of agricultural land area can separately reflect the level of technological and economic results of land resource utilization.

## II. Indicators of Total Output and Total Output Value of Agricultural Products

The total output of agricultural products is the total results achieved by applying certain technical measures and programs to agriculture, and total output is a major indicator of technological results in making economic evaluations of agricultural production technology. The size of total output is mainly determined by factors in the two areas of the percentage of marketable products and the scale of production. Total output of the planting industry is determined by output per unit area and the area planted. Indicators of output and output value per unit area can only reflect certain advances in agricultural technology in the areas of high yield and high quality, and another major area of advances in agricultural technology, i.e. the question of whether their adaptability is extensive or not, cannot be reflected by indicators of output per unit area. The per unit area output of certain new technology may be somewhat higher than that of others, but if its adaptability is weak and its popularization area small, its increase in total output will be slightly less; and although the per unit area output of other new technology is somewhat lower, yet if its adaptability is strong and its popularization area large, its increase in total output will thus instead be greater. It is thus clear that indicators of total output can better reflect the contents of all aspects of technological advances. When evaluating technological results, we must thus not only investigate the amount of increase in output per unit area, but also the amount of increase in total output.

## III. Labor Productivity Indicators

Labor productivity is the output of agricultural products created per unit of labor consumed or the labor consumed to create a unit of agricultural products. Labor consumption includes both material and live labor consumption. Since a method has not yet been found to measure the time needed to restore material labor, common labor productivity indicators thus only reflect the output or output value of agricultural products created per unit of live labor; its reciprocal is the amount of live labor consumed per unit of output or output value of agricultural products. Labor productivity is an indicator of economic results. The formulas for measuring it are:

Labor productivity equals the output or output value of agricultural products divided by the amount of live labor consumed (4);

or, labor productivity equals the amount of live labor consumed divided by the output or output value of agricultural products (5).

In formulas (4) and (5), measurements of the amount of live labor consumption can be based on different needs and be measured according to such things as the agricultural labor force, agricultural workers, agricultural staff members and workers and one hour of a working day.

Along with the development of agricultural production, the proportion of materialized labor condensed in agricultural products will be increasingly larger, and in order to precisely reflect the total output value created per unit of live labor and to eliminate the increased input of materialized labor

concealed in the growth and decline of labor productivity, it will be necessary to set up indicators of the net output value (or the amount of profit) per unit of live labor in order to clarify whether raising labor productivity can result in economic results. The formulas for measuring it are as follows:

Net output value per unit of live labor equals the total output value of agricultural products minus the value of the means of production consumed, divided by the amount of live labor consumed (6);

and, the amount of profit per unit of live labor equals the total income from agricultural products minus the total cost of agricultural products, divided by the amount of live labor consumed (7).

In addition, an indicator of the amount of agricultural product commodities provided by each able-bodied agricultural worker can also be set up in order to reflect the contribution of agricultural workers to the state. The formula for measuring it is as follows:

The amount of agricultural product commodities per agricultural worker equals the amount of agricultural product commodities divided by the average annual number of able-bodied agricultural workers (8).

#### IV. Fund-Product Rate Indicators

This group of indicators includes the two areas of the economic results of fund expenditure and fund constitution.

1. Per unit cost of agricultural products refers to the amount of funds spent to produce each unit of agricultural products. It is an indicator of the economic results of funds spent. The formula for measuring it is:

Per unit cost of agricultural products equals the total cost of agricultural products divided by the total output of agricultural products (9).

2. The cost-product rate is used to reflect the economic results of the total funds spent. Since the amount of material objects realized from various agricultural products is not easily compared, the total amount of agricultural products is therefore expressed as an indicator of value. The formula for measuring it is as follows:

The cost-product rate equals the total value of all agricultural products divided by the total cost of all agricultural products (10).

3. The goods and materials consumption-product rate refers to the amount of the means of production consumed to produce a unit of agricultural products. The formula for measuring it is as follows:

The goods and materials consumption-product rate equals the amount of goods and materials consumed divided by the output of agricultural products (11).

4. The cost-profit rate refers to how much profit can result from spending each unit of funds, and is also an indicator of the economic results of funds spent. The formula for measuring it is as follows:

The cost-profit rate equals the amount of profit divided by the total cost of agricultural products (12).

5. The amount of funds per unit of agricultural products reflects the amount of fixed and circulating funds needed to produce each unit of agricultural products. It is an indicator of the economic results of fund constitution. The formula for measuring it is:

The amount of funds per unit of agricultural products equals fixed funds plus circulating funds divided by the output (or output value) of agricultural products (13).

6. The fund-profit rate reflects the amount of profit obtained per unit of funds:

The fund-profit rate equals the amount of profit divided by fixed funds plus circulating funds (14).

#### V. Indicators of Capital Construction Investment Results

Agricultural expanded reproduction requires an increased input of a definite amount of labor. This part of the amount of increased labor input is expressed for each fixed asset, is an investment in agricultural capital construction, and is a monetary expression of buildings or equipment and projects recently put into production or prepared to go into production. The major indicators measuring the size of the economic results of investment are the investment recovery period and the measured cost.

1. The investment recovery period is also called the fixed number of years needed to recover an investment. It refers to the period from the time when a capital construction project is put into production up to the time when the investment is totally recovered. The year is generally used as the measuring unit for this period. The source of capital construction investment recovery is the increased amount of agricultural profits, and the number of years needed to increase the average annual amount of profits in order to recover the total capital construction investment is the investment recovery period. The formula for measuring it is as follows:

The investment recovery period equals the total amount of investment divided by the average annual amount of increased profits (15).

The shorter the investment recovery period, the greater the economic results of the investment.

2. The investment result coefficient is the reciprocal of the indicator of the investment recovery period. The formula for measuring it is:

The investment result coefficient equals the average annual amount of increased profit divided by the total amount of investment (16).

The investment result coefficient is essentially the amount of newly increased profits that a per unit (per yuan) investment can obtain per year. The larger this coefficient, the greater the economic results indicated.

3. Additional investment recovery period. Additional investment refers to the differences between investments needed for various capital construction investment programs. The additional investment recovery period refers to the period of time needed to recover the additional investment relying on the amount of costs or administrative expenses saved after adopting certain capital construction investment programs. The formula for measuring this indicator is:

The additional investment recovery period equals the program X investment minus the program Y investment, divided by the program Y cost minus the program X cost (17).

It can be seen from formula (17) that the additional investment recovery period actually indicates the amount of additional capital construction investment needed to reduce cost by one yuan. Judged from this angle, the smaller the numerical value of the additional investment recovery period the better, i.e., the shorter the recovery period the better.

4. The measured cost. When making comparative evaluations of two or more capital construction investment programs, this economic results indicator of measured cost can also be used. Measured cost is the standard investment results coefficient times the total amount of investment plus total annual product cost. The formulas for measuring it are as follows:

The measured cost equals total annual product cost plus the standard investment results coefficient, times the total amount of capital construction investment (18);

or, the measured cost equals total annual product cost plus the total amount of capital construction investment, divided by the standard investment recovery period (19).

In measuring formulas (18) and (19), there is the standard investment result coefficient and the numerical value of the standard investment recovery period. These standard numerical values are formulated together. If the standard results coefficient and the standard investment recovery period are not formulated together, the measured indicators of measured cost will not be constant.

In order to accurately evaluate investment results, it is also necessary to consider the effect of time factors on capital construction input and output.

In addition to the five major groups of economic indicators of agricultural production technology introduced above, certain goal indicators are also generally used such as indicators of the fulfillment rate of planned duties and indicators of the percentage of marketable products from agricultural products as well as indicators of certain ecological results such as soil fertility grades, and unnecessary details will not be given here.

12267

CSO: 4007/250

## CONTRACT RESPONSIBILITY SYSTEM DEFENDED

Guangzhou YANGCHENG WANBAO in Chinese 8 Aug 84 p 2

[Article by Wang Yiju [3076 0122 5282]: "It Is Not Retrogression; the Joint Production Contract Responsibility System Is a Management System of Public Ownership"]

[Text] Some comrades feel that the joint production contract responsibility system carried out in China's villages has changed the nature of collective ownership and is a type of retrogression. I feel that it is still a management system of public ownership.

First of all, the contract system requires that both sides have a contract relationship. In agriculture, the two sides are owners who possess land or other means of production, and they are made up of the users of the means of production. The owners of the means of production are collectives, such as production teams, production brigades (townships), communes (prefectures), etc. In this respect, the nature of the ownership of land and the other means of production has not changed. The users of the means of production are the members in collectives, i.e., individuals, groups or families. But in the contract system, these users are not merely producers, but more importantly they are the managers of the means of production. Besides producing labor, they are all responsible for such economic functions as acquiring additional tools, organizing production, selling products and purchasing fertilizer.

In the production relationships of feudal society, the masters of manors were the owners of the means of production, and the same time they also personally managed the manor economy of the means of production. Later, the manor economy was smashed, and the owners took the authority to manage the means of production and transferred it to others or gave it to production workers, but they themselves shared a certain portion of the management results. The division of the right of ownership and the right of management embodied in this type of ownership does not in any way change the nature of the system of ownership in feudal society; all that was changed was the relationship between the right of ownership and the right of management. This change is only a change in the management system.

Although the socialist system of ownership has a different nature, yet at the same time that its nature is unchanged, there can also be changes in the management system. In the past, the right of ownership and the right of management were directly related; the quantity of the means of production owned by communes, production teams and production brigades was equal to the size of the scope of management, and under the circumstances of a low level of productive forces, this was also a management system of "all eating from a large pot." The joint production responsibility system which we are currently undertaking causes a separation of the right of ownership and the right of management. This suits the current level of productive forces, and under the circumstances of the unchanging nature of collective ownership, we are carrying out a reform of the management system. No matter how large the split of the right of management is, it must always adopt a definite form of relationship and begin to have a relationship with the right of ownership. Otherwise, the right of management will be transformed into a new kind of ownership. The joint production contract responsibility system is a form of joint production contract, and it causes the right of management and the right of ownership to be combined. Thus, this form is still a type of socialist public ownership management system.

The joint production contract responsibility system also causes the original production workers to become production managers. This then enables production workers, based on the specific circumstances of individuals and the special characteristics of agricultural production, to make up an economically diverse form including individuals, groups, households and integrated bodies, and thus enables all key elements of agricultural productive forces to realize the closest possible unity. This is precisely the reason that China's agricultural productive forces quickly exceeded the level required by the producers. Exceeding the level required by producers is the starting point for commodity production. Thus, what is most significant about our country carrying out a joint production contract responsibility system is that it pushes our agriculture to become separated from the natural economic state in which it has been since early times and which has gradually developed toward the commodity production stage. Certainly, we must enable our agriculture to enter smoothly the commodity production stage and continue to develop, and besides carrying out a joint production contract responsibility system, we also must have other types of reforms which can be coordinated.

12437

CSO: 4007/229

## INCOME DIFFERENTIAL IN AGRICULTURE STUDIED

Taiyuan JINGJI WENTI [PROBLEMS IN ECONOMICS] in Chinese No 7, 25 Jul 84  
pp 24-28

[Article by Du Shangfu [2629 1424 4395] of the Hebei provincial party committee school: "Income Differential of Collectively Owned Land and the Agricultural Production System"]

## I

In China the private land ownership system has already been replaced by the socialist system, but the income differential on the land has not disappeared as a result of this. Objective economic reality shows that the general prerequisites for producing differences in income still exist in Chinese agriculture, and therefore there are still income differences from the land. Whether these income differentials are due to differences in the natural fertility or location of the land or are created by carrying out intensive farming on the same land, they are actually different in productivity from equal investment in the land of labor and funds. Differences exist in income distribution due to the different degrees of public ownership of land.

Everyone knows that at this stage of China's agriculture, there are still two land ownership systems with different degrees of public ownership, that is, the collective land ownership system and the ownership of the land by all the people. Of these, the collective land ownership system occupies a fairly large proportion. This is a major feature of China's land ownership forms and it cannot be eliminated within a short period. Consequently, when we examine land problems in China's agriculture, and when we study different incomes from the land, we must fully understand this point. In the two coexisting land ownership systems described above, different economic relationships are formed among the state, collective and the individual worker, and these different economic relations inevitably are expressed in different levels of income distribution. That is to say, discrepancies in economic relationships lead to discrepancies in the principles for distributing different income. The former is the cause and the latter is the result. To reflect this difference in objective economic activity and to express these different economic relationships,

we can make further distinctions between and formulate these two concepts of the income differential of collectively owned land and the income differential of land owned by all the people.

Below, we will analyze primarily the question of the income differential of collectively owned land.

## II

At present, over 90 percent of the production teams in China's countryside are implementing the responsibility system that ties production to pay, and the production teams have already passed management authority for the collective land on to the commune members through contracts. Within a collective, there are differences in fertility and in the location of the land, and there are also differences in the degree to which households practice intensive farming. Consequently, their labor productivity rates are different, and this leads to a situation in which some commune members with relatively good land are able to earn incomes above the quota.

The conditions creating this above-quota income are: 1) differences in the soil fertility and differences in the location of the land contracted by each commune member so that land with the same area and with the same amount of animate and inanimate labor invested in it will have different productivity rates; 2) with constantly improving technology, continually added investments in the same land will produce different productivity rates.

The causes creating this above-quota income are a combination of the limited amount of fairly good land along with the relative stability of land management authority within the contract period under set economic conditions. China has many people and little cultivated land and so in order to satisfy the food, clothing and industrial production needs of its population of 1 billion, in addition to cultivating good and mediocre land, the nation must also cultivate inferior land. When the social price of agricultural products is determined by the individual price of inferior products, then this allows those peasants who have contracted to farm fairly good land to maintain a rather high labor productivity rate when compared to peasants who farm inferior land, and so they are able to obtain more produce and income, that is, the income differential of collectively owned land. It is actually the difference between the individual production price of agricultural products and the social production price.

The income differential of collectively owned land can be divided into two kinds of situations, according to the conditions by which they are formed: the part of the difference in income produced by the investment of equal amounts of labor into land of the same area but of different grades due to differences in the degree of fertility and location of the land is called income differential I from collectively owned land; the part above the quota obtained by different productivity rates produced by intensive farming on the same kind of land but with continual inputs of labor and funds is called income differential II from collectively owned land.

The income differential of collectively owned land is an economic category that exists in the beginning stages of socialism. It is reflected in collectively owned socialist agriculture in the relationship among the state, the collective and the contracting commune member in the process of reproduction. The possession of this part of the income has a direct relationship with the economic relations that produced it. The position occupied and the share earned by the state, the collective and the individual laborer when this part of the income is distributed are determined by the economic relations that produce it. The distribution principles for the income differential of collectively owned land is:

First, income differential I from collectively owned land should be shared by the state and the collective. This is because, speaking of the composition of its value, this part of the income was not created through the labor of the contracting commune member himself. Even more important than purely natural factors, the reason for the fairly high potential fertility of good land and fairly good land is the large quantity of animate and inanimate labor that has been invested in this land over many years, resulting in the constant nurture and improvement of its fertility. As for the collective, for many years the collective (production team) constructed irrigation ditches, sunk wells, leveled the land and improved the chemical composition of the soil, etc. After the land was contracted out to the commune members, the inputs mentioned were still producing results and even enabling commune members who were farming superior and mediocre land to have a relative high productivity and so obtain relatively more produce and income. A part of this income comes from the reappearance of the collective's past labor input. It is proper that the production team return a certain proportion of its income to the collective. That is the reason and theoretical basis for why commune members who farm superior- and middle-grade land should turn in more than they withhold.

The improvement of land conditions and farming conditions for each collective unit is on the one hand, a result of many years of effort by the individual collective itself, as described above, and, on the other hand, is intimately related to the energetic support of the state. For example, state investment builds water reservoirs and key large-scale water conservation projects, enabling the land that receives direct benefits to become more fertile, be protected against drought and waterlogging and have stable, high production; the state constructs railroads, roads, ports and communications projects, etc., improves the transportation and communications facilities for agricultural production units and causes beneficial changes in the geographical position of some agricultural production units. The constantly increasing number of agricultural production materials supplied by the state, like agricultural machinery, fertilizer, agricultural chemicals, etc., improves agricultural production conditions and promotes the development of agricultural productive forces. Therefore, the state too should receive a certain portion of this part of the income.

The common possession of different forms and proportions of the collectively owned land's differential income by the state and collective (production team) is, in essence, a form of compensation for the agricultural funds and labor already put in.

Second, differential income II from collectively owned land should belong to the direct manager of the land, that is, the contracting household, during the period that the contract is in effect. This is because in order to obtain even more agricultural production from limited cultivated land, the commune members who contract the land will, on the one hand, put in relatively more animate labor and, on the other hand, will also add investment (production materials such as fertilizer, improved seed varieties and improved agricultural machinery, etc. as well as farm capital construction). The increased agricultural production and income obtained through this are results of the intensive farming by commune members relying primarily on their own strength. This part of the income, speaking of the composition of its value, can be divided into two parts. One part is the value created by their putting in more animate labor, and the other part is the economic results produced by the input of funds.

### III

The existence of an income differential from collectively owned land is an important factor in the differences existing in the economic benefits among the collective economic units in agriculture and among the contracting commune members. Consequently, the correct understanding and rational distribution of the income differential from collectively owned land is an important feature and link in smooth agricultural economic relationships and in the continued stability and improvement in the responsibility system tying pay to production.

Regardless of whether they divide the land on a per-capita basis or whether they contract it out according to labor proportion, most production teams that now implement the responsibility system tying pay to production have the problem of divided land that is too scattered. This problem is particularly evident when the responsibility system tying pay to production is first implemented. Although various places have adopted certain adjustment measures in the past 1 or 2 years, the problem of "scattered" land created by dividing up the land equally according to grade still exists.

Commune members contend that there are economic reasons for dividing up the land equally according to land grade. Land is the most basic means of production in agricultural production and income from farming the land is presently still the major source of economic income and of consumption materials for the majority of China's peasants. Under conditions in which agricultural productive forces are still fairly low and in which the rural commodity economy is still not very developed, the abandonment of land management rights in the near future will be impossible for a large number of peasant households. This is the first feature.

The second is that there are pronounced differences in soil fertility and other natural conditions within individual collective agricultural economic units (production teams). As a result, conspicuously different levels of agricultural production are obtained from an equal input of labor into equal areas of land that are of different grades. The commune members who have lived and worked on this land for a long time understand completely which plots of land are good, which are fairly good and which are inferior. When the land is contracted,

nearly all, in their hearts, hope to contract for good or relatively good land. When this cannot be realized, they forcefully demand an equal distribution of good and bad land. To use their own words, they say that "no one wants to get the worst of it and no one wants to profit at the expense of others." Although most honest, hard-working peasants have a low educational level, they often perceive profound truths from the facts, and one of these pertains is their very proficient and economic application in the area of the distribution of land management income. At present, either the economic policies connected with this are not sound or they are still not very rational. For example, the contracted target gap for different grades of land is too small, and so peasants with good land can get a bit more agricultural production and income compared to peasants with inferior land. Until a rational policy for the distribution of income differential from collectively owned land is formulated and put into practice, it is natural that commune members demand the equal distribution of good and bad land. If we can guarantee through policies that regardless of whether they farm good or bad land, the input of an equal amount of labor will bring the same income, then they will not be able to haggle or else will haggle just a little about what kind of land they will farm, and at that time, the problem of the equal distribution of land and the problem of scattered land arising from it can gradually be properly resolved. Actual practice shows the success of drawing small-scale, scattered individual family farms into economic unions. Farming forms serve as administrative levels in production relationships and need to be relatively stable for a certain period. At the same time, with the development of agricultural productive forces, they also need to be adjusted further and perfected at the proper moment. At present, the continued stability and perfection of the responsibility system tying pay to production and the encouragement of peasants to expand the scale of production on the basis of the family farm, raise economic results and develop commodity production are major tasks in rural economic work. In recent years, the income of the broad masses of commune members has increased and there has been a marked increase in the proportion of expenditures spent on productive consumption. In 1978 it was 13.1 percent; in 1981, 15.1 percent; and in 1982, 16.7 percent. This clearly shows that since the implementation of the responsibility system, the production enthusiasm of 1 billion peasants has been high and the expansion of reproduction has already become their common fervent desire. However, we find from the composition of productive consumption above that the investment direction of commune members is concentrated primarily in areas like the purchase of farm equipment, processing equipment for farm products chemical fertilizer and improved seed varieties, etc., and although there has also been an increase in the funds used directly on capital farm construction to improve soil fertility and improve the natural conditions of agricultural production, the proportion is small and there is no great momentum to increase it. This is an economic phenomenon worthy of our attention and study, for it reflects the basic sentiments of the broad masses of peasants.

We know that commune members have relied upon themselves to raise most of the funds used to expand reproduction, and that generally they are extremely cautious in how they invest these limited funds. Similarly, when commune members decide how to invest the principle that they follow is that of using a relatively small amount of labor input to get a relatively larger labor

product. When a commune member does not know what plot of land he himself will be able to farm and for how long, and does not know how large a portion of the result of these investments will come back to him or whether or not these investments will be protected, then he cannot boldly take action. Consequently, most are only able to take an interest in short-term investment, such as in the application of more chemical fertilizer and the use of improved seed varieties and agricultural chemicals, etc. However, they take a wait-and-see attitude toward inputs which are bound up with subsoil rights and which only bring results after a fairly long time or for which one can only get back one's investment after a fairly long time, such as the construction of water conservation facilities or the improvement of large areas of soil. There are multiple reasons creating this hesitation to make a move, and an important one is the imperfection of the distribution policy for income differential II from collectively owned land. It affects the further heightening of the contracting commune members' production enthusiasm and inhibits the further development of agricultural productive forces.

To solve the above problem, then, we must formulate a set of integrated, scientific policies concerning the land.

First, we must make farming rights for land relatively stable.

The relative stability of farming rights for land means, first, appropriately extending the land-contracting period; second, for the most part, the contracting household's right of farming use for the contracted land will not change during the contract period. Combining and uniting the relative stability of land management rights with farm income, as the major source of income for most peasant households, is a powerful impetus in encouraging peasants to increase investment, nourish fertility and carry out intensive farming.

Next, we must clarify the possession of income differential II from collectively owned land during the contract period.

Extending the land contract period to allow the peasants to feel relatively stable toward farming rights to the land is only one necessary precondition for encouraging peasants to increase investment, nourish fertility and carry out intensive farming. It only settles the question that during the contract period (for example, 15 years) peasant labor and funds can stably and effectively combine with the land and that under the guidance of the national plan, peasants can decide for themselves about carrying out farming, but it certainly does not solve the problem of distributing profit from the land. We should say that every contracting commune member is not just concerned about production and circulation but is even more concerned about the distribution of profit. Consequently, at the same time that we extend the land contract period, we should also coordinate it with a corresponding profit distribution policy. The state and the collectives (production teams) should encourage commune members to work diligently to get rich and should conscientiously implement the principle of distribution according to labor. At the same time, in our concrete policy, we must make clear regulations so that the state and collective can protect the interests of the commune members' continual investments in agriculture, and particularly in the land, in order to guarantee that

during the contract period the commune members get back the relatively greater production and income that come from their constant input of funds and their implementation of intensive farming (that is, income differential II from collectively owned land). Only when contracting commune members realistically obtain the material benefits of their investment in the land and feel that this material benefit is guaranteed during the contract period, will they put their investment attention on projects that require a fairly long period before they can materialize and recoup investment benefits.

Finally, we must formulate ration compensation policies for land investment.

In 1984, the Party Central Committee had already made regulations, in principle, on this matter: "We should give rational compensation for the peasants' investment in the land." This policy of the Central Committee is a strong and powerful impetus for contracting commune members to invest boldly and confidently in the land.

In recent years, most places have depended on using up "principle" (that is, capital farm facilities) to get by. Now, water reservoirs in many places are severely silted up and their capacity has shrunk, some irrigation channels urgently need repair, some motor-pumped wells urgently need renovation, etc. If we do not put new investment into these areas, not only will there be no need to talk any further about developing productive forces, but the productive forces that we already have will end in ruin. The input of this kind of fairly long-term fixed funds, at the present stage, still relies mainly on the decision-making power of the commune members themselves, with limited assistance given by the state.

Once these kinds of fixed funds are put in, "then they should act as an inseparable companion of the entity, that is, the land," (Collected Works of Marx, vol 25, p 699) to be combined with the land and not moved or taken away. When we consider the different characteristics of the inputs of capital investment and other fixed funds, the following circumstances should be provided for in our policies. When the management rights to the land are transferred, the fixed funds that are still producing beneficial results will be transferred to another person along with the land. For the household that originally invested, this doubtless is an economic loss and so it is reasonable for them to demand compensation for this. It is also fitting that the peasant households that receive land in the above situation give economic compensation in installments. The amount and method of compensation can be decided through democratic consultation among the commune members and the interested parties should act in accordance with the principle of seeking truth from facts. The production team or other higher-level organization should provide positive guidance, and if someone refuses to cooperate, then it should intervene and mediate.

At present, the three most basic rural policies concerning the land are the policy for relatively stable land management rights (extending the contract period), the policy for the rational distribution of the differential income from collectively owned land and the policy for the reasonable compensation

of investment in the land. The three complement and condition each other and are part of an organic policy. These policies are forceful levers for encouraging commune members to increase investment, nourish fertility develop agricultural productive forces and promote intensive farming in agriculture and are, in policy, important factors for continuing to stabilize and perfect the responsibility system tying pay to production.

12452

CSO: 4007/223

## FORESTS OF GREAT XINGAN MOUNTAINS DISCUSSED

Beijing RENMIN RIBAO in Chinese 6 Sep 84 p 3

[Article by Yang Fengjun [2799 7685 0689] and Dai Tian [2071 1131]:  
"Trends of the Great Xingan Mountains"]

[Text] The Great Hingan Mountain forest are is a resplendent treasure-house in China's northern-most region. It holds China's largest primeval forests. There is a total area in excess of 5.2 million qing of woods, and we have in storage more than 520 million cubic meters of the larch -- the major type of tree in the forest. There are nearly 800 species of plants and more than 300 species of wild animals living in the forest. There is also an abundant store of gold ore, coal, titanium and molybdenum. In the 20 years that we have been developing the Great Xingan Mountains, they have yielded an annual production capability of 4.6 million cubic meters, and it possesses China's largest lumber production base.

This year in this vast stretch of forest, the tides of the times have also echoed. In order to realize an increased lumber production capability of 1.6 million cubic meters, the construction of the Great Xingan Mountains forest area has been listed as one of China's key construction projects. Forestry offices, forestry centers and lumber yards, which are being built and expanded one after another in the hinterlands of the Great Xingan Mountains, are undergoing intense construction. Besides the Jiagedaqi modern forest fire prevention center and the Guli mechanized afforestation center which are under construction, we are also emphasizing the construction of more than 10 large-size industrial enterprises for forest product and energy resource centers. It is estimated that by the end of the century, the gross value of output of the forestry industry will total 2.021 billion yuan.

The offices of the forest industry will no longer be considered as mere production units of lumber but as comprehensive forestry economic entities. They will spare no effort to advance toward the goal of a modern forestry base and will broadly promote the production method of planning as a whole; they have basically solved the problem of an imbalance of adopting, educating and using. The wave of restructuring must integrate the old with the new vitality and new hope brought about by the youthful Great Xingan Mountains.

STRONG EFFORTS IN QUARANTINE OF FORESTS URGED

Beijing RENMIN RIBAO in Chinese 6 Sep 84 p 5

[Article by Wang Shuying [3769 3219 5391] of the Forest Protection Department of the Ministry of Forestry: "Do a Good Job in the Quarantine of Forests"]

[Text] An integral component of the earth's biosphere--forests--not only can become infected but are also susceptible to insect pests. The harm to the forests, the quickly spreading pests and the difficulties of curing often create tremendous losses.

Before liberation, China had not developed forest quarantines, and a few dangerous insect pests entered China from abroad and are still here today. For example, the songganjie [2246 1626 5735] which entered from Japan spread from Shandong to Liaoning, Jiangsu, Zhejiang, Anhui, Shanghai and other regions, and even stretches of forest at the Sun Yatsen Mausoleum in Nanjing and Xihu in Hangzhou have been killed.

Since the founding of the PRC, preliminary work commenced in the quarantine of forests. Yet due to a lack of experience, the phenomenon of dangerous insect pests entering China still exists.

China has always been scarce in lumber, and the losses have been great due to the decrease in production caused by harmful insect pests. According to calculations, in 1 year China loses 10 million yards of lumber mainly because of the harmful insect pests, and this is equal to approximately half of the lumber that we plan to fell in a year. For instance, because China's precious Korean Pine suffers from serious blisters and rust, its development is hindered. In the southern tea oil producing regions, anthracnose has caused a premature drop of 20 percent in tea oil production. Because of lax quarantines, every year many areas have difficulties creating forests.

The phenomenon of underestimating the quarantine of forests cannot continue. We must do a good job in our work in quarantining forests. First, we must improve our understanding and correct the one-sided methods of "only creating forests," "not protecting forests" and

"serious prevention and careless quarantine." Second, we must earnestly implement the State Council's 1982 "Regulations for Animal and Plant Quarantines," China's first quarantine (from abroad) laws. At the same time, we must earnestly implement the State Council's 1983 "Regulations for Plant Quarantine" (domestic). Places seriously infected with insect pests must be marked as quarantined areas, establish an isolation zone and take strict precautions against proliferation and spread. Third, we must comprehensively cure and competently coordinate. We must pay attention to the packaging, containers and means of delivery from seed to seedling to stock to scion to lumber, and we must not concentrate on one thing only. Forestry, agriculture, transportation, foreign trade, tourism and other departments must be coordinated and must make concerted efforts. Fourth, we must strive to train forest quarantine personnel, and in this respect we must strengthen scientific and technical research work.

12437

CSO: 4007/229

## ECONOMIC BENEFITS OF PLASTIC FILM TECHNIQUE OUTLINED

Beijing NONGYE JISHU JINGJI [ECONOMICS FOR AGRICULTURAL PRODUCTION TECHNOLOGY]  
in Chinese No 7, Jul 84 pp 1-5

[Article by Zhu Rong [2612 2837] of the Ministry of Agriculture, Animal Husbandry and Fishery: "Actively Extend Plastic Film Cultivation Techniques To Improve the Economic Results of Agricultural Production"]

[Text] Since the 3d Plenary Session of the 11th CPC Central Committee, all rural areas of China have implemented systems of contractual responsibility for output quotas. Enormous changes have occurred in the appearance of rural areas and great successes have been obtained in agricultural production. Scientific research in agriculture and technical extension work have been developing rapidly.

Central Committee Document No One of this year summarized the new experiences in agricultural construction, dealt squarely with the new situation that has appeared in agricultural construction, dealt squarely with the new situation that has appeared in agricultural production, and made a series of policy decisions. In order to conscientiously adhere to the spirit of Central Committee Document No One and last year's National Rural Work Conference, we have focused on developing commodity production and worked hard to allow the peasants to become wealthy through hard work. With an excellent situation of flourishing development in agriculture, one of the primary tasks that we face is to use modern science and technology to promote the development of agricultural commodity production. All S&T workers in agriculture should make great efforts to study and extend technical measures with high economic benefits. With this as the starting point, we should further strengthen research and extension work related to plastic film cultivation techniques and promote even greater developments in agricultural production.

#### 1. The Situation in Extension of Plastic Film Cultivation Techniques

Plastic film cultivation is an enormous technical reform, and is a new cultivation technique and system that integrates traditional and modern agricultural techniques in China. China has a large population and vast territory and a complex climate and soils. In order to overcome unfavorable influences from natural conditions and to achieve the goal of high and stable yields, the peasants have developed and utilized several different

ground cover techniques over a long period of production practice. They have used rice straw, glass, sand and other materials for continuous covers. Some even remain in use in production at present.

Cultivation and seedling raising using plastic canopies developed rapidly following the startup of the plastics industry during the 1950's. At the beginning of the 1970's, Shandong, Shanxi, Jiangsu, Heilongjiang, Beijing, Tianjin and other provinces and municipalities began using waste film to cover vegetables and cotton and experiments and research were begun. Because of high costs and poor economic results, and because of the poor transparency of the waste film used in the canopies, difficulties in handling the film and other problems, it was never extended and utilized as a feasible technology.

Current plastic film ground cover cultivation techniques began in 1979 on the basis of traditional techniques in China and through summarization of experiences from at home and abroad. This year, 14 provinces, municipalities and autonomous regions, as well as 48 units, have been organized throughout the country to begin experiments in multiple locations, primarily involving plastic film covering for vegetables. More than 40 crop varieties are being tested on an area of 663 mu.

There has been a continual expansion of experiments and extension related to plastic film cultivation, and the number of crops tested has continued to grow. The area where it was being used was 25,000 mu in 1980, 220,000 mu in 1981, and had increased to 1.77 million mu by 1982. In 1983, another giant step forward was taken in extension of plastic film cultivation techniques. Obvious successes have been achieved, the most prominent being in the following five areas:

1. A large increase in the area using plastic film:

The area under plastic film across the country totalled 9.38 million mu in 1983, a 4.3 times increase over 1982. The area in cotton totalled 6.55 million mu, equal to 70 percent of the total area under plastic film and a 6.6 times increase over 1982. Rice seedling fields totalled 1.07 million mu, a 3.1 times increase over 1982. Vegetables totalled 700,000 mu and peanuts 580,000 mu, both double their respective amounts in 1982. Melons covered 300,000 mu, and other crops totalled 150,000 mu, an increase of 2.5 times and 7 times, respectively, over 1982. The amount of extension was greatest in Shandong, Shaanxi, Shanxi, Xinjiang and Liaoning, totalling more than 5 million mu.

2. Further expansion of the scope of utilization:

Over the past several years, plastic film ground cover has been used primarily in flat regions for cotton, peanuts, vegetables, melons and other major economic crops, and it is now being extended into mountainous regions and dry grain crops.

### 3. Further improvements in cultivation techniques:

In cotton, for example, certain laws have been discovered in such areas as product varieties, sowing times, soil moisture content for sowing seeds, seed and plant density, covering methods, liquid fertilizer utilization, pest and disease prevention, and the use of herbicides and chemical controls. It is being used on paddy land, dry land, saline-alkaline land, cotton fields, interplanted with wheat and cotton, and in two-crop cotton areas in the south and special early maturing cotton regions in the north, gradually forming a set of coordinated techniques.

### 4. A group of prominent high output models has appeared:

According to incomplete statistics, more than 1,000 mu of cotton with plastic ground cover in Liaoning, Hebei, Shandong and other provinces had yields in excess of 300 jin. Across the nation, there were 6,200 mu of peanut land using plastic ground cover with yields exceeding 1,000 jin per mu. In Gansu Province's Jiuquan County, 74 mu of corn using plastic film had average yields of 1,540 to 1,670 jin per mu, 420 to 560 jin higher than the yields in corn fields where no cover was used. Jinxian County in Liaoning Province had 18.1 mu of upland rice using plastic film with average yields of 1,351.4 jin per mu. Rich vegetable fields with yields of 10,000 to 20,000 jin per mu have appeared in some regions. These models show clearly that there is an enormous potential for increasing output through plastic film cultivation techniques.

### 5. Conservation in the use of plastic film, lower costs:

A great deal of experience has been gained in all regions in such areas as rational adjustment of the degree of cover, multiple uses of film, experiments on new types of film and other questions. The amount of plastic film used per mu for cotton has been reduced from the normal 10 Kg or so to 7 or 8 Kg. Hebei, Shanxi, Henan and other areas first use plastic film to cover late-planted wheat and then remove the film and use it to cover cotton. The plastic film used to cover 1 mu of wheat can cover 0.5 to 2 mu of cotton. Wheat and cotton yields both increased, greatly lowering production costs. Sushan County in Zhejiang substituted thin 0.01 mm film for 0.015 mm film reducing the amount of film used per mu for cotton from 7.15 Kg to 4.91 Kg, a reduction of 36.5 percent. Beijing Municipality, and Hebei and Shanxi Provinces are using 0.006 mm thick high-density polyethylene film on a trial basis with yield increases identical to regular plastic film. The cost of film cover per mu were greatly reduced, and this was welcomed by the peasant masses.

The area with machine-laid film also increased a great deal in 1983, from 520,000 mu in 1982 to 1.36 million. The expansion of the area with machine-laid film played an excellent role in improving efficiency, conserving energy, keeping up with the seasons, not going against the farm calendar and conserving film use.

Plastic film ground cover techniques are applicable over a broad area. The results of increased yields are excellent, as are the economic benefits.

After the costs of plastic film are deducted, net income per mu increased by 20 to 50 yuan for cotton and peanuts, and by about 100 yuan for vegetables and watermelons. Extrapolation shows that the economic benefits from the more than 9 million mu using plastic film across the nation amounted to several hundred million yuan.

## II. The Main Results of Research on Plastic Film Cultivation in China

### 1. We have studied the suitability of plastic film and utilization techniques for each type of crop:

Agricultural scientific research units in Shandong, Gansu, Tianjin, Beijing and other provinces and municipalities have used kidney beans, eggplant, tomatoes, sweet chili peppers, cucumbers, wild cabbage and other vegetables for systematic study of the effects of plastic film and its role in comprehensive regulation and its mechanisms in early maturation, excellent quality and high yields, and they have formulated technical measures for plastic film according to local conditions. Zhejiang Agricultural University, the Jiangsu Province Academy of Agricultural Sciences and the Vegetable Institute of the Chinese Academy of Agricultural Sciences used different types of colored film during the spring, summer and fall seasons to grow different vegetables. They investigated and analyzed film with different light qualities and its role in raising temperatures, soil moisture protection, weed elimination, aphid control, disease prevention, increasing reflectivity and other areas. They determined that silver-gray, black, green and milk-white films have a future for utilization in China.

For cotton, the Shanxi Cotton Research Institute dealt squarely with the arid and cold natural conditions of the area and studied the effects on the soil environment under the plastic film, mechanisms of yield increases and cultivation techniques, and did intensive research on the biological characteristics of cotton in relation to the suitable effects of plastic film. They studied the replenishment of air temperature by soil temperature, replenishment by the root system during the process of boll growth in cotton, and relative stability of the effects on the soil environment. This enriched and developed theories on high-yield cultivation of cotton using plastic film ground cover.

For peanuts, after research on plastic film ground cover for peanuts, Liaoning Province feels that after peanuts are covered with plastic film, the growth period is shortened, colony structures are improved, and individual growth is full. This has laid the foundation for increased and fuller fruiting. At the same time, they discovered that nodulation on the peanuts covered with plastic film occurred 10 days earlier than without the cover, that the amount of nodules doubled or tripled, that the nodules were large and healthy, and that nitrogen absorption increased by 45 to 110 percent. The amount of phosphorous absorbed increased by 20 to 126 percent. The amount of potassium absorbed increased by 45.6 to 207 percent. Peak nitrogen absorption occurred during the pod formation period, providing a basis for scientific fertilizer application.

In the area of rice seedling raising, the substitution of plastic film for small canopies has been successful for dual-crop rice seedling raising in the south. The costs of seedling raising using plastic film were only one-fourth to one-fifth that of plastic canopies in Jiangxi Province, and investments decreased by 10 yuan per mu. Moreover, the rice seedlings raised under plastic film were healthy, and had the basis for early tillering, rapid growth, early maturation and high yields. Applied results from 15 counties in Hunan Province show that raising seedlings under plastic film reduces seedling spoilage, increases seedling survival, provides high-quality seedlings, leads to early maturation and even plays a certain role in increasing yields. Tests on seedling growth using plastic film ground cover in Jiangsu Province showed similar results in temperature accumulation. With large daily temperature differences, the seedling root systems developed well, and they grew quickly and thickly. Costs were two-thirds less than seedling raising with plastic canopies.

2. We have studied the suitability of plastic film ground cover techniques in different areas:

Experiments on plastic film ground cover began in 14 provinces, municipalities and autonomous regions in 1979. By the time of the 1982 experiments, models had been established in all 29 provinces, municipalities and autonomous regions of the country. Because plastic film plays a role in raising temperatures and protecting soil moisture, it is particularly suited to arid and semi-arid regions of the north with short frost-free periods. In the south, it also is being used to prevent damage from freezing cold currents in the early spring, and the comprehensive effects of plastic film ground cover have the advantage of realizing high yields in vegetables, melons, sugar cane, fruit and other crops. The greatest successes were obtained using plastic film on saline-alkaline land. This is an important development in the theory of plastic film cultivation and in applied practice. Some foreign scholars feel that "one result of using plastic film may be salinization of the soil." Widespread and intensive research has been done in China on the comprehensive regulatory role of plastic film on the soil environment in saline-alkaline soils. Although it cannot reduce the salt content of the soil, the special laws of motion in the "recycling" of water in the soil below the plastic film alter the distribution of water and salt in the soil, and effectively prevent the accumulation of salts on the surface, thereby playing a role in inhibiting salt and protecting seedlings.

Experiments in Jiangsu, for example, show that salt ions decreased by 53 to 89 percent after covering when compared to the situation before using plastic film. Covering of cowpeas maintained a seedling survival rate of 93 to 96 percent compared to 62 to 66 percent without covering. Seedling survival for wax gourds covered with plastic film on saline land was 94 to 98 percent, compared to only 12 to 23 percent after two replantings. Plastic film ground cover in Xinjiang lowered the surface salt content from 0.507 to 0.208 percent.

3. We have studied and improved plastic film ground cover methods:

In the process of demonstrating and extending this technique in China, we have determined suitable cultivation techniques and measures according to

the different soil, climate and cultivation conditions of each area, and there have been developments and creations. For example, the Dalian City Agricultural Sciences Institute did experiments on ditch canopy cultivation in 1980 and successfully united the advantages of "plastic film ground cover" and "small canopies." This improved soil and air temperatures and can provide protection against wind and frost. The planting period could be moved ahead to the late frost period, 20 days ahead of regular plastic film ground cover. The crops matured 5 to 10 days earlier, yields were high, and economic results were greatly increased.

Beijing, Tianjin, Liaoning, Shanxi, Jiangsu, Zhejiang, Nei Monggol and other municipalities, provinces and autonomous regions have concentrated on increasing plastic film utilization rates and economic benefits. They have actively developed experiments for double or multiple use of film, rational adjustment of covering rates, and intercropping and mixed cropping. They first covered wild cabbages, cauliflower, small aquatic turnips, leafy vegetables and other vegetables and potatoes. Next, they covered tomatoes, sweet chili peppers, cucumbers and other melons and vegetables. In Shanxi, an additional crop of Chinese cabbage was planted after the last planting. In grain and cotton regions, they first covered wheat in the first crop and then covered a second crop of cotton, corn or sweet potatoes. Excellent results were achieved in all cases.

4. Several types of plastic film have been trial manufactured and the quality of plastic film has continually improved:

Along with advances in ground surface covering techniques, with close cooperation by light industry and supply and marketing departments, we have begun supplying for design and production of plastic film. Up to the present, some provinces in the country have basically established a plastic film production capacity that meets the needs of production in China. In order to meet different regions, different crops and the demands for mechanized ground covering, they have developed design and trial manufacture of weed-eliminating film, porous film, several types of colored film, aphid control film, durable film, thin film, light limiting and blocking film, low pressure high density polyethylene film, linear polyethylene film and other types of plastic film for special uses.

5. Successful trial manufacture of many types of ground covering machines and tools:

Agricultural machinery departments in China began trial manufacture of plastic film ground covering machinery at the end of 1979. By 1983, the country had 79,500 covering machines, and the area covered mechanically totalled 1.36 million mu. Mechanical covering has developed fastest in Xinjiang, Shanxi, and Liaoning. The crop with the most covering is cotton, followed by peanuts, vegetables and melons. Because of the substantial increase in the number of covering machines, work efficiency can be improved, farming seasons can be observed, and a large amount of labor and investments can be conserved. This provides the necessary conditions for extension of this new technique over a large area.

### III. The Main Experiences from Rapid Extension of Plastic Film Cultivation Techniques

It took only four or five years from the time plastic film ground covering techniques were imported for them to be extended over a wide area. The pace of extension was fairly rapid. The importation and extension of plastic film covering techniques was carried out primarily under Party leadership at all levels with close cooperation by agricultural, industrial, commercial, scientific research, educational, extension and other related departments. This gave play to large-scale socialist cooperation, integrated importation, experimentation, demonstration and extension, and there was a full complement of techniques, materials, machinery and tools. A full-scale war of technical reform was fought.

1. Integration of foreign and domestic technical exchanges and integration of testing, demonstration and extension have accelerated the pace of extension and utilization:

Plastic film cultivation techniques were imported from Japan, and widespread experimental research and demonstration and extension work was organized. In 1979, 13 scientific research units, institutions of higher education, farm machinery units and plastic film design units were organized to participate in an integrated research group for "Research on the Mechanisms and Applied Techniques of Early Maturation Using Plastic Film Ground Surface Cover Cultivation" and developed research on the mechanisms of yield increases and applied techniques of plastic film ground cover concentrating on vegetables. At the same time, they also studied and successfully completed a plastic film ground covering machine. From 1980 to 1982, experiments and demonstrations were carried out in some provinces, municipalities and autonomous regions over a large area on 13 crop types, including vegetables, cotton, peanuts, tobacco, upland rice, melons, sugar cane and hemp. Moreover, a total of five national experience and technical exchange conferences and on-the-spot investigation and emulation meetings were convened in Shanghai, Dalian, Harbin, Beijing and other areas. In 1983, the National Agricultural Technology Extension Station organized a cooperation group for plastic film ground cover cultivation techniques in Shanxi, Shaanxi, Liaoning, Shandong, Henan and Hebei Provinces that developed a series of experimentation, demonstration and investigation activities in different types of cotton-growing regions. They also established 4,700 mu of test and demonstration fields and arranged for 43 experimental topics.

2. Concentrating on a technical backbone and expansion of work to train peasants has actively and stably developed extension work:

In 1980, Liaoning Province organized a large-scale conference on plastic film techniques with participation by more than 4,300 people. It drew up charts of the "Main Points of Plastic Film Ground Cover Cultivation Techniques" for 14 primary crops that were distributed to the basic levels. In 1983, the National Agricultural Technology Extension Station entrusted Shanxi Province with training more than 400 technical backbone cadres from other provinces. All areas also organized training classes at every level during the winter and spring, and broadly developed technical propaganda, on-the-spot investigations

and other activities. Shandong Province trained more than 6.5 million technical personnel and published more than 1.5 million pieces of technical information. Hebei Province trained more than 2,000 technical cadres.

In order to do good technical extension work, Xinjiang, Henan, Hebei, Shaanxi, Nei Monggol, Jilin and other provinces and autonomous regions actively implemented technical responsibility contract systems over a rather large area. Technical responsibility contract systems were implemented on more than 45 percent of the land with plastic film ground cover in Liaoning Province's Harqin Left Wing Mongol Autonomous County, and yields were 25 percent higher than contract standards. Zhangqiu County in Shandong Province contracted with three brigades to use plastic film on 650 mu of cotton. Average yields reached 204.3 jin per mu, more than double the 100 jin per mu figure in 1982.

3. Closely integrate plastic film ground cover techniques with film design and with design and production of plastic film covering machinery to unite them into a single process and develop them in unison:

Utilization of plastic film ground cover techniques requires the supply of sufficient amounts of plastic film. It also requires a full complement of covering machinery. In consideration of the relationship of interdependence in this area, while importing plastic film ground cover techniques, we have attained active coordination of industrial, farm machinery and commercial departments, and they have organized trial production and supply of plastic film and covering machinery. China successfully trial manufactured a covering machine at the beginning of 1980. There have been many improvements in the 3 years since then, and it is being developed through common implementation of multiple areas of development. The area using machine-laid film expanded rapidly.

4. The leadership at all levels has paid attention and cooperated and coordinated with the related departments:

Plastic film ground cover techniques are different from traditional agricultural techniques. Their supply requires inputs of the products of modern industry. Experimental research, demonstration and extension of plastic film ground cover cultivation techniques requires the organization of agricultural, light industry, chemical industry, farm machinery, supply and marketing and other departments to work together in cooperation. Liaoning Province began experimentation and demonstration of plastic film ground cover techniques in 1979, and established a "Society for Research on Plastic Film Ground Cover Cultivation" in 1980 to be responsible for coordinating and organizing experimentation, demonstration, film production and technical training work. Moreover, it organized agricultural, light industry and supply and marketing departments to deal with the raw materials used for plastic film, production, capital, chemical fertilizer supplies and other problems. All levels of leadership in Shandong, Shanxi, Shaanxi, Henan, Xinjiang and other areas also have given their full attention, and are focusing on making plastic film cultivation techniques an important measure for developing agriculture and they are treating them as a key project for scientific and technical extension

in agriculture. Beijing, Heilongjiang, Jiangsu, Zhejiang, Tianjin and other provinces and municipalities have established cooperative groups or leadership groups with participation by all departments to strengthen cooperation. As a result of strengthened leadership in all areas and the organization of cooperation by all related departments, they have provided assistance in human, material and financial resources, technology and other areas. This has promoted the development of plastic film ground cover cultivation techniques.

#### IV. Further Improve Extension Work for Plastic Film Ground Cover Cultivation Techniques

Extension of plastic film ground cover cultivation techniques is now beginning to unfold. It is estimated that the area where the technique is used will be expanded to 12 to 15 million mu this year, and that there will be even greater developments during the period of the Seventh Five-Year Plan. In order to achieve even better extension and application of plastic film ground cover techniques in agricultural production in China and to give full play to its enormous role in improving the economic benefits of agricultural production, we should strive to do good work in the following areas:

##### 1. Continue to adhere to the principle of "active, stable extension":

The technical complement for plastic film ground cover cultivation has not yet been fully perfected, especially in the area of overly-rigid measures for dealing with serious natural calamities, so we should continue to adhere to the principle of "active, stable extension." First of all, in areas and for crops where it has not yet been put into use, we should first of all do experimentation, demonstration and obtain successful experiences, and only then gradually extend the technique. For areas and crops where it is already being used, we should conscientiously summarize experiences and continually perfect cultivation techniques to expand the effects of increased production and improve economic benefits. Third, [as published], we should decide upon key points for extension by concentrating on improving economic benefits. At present, they should be extended and applied primarily in arid, semi-arid, saline-alkaline or frigid regions with enormous potential, in economic crops of high value or with a high percentage of products sold on the market, and in rice seedling raising in the south. They should not be extended into areas with poor soils or insufficient fertilizer supplies, or that lack water or technical strengths at key times.

##### 2. Strengthen scientific research work and make arrangements to solve problems in extension and application:

There are still many problems that must be solved to further improve cultivation techniques. Examples include the suitable varieties of each crop to grow under plastic film, loss of soil fertility, measures that should be changed under conditions of natural disasters, the technical complement for cultivation and management of different crops, the laws of disease and pest occurrence and their prevention, recovery and utilization of used film and other questions should be studied and solved.

3. Allocate and replenish technical forces, strengthen technical leadership:

The rapid expansion of the area using plastic film ground cover cultivation requires similar advances in technical leadership work. For this reason, each area must rationally allocate and replenish technical forces, strengthen technical training and propaganda, set up good demonstration points, develop cooperation and exchange for technical extension, summarize model experiences, and guide production over a large area.

4. Strengthen leadership, improve cooperation between departments:

There are many links in the utilization of plastic film ground cover cultivation techniques, and many departments are involved. If work in one area does not keep up, then economic benefits will be affected. All areas should strengthen leadership to guarantee that all related departments work together in cooperation.

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## WATER CONSERVANCY CONSTRUCTION PROMOTED

Beijing NONGYE JISHU JINGJI [ECONOMICS FOR AGRICULTURAL PRODUCTION TECHNOLOGY]  
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[Article by Li Boning [2621 0130 1337] of the Ministry of Water Resources and Electric Power: "Summarize Experiences, Carry On With Success--Strengthen Water Conservancy Construction To Promote Agriculture"]

[Text]

## I

The magnificent New China has been in existence for 35 years now. In this short life span, the socialist revolution and construction in China have removed various hardships and barriers to progress and achieved splendid results. Likewise, the cause of water conservancy in China has achieved enormous successes in this glorious process and has made gigantic contributions to transforming the appearance of the motherland and to guaranteeing development of the national economy and continual improvement in the people's standard of living.

Everyone knows that China has a large number of rivers and abundant water resources. Before Liberation, however, it was a nation of frequent disasters from flooding and droughts where the people lived in extreme hardship. Although we have a long history of water control and such world famous ancient water conservancy projects as the Dujiang Weir and the Grand Canal, a long period of feudal rule and the corruption and incompetence of the exploiting classes made development the cause of water conservancy impossible. The large and excellent rivers and mountains were used for nothing and could not relieve the hardships of the people. The people lived for generations with the threat of great scourges, extreme misery, utter desolation, droughts and floods and plagues of locusts. Every river had a soul stirring and bloodstained bitter history. The Huang He was breached twice every 3 years. The Huai He had major floods when it rained a lot, minor floods when it rained a little, and droughts when it did not rain. It was too terrible to describe. Floods occurred on several occasions throughout history on the Chang Jiang, Liao He, Zhu Jiang and Songhua Jiang. Was there any instance that does not send a chill through one's heart? The long period of hardship from flood and drought in the great Chinese nation provided us with one truth: if we wish to change the appearance of the motherland, if we wish to make the people rich and develop socialist agriculture, and if we wish to give the people peaceful lives and build an industrialized and strong socialist nation, then we must make great efforts to develop water conservancy.

Revolutionaries of the previous generation like Chairman Mao, Premier Zhou and others knew deeply since the founding of the nation that water control is the means to long term stability and peace. They paid a high degree of attention to water conservancy work and led the people of the whole nation to use the spirit of reliance on one's own efforts for carrying out large scale water conservancy construction. We have achieved enormous results and accumulated rich experience.

Through 35 years of arduous struggle, the nation has rebuilt 170,000 km of dykes, dredged river channels at all levels and expanded the capacity for flood drainage; more than 85,000 large, medium and small scale reservoirs with a total capacity of more than 410 billion cubic meters have been constructed; mechanical and electrical drainage power has increased from 90,000 hp shortly after Liberation to more than 78 million horsepower; 24,906 sluices have been constructed; mechanical and electrical powered wells for irrigation did not exist in the past, but have grown to 2.41 million wells; more than 5,200 large irrigation districts with an area over 10,000 mu have been constructed; the total national irrigated area has grown from 240 million mu shortly after Liberation to more than 700 million mu; hydropower has expanded to 27.16 million KW, of which 8.50 million KW are integrated with water conservancy equipment. Moreover, small scale hydroelectric equipment nationwide has grown from 2,000 KW shortly after Liberation to 85 million KW.

The role of these projects has been to greatly improve the nation's capacity to fight disasters from flooding and drought. They have provided a guarantee for development of the national economy and socialist construction and for the stability and needs of the people's lives.

The flood prevention capacity on our nation's rivers has been universally improved and we are beginning to control common floods and droughts. An example is the construction of a series of flood prevention, power generation and irrigation projects on the Huang He. This has transformed the old situation of "two breaches every 3 years" and achieved more than 30 years of continuous and peaceful flow since Liberation. Some 992 large and medium scale reservoirs have been constructed on the Chang Jiang and there is basically a fairly complete dyke system. There has been an obvious improvement in the ability to fight disasters. This is especially true since the construction of the Danjiangkou Reservoir on the Han Jiang in 1968. It has captured 10,000 cubic meters or more of floodwater on 45 occasions and reduced losses by more than 3 billion yuan. With the added benefit of 52.5 billion KWH of electric power, the value is six to seven times the total investment in the project. There has been a major transformation of the situation of major floods when there is a lot of rain, minor floods when there is a little rain and droughts when there is no rain on the Huai He. Since being controlled after a major flood in 1963, the capacity for draining flood water into the sea on the Huai He has increased by almost 10 times over Liberation. There have been improvements in flood prevention capacity on all rivers. There is no doubt that this has played an enormous role in guaranteeing agricultural production and the safety of the people's lives and property. There have been improvements on three-quarters of the nation's area prone to waterlogging, nearly two-thirds of the saline-alkaline land in the north, and nearly half of the low yield land in the south that is prone to frost. There also have been new developments in soil conservation work. There has been a preliminary solution to the drinking water

problems for more than 40 million people and more than 25 million livestock in border and mountainous regions, along the coast and on islands. This is of obvious benefit in improving agricultural production and stabilizing the people's lives.

Expansion of the irrigated area has provided water conservancy guarantees for solving China's food problem. We have expanded the irrigated area by about 15 million mu on the average each year in the 35 years since Liberation and guaranteed an average annual increase of more than 11 billion jin of grain nationwide. The present 700 million mu of cultivated land comprises only 45 percent of all farmland in China, but it provides two-thirds of total grain production. This is a moving proof. Jiangsu, for example, has achieved the ability to irrigate during droughts and drain during floods because of the construction of a fairly complete irrigation system. The underground water level can be controlled and dykes have a fairly strong capacity to prevent floods ("irrigate with it, drain it away, lower its level and block it off"). This guarantees stable high output in agriculture. During the major drought in Jiangsu in 1978, for example, a total of 60 million mu in the province was damaged. Water supplies were guaranteed by relying on all the water conservancy projects to draw off, dam up, transfer and store guaranteed water supplies. The amount of water drawn from the rivers alone totalled 25.5 billion cubic meters. This permitted normal irrigation of 10 million mu of farmland. The result was that not only was there no reduction of output from grain production, but instead that there was an increase of several billion jin over the bumper crop of 1976. In 1983, there was first drought followed by waterlogging. The area damaged by waterlogging totalled more than 11 million mu. But because as much as 16.7 billion cubic meters of water was drained into rivers or the sea (the flow on the highest day was 1,980 cubic meters per second), grain production was guaranteed at 1.7 billion jin more than the bumper grain crop in 1982. Cotton production increased by more than 300,000 dan.

In 1983, the water level of the Chang Jiang was only 30 centimeters below the level during the major flood in 1954. In 1954, 32.64 million mu became waterlogged and most dykes were destroyed. Most of them remained stable in 1983, however. Jiangsu has experienced disasters from 6 years of drought, 11 years of waterlogging and 5 years of drought combined with waterlogging since Liberation. Jiangsu stands at the front ranks of agricultural production nationwide, and water conservancy has performed valiantly in the battle. Another example is the major flood in Hubei in 1980 when 18 million mu of farmland were damaged. But because more than 500,000 KW of pumping machinery worked hard to drain the water and drained more than 15 billion cubic meters of water into the river in 3 months, the amount of farmland where there were no harvests or basically no harvests was reduced to more than 5 million mu and a bumper crop was obtained during the disaster. There also was a major flood on the Han Jiang in 1983 that affected 15.2 million mu of farmland. After 20.5 billion cubic meters of water were drained into the rivers, however, with a maximum flow rate of 3,500 cubic meters per second, the disaster was greatly reduced or avoided on 14 million mu of farmland. Without this drainage equipment, the floodwater could not have been drained away. With 14 million mu of farmland, this means that each mu would have been covered by 1,400 cubic meters of water at a depth of more than 2 meters. There basically would be no chance of a harvest. It would have been hard to protect the Han Jiang during the

especially large flood on the Han Jiang in 1983 without regulation through capturing and storing the water at the Danjiangkou Reservoir. The consequences would have been disastrous. In areas like Dezhou, Liaocheng and Huimin along the Huang He in Shandong and Henan, there have been continuous increases in output for the past few years and enormous changes have occurred in the appearance of rural areas. This of course is due to the determining role of the implementation of rural economic policies that have greatly motivated the initiative of the peasants, but it would have been hard to achieve without the water conservancy guarantees of irrigation water drawn from the Huang He. The land in these areas is swampy and easily waterlogged. Historically, the fear has been of flooding, not drought. If a flood occurs, output will be greatly reduced or eliminated without the ability to drain it away. During a drought, land can be irrigated and output greatly increased if only there is some water in the Huang He. Because the past few years have been rather dry, the irrigation districts that cover 20 million mu along the Huang He drew more than 10 billion cubic meters of water from it annually, thereby guaranteeing a bumper crop during a major drought. According to statistics from 103 irrigation districts in these 2 provinces that divert water from the Huang He, 3 irrigation districts had yields over 1,000 jin per mu in 1981, and 42 districts had yields over 800 jin. According to statistics from 20 irrigation districts in Henan that draw water from the Huang He, 9 districts had wheat yields in excess of 500 jin per mu. In the 44,000 mu irrigation district in Yuanyang County, per capita and per mu yields both exceeded 1,000 jin. Yields per mu in irrigation districts generally are double or triple those in nonirrigated dry fields. An example is the People's Victory Canal. This irrigation district was constructed in the spring of 1953. The irrigated area in the original design was 720,000 mu, but the actual irrigated area had increased to more than 800,000 mu by 1983. Grain yields and cotton yields, which were 177 jin and 29 jin per mu, respectively, before irrigation had increased to 1,255 jin and 162 jin, a 6-fold and a 4.5-fold increase, respectively. Since 1978, grain yields throughout the irrigation district have exceeded 1,000 jin and cotton yields have exceeded 100 jin.

Water conservancy is the lifeblood of agriculture. This is an irrefutable truth that has been proven through practice in the 35 years since the nation was founded and through thousands of years of history. The large amounts of water conservancy construction has provided us with abundant water, land, equipment, labor and technical resources that we can develop and use. After more than 30 years of exploration and striving, a new industry that comprehensively manages water (aquaculture), agriculture (cropping and animal husbandry), industry (industry and sideline production), commerce (self-production and self-supply) and tourism is gradually springing up. Moreover, its vitality is becoming increasingly obvious and the prospects are broad and bright. In 1978, the income of water conservancy project management units from water and electricity fees and from the diversified economy throughout the country amounted to only 300 million yuan. After the National Conference on Fish Raising and Comprehensive Management in 1979, income had more than tripled to 1 billion yuan by 1983. This new industry now is developing vigorously and quickly. This has created the conditions for good water use to maintain simple reproduction and expanded reproduction in water conservancy projects.

In addition, water conservancy projects provided 57 billion cubic meters of water for industry and urban life each year. Industrial water usage has

increased by 11 times, while urban life water usage has increased by 7 times. Examples include the construction of the Guanting and Miyun Reservoirs in Beijing which had supplied Beijing, Tianjin and Hebei with more than 51.4 billion cubic meters of water by 1983. Nearly 25.9 billion cubic meters of this amount was used in industry and more than 25.5 billion cubic meters was used for agricultural irrigation. Beijing would quickly come to a complete standstill without the water supplied by these two reservoirs. Similarly, it would not only be impossible for industrial and agricultural production to be maintained without the projects to divert the Huang He and Luan He in Tianjin, but it would also be difficult for the people to find water for daily uses. This degree of importance shows that water conservancy is the lifeblood of industry and the entire national economy. We must have a sober understanding of this point.

## II

The 12th CPC Congress proposed the magnificent goal of striving to quadruple the total value of industrial and agricultural output by the year 2000. This places even greater demands on water conservancy, and the water industry must assume a glorious but arduous task.

Whether we are speaking of industry, agriculture or the people's livelihood, all depend on the safety of protection from floods and the guarantee of water resources by water conservancy.

If we wish to develop agriculture and achieve the goal of increasing total grain output to 960 billion jin by the year 2000, then we must strengthen water conservancy construction. Apart from guaranteeing that the current irrigated area of 700 million mu shall not be reduced, we also must make suitable expansions in the irrigated area. As I mentioned above, two-thirds of the nation's grain output comes from the one-half of the nation's total cultivated land that is irrigated. This illustrates the importance of irrigation for grain production. Any decrease in the current 700 million mu of irrigated land will cause a drop in national grain output. There is a real danger of this happening at present. This is due to the fact that the water fees are either too low or are not even collected in the water conservancy projects that have already been built and there are no sources of capital for project management, maintenance, major repairs and rebuilding. Man-made destruction and damage from aging cannot be repaired on time. At the same time, because of cutbacks in water conservancy investments, new irrigation projects cannot keep up with the decrease in irrigated area caused by damage to the projects. There has been a tendency towards a decline in nation's irrigated area in recent years. According to statistics for 1983, the irrigated area was more than 5 million mu less than in 1982. There is a great potential danger here. Most water conservancy projects were built from the 1950's to the 1970's. A mechanical well has a useful life of about 15 years while that of an irrigation station is only about 20 years. A major portion have now reached the point when they must be rebuilt or transformed. If they are not rebuilt or transformed, water conservancy will regress. This is a problem that cannot be ignored. For this reason, we should use this sober knowledge to make plans for prevention as soon as possible.

Moreover, grain production and irrigated area have developed in step in China over the past 35 years. There has been an average of 15 million mu added to the irrigated area each year, providing the water conservancy guarantees for an average annual increase in grain output of 11 to 12 billion jin. If we wish to reach a grain output level of 960 billion jin by the year 2000, there must be an average increase of more than 16 billion jin per year. This rate of increase in output is substantially larger than the one found over the past 35 years. If there is no corresponding increase in the irrigated area, or if there is actually a decrease, it will be difficult to achieve this magnificent goal. Agriculture in China, especially grain production, depends on nature to a great extent. Restrictive natural conditions also play a decisive role. Mild winds and good rains make bumper crops and large increases in output and make it difficult to guarantee stable production. This is true not only in the arid regions of the north but in regions of the south with high precipitation as well. If we wish to guarantee stable high output, then we must further improve the conditions of production. If the 700 million mu of cultivated land in China cannot be expanded, and if we wish to increase grain production to 960 billion jin by the year 2000, then yields for dryland crops must average more than 600 jin per mu and more than 1,000 jin per mu for irrigated fields nationwide. There obviously are no guarantees of this. If, on the basis of the present 700 million mu of irrigated land, we expand the area to 800 million mu by the year 2000, and if yields average more than 500 jin per mu for dryland crops and 900 jin per mu for irrigated land, then it will provide some guarantee for achieving the goal of 960 billion jin. To achieve this, of course, we must struggle arduously in agricultural measures and water conservancy construction. Nevertheless, some comrades feel more reliance on dryland crops in the so-called "rain-fed agriculture" will make it possible to avoid further expansion of the irrigated area. There is, of course, a great potential for dryland crops in China, and output can be increased through agricultural measures (including intensive cultivation, improved breeding of drought resistant improved varieties, and so on). We cannot forget, however, that dryland crops also require water. Without water, there would be no living things and no agriculture. Dryland crops of course could not grow. Dryland fields without irrigation also require land levelling, deep plowing, soil moisture retention and other such water conservancy measures and help from the climate. If insurmountable floods or droughts occur, it will be hard to avoid "a thousand li of desolation" and total destruction regardless of how well dryland crops are growing. Was not the irrigation industry developed because depending on nature for sustenance was so unreliable? How can we now return to the era of relying on nature for sustenance through "rain-fed agriculture?"

The development of forestry and animal husbandry also requires water. Grass cannot grow without water. Animals cannot live without water. The lack of water makes it difficult for grass to grow in many of the arid regions of the northwest. If we wish to change the situation in these regions and achieve the strategic goals for planting grass and trees proposed by comrade Hu Yaobang, then we must obtain suitable solutions to the water problem. A major barrier to development of animal husbandry in China is the decreased animal bearing capacity of grasslands due to water shortages, desertification and regression. It will be difficult to develop animal husbandry and gradually change the food structure if we do not deal with water conservancy on grasslands and improve the drinking water conditions of people and animals in animal husbandry regions.

Development of industry and achievement of the requirement of quadrupling first requires solution of the problem of water sources. There are no industries that do not use water. Substantial development of industry is meaningless without achieving an appropriate solution to the problem of water sources. In China at present, especially in many northern cities, a water supply crisis makes it difficult even to maintain current levels of industrial production and the living standards of the urban population. This includes such important cities as Tianjin, Qingdao, Shenyang, Dalian, Changchun and Beijing. If we must quadruple the current value of industrial output by the year 2000, then we must pay attention to such measures as achieving full water conservation and reducing pollution. A manifold increase in industrial and urban water supplies is essential. Some comrades currently lack the necessary knowledge and required measures. If action is not taken soon to deal with this problem, then we will not be able to deal with major questions and cannot wait for a break to do so.

In addition, the drinking water shortage of more than 56 million people and 40 million head of livestock living in mountainous regions and areas with inadequate rainfall has not been solved. If we have not changed this situation by the year 2000, then it will be hard for us to face future generations.

For this reason, water conservancy is even more essential than energy resources in the national economy and the people's lives and is a factor that restricts the development of society. The relationships between water conservancy and agriculture, industry and the people's livelihood that were discussed above involve energy itself, and cannot be detached from water. Everyone knows that it would be impossible to mine coal or to generate electricity, solar power or nuclear power, or methane without water. All of these require water for transformation into energy. The problem is that this common knowledge has often erroneously considered water to be inexhaustible or so easily obtained that it need not be replaced. In policies for development of the national economy and society, however, failure to pay attention to water conservancy will create hard to estimate results and a passive situation. The present water shortage crisis has become a universal problem in many countries that are crying out in alarm as it is becoming more serious day by day and are actively studying policies to deal with it.

### III

In order to provide reliable water conservancy guarantees and high quality services for quadrupling [the gross value of industrial and agricultural output by the year 2000] and developing society, we must earnestly summarize the experiences and lessons gained through more than three decades of water conservancy construction, resolutely eliminate the long-term influences of leftist ideology and conscientiously implement the principle of "strengthening management and being concerned with economic results" in water conservancy as proposed by Premier Zhao. The most realistic and reliable approach is to make improvement of economic results the core, treat management as the focus of water conservancy construction and fully exploit the potential in existing projects. Being bold in reform and making reform the core means solving the problem of drinking from the big common cup and eating from the big common pot. We must take the new road of socialist management and administration of water conservancy. To achieve this, we must correct the guiding ideology in our profession.

We first of all must pull away from the traditional methods of not being concerned with the results of investments in water conservancy construction and not maintaining systems of economic responsibility. The economic benefits of the related units that participate in construction must be linked with the benefits of investments so that their internal motion is oriented toward selecting the best programs, improving quality, lowering construction costs and shortening construction periods. Secondly, management of water conservancy projects must throw off the traditional method of complete reliance on state subsidies that has been around for decades. Management units should strive to develop toward becoming enterprises and socialization so that existing water conservancy projects have an internal force to become self-maintaining and able to make improvements and transformations. Third, we should rely on technical advances and the development of knowledge, pay attention to science and technology, further implement the policy on intellectuals and accelerate modernization in water conservancy construction and management. Fourth, we should abandon the traditional methods of closing the country to international intercourse and strive to create a new situation in economic and technical cooperation with other countries. And finally, we must resolutely overcome the deviation that stresses only professional activities and ignores ideological and political work. We must focus on construction of both types of civilization [material and spiritual], move forward with both types of construction and make bolstering our ranks the root of modernization and construction in water conservancy and electric power. While we are correcting our guiding ideology, we must take a turn for the better in party consolidation, unify our understanding, achieve a major transformation and liberation of our ideology and boldly carry out thorough reforms:

#### 1. Reform water fees:

This is the key to promoting water conservation and improving economic results. Current water fees are too low, and there are some areas where they are basically not collected. This was the root cause of the past situation where there were water shortages accompanied by the waste of large amounts of water. The lack of channels for capital to manage, maintain and update water conservancy projects means they have been unable to maintain simple reproduction and have relied on state subsidies for a long time. This led to an irrational situation where the state assumed a new burden with every water conservancy project it built and where benefits and responsibilities were never linked. We must thoroughly transform this situation, rationally adjust water fees and manage water development as a commodity so that each cubic meter of water provides the greatest economic results in industry, agriculture and the people's lives. We should strive to achieve the ability of projects to break even or perhaps have a surplus so they can maintain simple reproduction and reduce state expenditures. Policies can include consideration of areas with special difficulties in collection of water fees, but state subsidies should be out in the open.

#### 2. Water conservancy management units should fully utilize their advantages in water, land, equipment, technology and labor resources:

Open up channels, make great efforts to practice comprehensive management and develop in the direction of operating as enterprises and socialization. To achieve this, we must overcome the erroneous ideology that allows comprehensive

management in management units to preclude proper performance or permit lax performance. Practice over more than 30 years has proven that comprehensive management in water conservancy not only can improve the lives of employees in management units, stabilize the work force and improve management, but it also can reduce state expenditures and increase state income by using income from water fees to operate and maintain simple reproduction or even create the conditions for expanded reproduction. At the same time, we can also provide routes to employment and commodity production for society, enliven markets, and meet the living needs of the people. Experience has proven that any management unit that achieves good comprehensive management is a vigorous management unit. The opposite situation provides opposite results and makes it difficult to continue. For this reason, we must conscientiously practice comprehensive management--there is no other choice. There can be no halfway action--the more comprehensive the better. This does not mean that proper duties will not be performed. Instead, it means that there will be better economic results in the projects. This will also permit state investments in water conservancy projects to provide the greatest output. Water conservancy has some special characteristics. Protection from flooding, irrigation, power generation and other areas are expressed as benefits for society. We of course must calculate outputs. Aquatic breeding, crop raising, industry and sideline production, tourism and such are all production under comprehensive management and are a component part of project benefits. In the past, some comrades did not consider these to be outputs and did not count them among project outputs. They placed comprehensive management and project management in opposition and separated them. This obviously was wrong.

In order to achieve good comprehensive management, we must solve problems of eating from the big common pot. Project management should move from simple reliance on state expenditures to operating as enterprises and socialization. Those which currently have the conditions to begin operating as enterprises should do so quickly. Those without the conditions at present can temporarily not make changes in their activities while implementing assignment of financial responsibility and carrying out comprehensive management as an enterprise. Moreover, the quality of comprehensive management and the profit-loss results can be linked to the economic interests of the management units and their employees. To achieve this, the state must provide assistance and support and allow the enterprise to have bonuses without maximum limits or minimum guarantees. They can exempt the water conservancy enterprises from income taxes and reduce the amount of industrial and commercial taxes collected. This would greatly motivate the initiative of management units and their employees to develop comprehensive management, actively create wealth for the nation, gradually reduce state subsidies to the point where they are not needed, and strive to make contributions to state revenues. This is entirely possible, and some advanced units have already achieved it.

3. Conserving water in every possible way is the most realistic, most reliable and most effective approach to solving the current crisis in water resources:

At the present time, large amounts of water are being wasted in industry, in agriculture and in the people's daily life. We must adopt measures for conscientiously correcting this. Apart from restrictions through water fee policies, we also must adopt engineering and other types of measures. In agriculture, for example, we should have good land levelling, install linings in

canals, have a full project complement, be concerned with scientific water use, and extend spray irrigation, drip irrigation and advanced technical measures and irrigation methods that conserve water according to local conditions. If we do this well, we will be able to raise the guaranteed irrigation rate and expand the irrigated area. This is much less expensive and far faster than building new projects. In industry, we should strive to increase the utilization rate of recycled water, adopt conscientious measures to solve the problem of pollution and eliminate the system of guaranteed fees in the people's household water usage. There is enormous potential for water conservation. In reality, this is equivalent to opening up water resources and achieving greater, better, faster and more economical results.

#### 4. Strengthen farmland water conservancy construction and soil conservation work:

We should break out of old patterns and come to fully understand the new demands, new dynamics and new experiences that have appeared in the new rural situation and rely on the peasants who have become wealthy, apply economic levers, implement contractual responsibility for investments and labor accumulation, and strive to construct small-scale farmland water conservancy that requires little investment and provides benefits quickly and that will fulfill its role up to the end of the century. Leaders at all levels should strengthen scientific guidance and overcome and avoid blind action and formalism so that farmland water conservancy, soil conservation and rural electrification are raised to new levels. Moreover, in order to better solve the problems of flood prevention and water supply in urban areas and in industry, we can adopt the method of centralized investments to accelerate water conservancy construction under unified planning according to the principle of each contributing capital in proportion to the benefits they will receive.

Water conservancy is a magnificent activity that involves the transformation of nature and construction of the motherland. There have been enormous achievements in water conservancy construction since the founding of the nation, but there also have been many setbacks and errors. I feel that, under the guidance of the principles and lines determined by the 3d Plenum of the 11th CPC Central Committee and the 12th CPC Congress, and under correct leadership of the CPC Central Committee and State Council, we can make further achievements, absorb lessons, dare to explore, reform and create, and make improving economic results the core so that water conservancy construction is managed solidly and made vigorous, and make new contributions toward achieving the overall goal of quadrupling, changing the physical appearance of the motherland and the four modernizations by taking a new road of Chinese-style socialism in water management.

12539

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STRATEGIC DEVELOPMENT OF WATER CONSERVANCY PROJECTS DISCUSSED

Beijing ZHONGGUO SHUILI [WATER CONSERVANCY IN CHINA] in Chinese No 5,  
15 May 84 pp 2-4

[Article by Jin Wen [6855 2429]: "An Opinion on a Development Strategy  
for the Exploitation and Utilization of Water Resources"]

[Text] The question of the development and utilization of water resources directly concerns the development of the national economy and the heightening of the material and cultural living standards of the people. It also concerns the success or failure of the four modernizations construction and the realization of the strategic objective of quadrupling output by the end of the century. Therefore, summing up the actual circumstances in the development, utilization and management of water resources in the past 30 or more years, summing up the correct and incorrect experiences and lessons in all areas and carrying out a thoroughgoing study and investigation of certain questions currently existing in the development and utilization of water resources are very important and have practical significance.

On Strategic Thinking Regarding Development and Utilization of Water Resources

1. The development and utilization of water resources must start from the national situation and the reality of China, making measures suit local conditions as we develop and bring them under control. China's water resources total about 27 billion cubic meters, and of this amount the annual runoff of the rivers and streams totals 26 billion cubic meters, making it 6th in the world; on the basis of per-capita run off, it is 88th in the world. Therefore, calculated on a per-capita basis, China's water resources are by no means abundant, and imbalances in time and space distribution make the development and utilization of water resources even more difficult. With the development of China's society and economy and with its population increase, water usage requirements have increased daily; in many places, particularly in the northern areas that are short of water, the contradiction between supply and demand grows sharper every day, and water resources are already becoming more and more precious, with the water supply not meeting the demand. Therefore, when we study the development, utilization and protection of

water resources, we must not only give the problem our close attention but must also give water resources more emphasis as a determining factor in the strategy for national economic development.

If we wish to utilize China's limited water resources fully, then we must conscientiously study the question of redistributing the time and space of our water resources. Because of regional distribution, the south has a lot of water, the north has little and the northwest has even less. The Chang Jiang, Zhu Jiang and other rivers of the southwest contain about two-thirds of the nation's total water. In time distribution, rainfall in most areas of the country is concentrated in the summer and fall, creating flooding and waterlogging, but in the spring, when crops require a lot of water, it is dry and there is little rain and we often suffer from spring droughts. Consequently, the economic study of water resources should include the question of redistributing them.

Take the Hai He basin as an example. Since the establishment of the People's Republic of China, various kinds of water storage projects have been built in the Hai He basin, and 85 percent of the mountain areas have already been brought under control, within which 70 percent of the water has come under control. Only the water passing through the plain has not been brought under control. In years of moderate drought, water entering the sea from the Hai He amounts to only 200-300 million cubic meters. Even though the control capability and utilization rate for the water resources of the Hai He basin are already quite high, the water resources are still far from being able to meet the need. At the time of the great drought of 1981 and 1982 in Tianjin, they had to spend large sums of funds to divert the Huang He for the city's benefit. And due to a water shortage, the lower reaches of the Hai He basin have already experienced a series of ecological problems. The over-exploitation of ground water has caused the ground to collapse in some areas, showing that there is no longer a great potential for the development and use of the flow of the Hai He basin itself and that we should proceed from the overall situation, study the redistribution of water resources between areas, adjust the relationships concerning water resources, raise the overall benefits of using water resources and adopt measures for making adjustments between basins. The eastern line project of bringing water from the south to the north through the Huang He is an urgent and necessary task and should be resolutely carried out.

2. In developing and using water resources, we must lay equal stress both on abolishing what is harmful and on promoting what is beneficial. And in promoting what is beneficial, we must start from the entire national economic situation and properly solve the water-use contradictions between water supplies for town, city and industry and for power generation, flood prevention, irrigation and navigation. While taking all of this into consideration, we should plan in order to achieve the goals of comprehensive water resource use and obtain the greatest economic benefit.

At present, water resources lack unified scientific management, everyone is doing his own thing and there is no unified plan for comprehensive use. This creates a situation not only where our limited water resources cannot be fully and rationally used but where flooding and waterlogging disasters cannot be thoroughly and permanently brought under control. For example, the water level of the Er Hai has dropped because of construction of hydroelectric stations along certain waterways in Yunnan, to the point where they had to stop generating electricity. However, because the Liujiaxia hydroelectric station improved its dispatch and application, it not only solved the contradiction between irrigation and power generation, but without spending a cent it increased the amount of power generated by 370 million kilowatt-hours. This amply demonstrates that unless water resources are fully utilized, we will be unable to get their full economic benefits.

We must proceed from the concept of renovating our land and adopt a plan with multiple objectives. That is, we must first have a national plan, then a basin plan, then a project plan and only thereafter a development plan for individual objectives.

3. The development and utilization of water resources must have an overall concept and a whole plan. The development and utilization of water resources is a large-scale planning problem. There must be planned arrangements both between the districts and between the upper and lower reaches, otherwise a lot of problems cannot be solved well. Redistribution between districts in particular, such as sending water between basins, should stress even more an overall concept and a whole plan, or else opinions will vary and all will be at a loss as to what to do.

4. We must promulgate water laws as soon as possible and turn around the confused situation whereby each does his own thing and has no laws to depend on. Strengthening the unified management of water resources is an important matter that concerns national economic development and the people's livelihood. Historical experience tells us that when the nation was centralized and unified, the nation flourished and developed, but when there was no unity, then there were 800 lords, each with his government, and the nation's economy declined. There can be nine dragons controlling the water but there must be one "head dragon"; otherwise one cannot even speak of the overall economic benefits of water resources. Water laws have already been formulated for a long time and we hope that they will be promulgated as quickly as possible. Water conservancy is an industry and it simply will not do for water bodies to be polluted casually. We must forcefully communicate the danger to the people's livelihood from polluting bodies of water. The Hai He's water resources are small and its water shortage is very severe, and yet the proportion of polluted water is the largest, that is, one part in nine. And so water management departments should have authority over water, or otherwise, in our development and utilization of water--and for some departments, in wanton pollution--it will inevitably affect the economic benefits that the use of water resources should bring.

## Strategic Objectives for Development and Use of Water Resources

According to an analysis of preliminary estimates, by 1990 China's total water needs will be over 540 billion cubic meters and by the year 2000, they will be over 630 billion cubic meters. Future water-use estimates are quite a complicated topic, and at present, the plans for each industry are being set and we serve each of these departments. Consequently, of course, the estimates for water resources are even more difficult, relying only on the certain limitations of the water departments. But in fact, when we state our estimated objectives--how we will be able to achieve the greatest, most rational use of water resources, or how we will satisfy the water requirements of various industries--these are precisely the major topics that we should be researching. At the same time, under certain conditions, water is a conditioning factor for the development of industrial and agricultural production, and so there is also the problem of how industry and agriculture will be rationally distributed in order to fit the regional distribution of water resources.

There are many factors involved in the development and utilization of and research of water resources. For example, take the construction of reservoirs. Although a high and large reservoir supplies a large quantity of water, the loss from inundation is also very great, and under our national situation of a large population with little land, relocating people is a very complicated matter. In particular, the amount of investment for the construction of certain large-scale water storage projects and the large-scale transfer of water between water basins is also a restricting factor. Thus, there is still a question of balance between the amount of water needed and the amount of flood water. Of course, under fixed, restricting conditions, there is also the question of how to use water resources even more rationally in order to obtain even more water and even greater benefits. And so the problems of strengthening the control and management of water, raising its utilization rate and adopting new technology to raise water's productivity, etc. are all important topics that require conscientious study and solutions from here on in developing and utilizing water resources and in balancing the supply with the demand.

## Strategic Focal Points and Strategic Measures in Development and Utilization of Water Resources

China's water resources certainly are not abundant, and even in the south, where water resources are relatively plentiful, there is an intermittent water shortage problem. Therefore, whether now or in the future and whether in the north or the south, in the development and utilization of water resources, we must make the reduction of expenses a basic national policy and strategic focal point in the development of the national economy, under the guiding principle of equally emphasizing both the broadening of sources of income and the reduction of expenditures.

The northwest and north China lack water, and relying solely on surface water is clearly inadequate. Although the water resources of the Chang Jiang and Zhu Jiang basins are plentiful, relatively speaking that is, without a new reservoir to regulate the water flow, the effective utilization rate of their water resources cannot grow very much. Consequently, the eastern, central and western line projects for bringing water from the south to the north should all receive further conscientious study from the view of strategic distribution.

A lot of articles could be written on the tremendous waste of water by industry and agriculture and on the savings of water in industry and agriculture. The nation's agriculture especially uses over 400 billion cubic meters of water, and if it were able to save only 10 percent, the amount would be quite considerable and there would be a very great potential for reducing expenditures. Of course, there is also the question of the relative economic benefits. Some comrades feel that water resources are the first water source, that reducing the flow is a second water source and that reducing expenditures is equivalent to broadening the sources of income. We should emphasize particularly the need to give full play to the role and benefits of the projects that we now have and view the water requirements of our present projects as top-priority tasks. In addition, we should stress the necessity of doing a good job in the early stages of developing and utilizing water resources. As before, China has rather severe concentrations of torrential rain along with flooding and waterlogging problems, and the important question of how to guarantee the safety of large rivers, streams and large-scale reservoirs is still one we cannot ignore.

12452

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## DEVELOPMENT OF WOODY GRAIN, OIL PRODUCTION DISCUSSED

Beijing NONGYE JISHU JINGJI [ECONOMICS FOR AGRICULTURAL PRODUCTION TECHNOLOGY]  
in Chinese No 8, Aug 84 pp 35-38

[Article by Li Yuanzhu [2621 6678 6999] of the Agricultural Economics Institute of the Chinese Academy of Agricultural Science: "A Simple Discussion of Several Questions About Developing Woody Grain and Oil Production"]

[Text] I. A Vast Vista for Developing Woody Grain and Oil Production

Ours is a country with a vast territory, a part of which is in the humid or semihumid temperate region and another considerable area is in the sub-tropical and tropical regions richly endowed by nature. These rich natural resources have not only provided superior growth conditions for many crops of the grass family but also excellent growth conditions for various types of woody grain and oil-bearing crops in our country. Oil tea trees, tong oil trees, tallow, persimmons and other woody grain and oil-bearing crops were grown in many parts of our country as early as 1,000-2,000 years ago and developed in many provinces and regions through the country. For example, the oil tea sown acreage has reached 60 million mu in recent years spreading over more than 1,000 counties in 15 provinces and regions along the southeastern coast, south of the Qinling Mountains and the Huai River and the eastern border of the Qinghai-Tibetan Plateau. Some woody grain and oil-bearing crops with a shorter history of cultivation, such as oil palm, coconuts and cashews have been found, after years of production and examination, to be most suitable for growing in our country with a relatively high yield potential.

Woody grain and oil production in our country is still at present in a developmental stage at a lower level. Of the 14.4 billion mu of our national territory as a whole, about 1.2 billion mu of barren hills and wasteland are still suitable for afforestation. Nevertheless, the woody grain and oil-bearing crop acreage constitutes 120 million mu, or 10 percent, of the barren hills and wastelands suitable for afforestation. In the more than 10 provinces and regions in the south suitable for developing oil tea, only 600 million mu of wastelands are suitable for afforestation and the oil tea sown acreage totals only 60 million mu. This shows that there is still a lot of room for development. If one-third of this acreage is used to develop oil tea, it will add, computing on the average basis of planting 40-50 trees per mu, an extra 80-100 million mu of oil tea trees. As a whole, the fruits are ready for harvesting

in 5 years or so, and even if the present average per-mu yield of 6 jin of oil remains constant, it will mean an annual increase of 1.2 billion jin in tea oil output.

At present, not only is the acreage of woody grain and oil-bearing crops small and the per-unit-output very low but they are also dropping. The national average per-mu output of tea oil is only 6 jin; walnuts, 10-20 jin; Chinese chestnuts, 30-40 jin; fresh dates, over 200 jin; and fresh persimmons, over 400 jin. Experience has proved that woody grain and oil-bearing crops are not low-yield crops. According to an investigation, a forest farm in Qu County, Zhejiang, conducted an experiment of interplanting oil tea over a large area with the per-mu output averaging 111.6 jin. Other areas in general posted a per-mu output of between 70 and 80 jin. The average annual per-mu walnut output of Laoyugou Commune of Changping County under Beijing Municipality, where conditions for production were poor, was 300 jin in 1980; the single-plant output of Heishanzhai Commune, which produced Chinese chestnuts in abundance, reached 100 jin at one time; and the average annual per-mu persimmon output of the Dongcui Brigade of Cuicun Commune in 1969 was 1,250 jin. The comparison shows that there is a tremendous potential for increasing the per-unit output.

This is particularly true in our country's Hainan Island and the Xishuangbanna tropical regions where the potential is even greater. Tropical crops known as the "king of oil," such as oil palm, coconuts and cashew nuts with very high oil contents, can also be developed in these areas. The lowest per-mu output of oil palm is 200 jin, which is equivalent to the current per-mu oil tea output. If 1 million mu of coconut trees are developed with 10-12 trees planted in every mu, the annual coconut oil output will amount to approximately 300 million jin if each tree produces 150 coconuts a year and every 5 coconuts produce 1 jin of oil. This amount is also equal to the annual edible oil consumption in some cities, with a total population of 50 million people.

As seen from market supply and demand and other conditions, our country has a consumers' market of over 1 billion people. While the average annual consumption of grain and oil is still not too high at present, with the development of the economy and the gradual improvement of the living standards from now on, it will need 48.8 billion jin of oil-bearing crops by the end of this century if the average annual per-capita edible consumption is raised to 13 jin. In addition to other demands from the industries and so forth, it is necessary to produce 52.6 billion jin of oil-bearing crops of the grass family, or 2.42 times greater than the total oil-bearing crop output in 1980.

Tong oil is a traditional export commodity of our country. With the development of industries at home and the continual improvement of chemical, industrial, scientific and technological standards, the demand for tong oil, tallow and other woody grain and oil-bearing crops has also increased greatly.

In addition, acorns, narrow-leaf oleasters and other woody grain and oil by-products make fodders of fine quality and can provide a source of fodder for developing the animal husbandry. In some mountainous regions, persimmons, dates and other woody grains can also be used locally to combat natural disasters and tide over scarcity.

Not only do some of the woody grain and oil products have relatively high economic value, but their stamens and pistils can also be used as a source of honey for raising bees; other by-products can be used as raw materials for developing diversified undertakings.

Judging from the production potential and supply and demand, our country has a good prospect for developing woody grain and oil-bearing crops.

## II. Key Factors Influencing Low Production of Woody Grain and Oil

The potential for developing woody grain and oil in our country is tremendous. However, the current production level is relatively low and will remain so for a long time. The basic causes are that many realistic questions have yet to be solved over a long period of time. The first question concerns grain. During the 1960's and early 1970's, commune members in many mountainous regions in the north that produced fruits were experiencing food grain shortages, and to solve the grain shortage, some places had to chop down forests and fruit trees to grow grain. In some woody grain and oil-producing areas in the north, the "three autumns" season for grain production is also a harvesting season for the ripening walnuts, Chinese chestnuts and dates. The commune members often devote their efforts to grain harvesting first instead of taking care of fruits of a higher economic value. The second question concerns the fertilizer shortage. The organic fertilizer needed for growing forest fruits in small areas in general relies totally on the scatterings from the plants while the limited supply of cattle manure is used for fertilizing farmland. Chemical fertilizer is far from meeting the needs of production and the chemical fertilizer awarded to fruit-growing units by the state has not been used for the purpose intended. According to an investigation, many typical units in the south achieving high yields in oil tea have used substantial amounts of organic fertilizer together with chemical fertilizer. The forest farm of Qu County, Zhejiang, cultivated 180 mu of oil tea and the average per-mu tea oil output was 111.6 jin. For the young oil tea trees, the per-mu indigenous and miscellaneous fertilizers and barn manure that were applied were 400 jin and 180 jin, respectively. Moreover, in summing up the experience of reaping a bumper oil tea harvest, some areas all held that without applying several scores of jin of chemical fertilizer, it would be impossible to achieve a per-mu yield of 100 jin. The third question concerns the relatively low level of mechanization and the lack of transport facilities and labor. Whether or not the cultivation of woody grain and oil should be managed or managed meticulously has a great impact on output. In the mountainous regions, where communications and transport facilities are limited, the economy and culture are relatively backward, advanced equipment for production is lacking and the contradictions between the production season and other farm work are prevalent, there is a tendency to concentrate on the immediate agricultural crops and overlook long-range forest fruit production. The fourth question concerns the deviation in the purchasing price for some woody grain and oil-producing areas over the years. In addition, the procurement departments have not been doing a good job in properly classifying the grades of products and making good the awards policies, thus dampening the initiative of commune members. The fifth question concerns the insufficient funds and poor capabilities for expanding reproduction, which also hamper the development of the woody grain and oil production.

### III. Actively Creating Conditions and Energetically Developing Woody Grain and Oil

To develop the woody grain and oil production in our country realistically and rapidly, it is necessary to do the following work well:

(1) Further Implementing the Various Party Principles and Policies. At present it is necessary to set up and perfect the responsibility system compatible with the characteristics of forestry, to determine the forest rights without delay, to define the scope of private plots of hilly land, to relax the policies as much as possible and to allocate those barren mountains and hilly slopes, which the collectives have no time to cultivate, to the commune member households and encourage them to develop them. According to rough estimates based on available data, of the rural labor force of between 300 million and 400 million men, the mountainous regions have a labor force of 100 million men. If the policies are to be to the advantage of peasants and each peasant plants an average of 5 woody grain plants and oil-bearing trees, an additional 500 million trees will have to be planted. If half of those trees planted are oil tea trees, it will mean an increase of 5 million mu of oil tea forests in 1 year. It only takes 5 years to expand the sown oil tea acreage in our country to over 85 million mu. Computed on the basis of the current average per-mu yield of 6 jin of tea oil, the output after about 10 years will be 60 percent over the present level. The practical experience of various localities in recent years has proved that only by providing a stable livelihood to the peasants and making it profitable for them can we stimulate their initiative in developing woody grain and oil production.

(2) Continually and Earnestly Solving the Food Grain Problem Now Facing Commune Members in Major Woody Grain and Oil-producing Areas. According to the results of an investigation, the amount of food grain for each principal laboring peasant in the whole year in the mountainous regions and the wheat and miscellaneous grain-producing areas in general in the north should not be under 600 jin, whereas the amount for the paddy rice-producing areas in the south should be over 700 jin. With the grain problem properly solved, the commune members will be able to develop the woody grain and oil production wholeheartedly. Every year some major woody grain and oil-producing areas such as Sichuan, Zhejiang and Anhui have been sending grain in large quantities to the mountainous regions and have been playing an important role in promoting the development of woody grain and oil there. However, since the mountainous regions lack transportation facilities and state financial resources are limited, it will be difficult to rely entirely on the state for supply. For this reason, various localities must do well in growing grain locally according to prevailing conditions. In keeping with the principles of not expanding farming and reclamation indiscriminately and paying serious attention to water and soil conservation, areas where conditions are available should make full use of the existing arable land and farm intensively and meticulously so as to raise unit output. Attention should also be paid at the same time to improving farming techniques and developing intercropping of woody plants and grain to increase grain production so as to achieve a higher degree of self-sufficiency in grain. Meanwhile, suggestions should be made to the state to provide the amount of grain that is short and at the same time make efforts to group various kinds of grain together to make supply easier.

(3) Solving the Supply of Fertilizer by Every Possible Means. Additional fertilizer is the key to improving the unit output of woody grain and oil, which is very low at present. The woody grain and oil-producing areas must take the road of developing agriculture, forestry and animal husbandry in a coordinated manner. First of all, efforts should be made to utilize the forestry resources as much as possible and increase the sources of forage grass and fodder for developing sheep and large animals such as oxen, horses, mules and donkeys. To keep the contradictions between forestry and animal husbandry to a minimum, it is necessary to raise large animals within fences and sheds so as to protect the forests and concentrate the gathering of manure in designated areas. According to a rough estimate, each large animal can produce at least 5,000 jin of manure a year, based on the amount of 5,000 jin of barn manure applied on the oil tea acreage in general. With high-quality organic fertilizer used on every mu of oil tea, the per-mu output, like that in some high-yield areas, is expected to be 10 to 12 times greater than the average per-mu output. To open up organic fertilizer sources, it is also necessary to do well in forest and grain intercropping. In the Jinhua and Quzhou area in Zhejiang, the "method of producing three kinds of oil in one place" has been popularized. In other words, it is the method of intercropping of oil tea, peanuts, sesame and other bean crops. This will not only increase the output of oil-bearing crops but also make use of large quantities of roots, stems and falling leaves for fertilizer to enhance the fertility of soil. Furthermore, the chemical fertilizer given out to the forestry departments according to plan for use as awards should be used genuinely in forestry production.

(4) Solving the Question of Funds. To develop woody grain and oil production, it is necessary to have a certain amount of investment. This is an important factor that bears on whether woody grain and oil can be developed. The state, therefore, should on the one hand include woody grain and oil as a project in the agricultural development plan and on the other hand allocate special funds for this purpose so that funds needed for woody grain and oil production and for processing, storage, transportation and trade are ensured. Foreign trade departments should energetically expand the export of this type of product so as to earn more foreign exchange and at the same time make it possible to set aside a certain percentage of the foreign exchange for use as funds in developing woody grain and oil production. Take walnut and tong oil, for example. Between 1976 and 1980, a total of 24,700 dun of walnuts and 102,400 dun of tong oil was produced. Computed on the basis of international market quotations, these two items earned approximately 727 million yuan in foreign exchange in these 5 years. If 5 percent of the foreign exchange earned were to be taken out for woody grain and oil production, it will at least provide an additional 36.35 million yuan in funds which can purchase over 120,000 dun of chemical fertilizer and furnish 40 extra jin of chemical fertilizer per mu for the more than 6 million mu of woody grain and oil-bearing crops. This definitely will play a prominent role in increasing woody grain and oil production. In order to promote cotton production, some countries have adopted a measure in recent years of taking out a certain percentage from the state tax revenue to set up funds needed in developing and speeding up cotton production. The state can also adopt similar measures in developing woody grain and oil production by taking out a certain percentage from forestry tax revenue and from commercial tax on woody grain and oil products for use in expanding production of these items. Production departments must also make careful

calculations and undertake strict budgeting at the same time to improve work efficiency and reduce production costs and make full use of funds so as to provide sufficient funds for developing woody grain and oil production in more than one way.

(5) Rationally Readjusting the Production Patterns, Speeding up the Cultivation of Excellent New Varieties, Raising Techniques in Cultivation and Management and Broadly Applying the New Achievements of Modern Science and Technology. The forestry production patterns in our country at present can be described as "being out-of-date, mixed up, confused and scattered." This hampers the utilization of excellent local natural resources and other social and economic conditions as well. We must readjust them step by step from now on through a unified production development plan. For example, oil tea, walnuts and Chinese chestnuts, regardless of variety, can all be grown and developed in a certain suitable environment. If we can arrange to have them grown in the most suitable areas to cope with the complicated natural environment and areas with minor changes in climate and varied conditions, we can give further play to the potential of increasing production. Moreover, this way can also help in adopting corresponding measures in production and management to attain the goal of reducing production costs and raising economic results. By selecting fine varieties and exploring the crops' inherent potential for increasing production, production can be increased in general from 20-30 percent even without additional investments. Furthermore, by improving cultivation and management techniques in the course of production, the rational utilization of the land and the development of intercropping and interplanting--particularly the young trees and intercropping with other crops--will not only make it possible to use both time and space effectively but also give play to the role of substituting nurturing with farming and of conserving labor.

(6) In Intensifying the Building of Woody Grain and Oil Bases, the Building of Specialized Forest Farms for Woody Grain and Oil Production Should Be Stepped Up Emphatically. A number of specialized forest farms should be built in areas suitable for developing woody grain and oil production, particularly in areas with the most suitable natural and social and economic conditions for this purpose. This should be done by taking into consideration of the agricultural resources based on investigations and administrative divisions. In this way it will be possible to do away with the existing scattered layout that hampers the effective management and use of manpower, materials and financial resources in a concentrated manner and hinders the popularization and application of the achievements of modern science and technology.

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## BRIEFS

WATER MANAGEMENT UNIFIED---The State Council has decided to make the Ministry of Water Conservancy and Power the overall managing department for the entire nation's water resources. This was decided in a written opinion in response to the State Planning Committee on 8 March 1984 concerning the question of a unified management organ for the water resources of the whole nation. The State Council's "Written Response Concerning the Question of a Unified Management Organ for the Water Resources of the Whole Nation" pointed out that with the agreement of the leading comrades of the State Council, it was decided not to establish an All-China Water Resources Committee but to have the Ministry of Water Conservancy and Power serve as the overall managing department for the entire nation's water resources. It would be completely responsible for such tasks as managing unified planning, establishing laws and research on the nation's water resources and deploying water resources and would also take responsibility for coordinating the contradictions between various water departments, settling water disputes, etc. The "Written Response" emphasized that "the Ministry of Water Conservancy and Power must conscientiously strengthen the unified management work of the nation's water resources and pay heed to giving full play to the roles of the concerned departments; all provinces, cities, autonomous regions and concerned departments must act in close coordination and cooperation and work together to do a good job managing water resources." On 21 March, the Ministry of Water Conservancy and Power notified all river basin organs and power management bureaus for large areas and all provincial (autonomous region, municipal) water conservancy (hydro-electricity) and electric power departments (bureaus) and various units directly under the ministry that they should conscientiously study the State Council's "written response," proceed from the needs and benefits of the whole situation and provide superior service to the various departments of the national economy and for the people's livelihood. They should thoroughly carry out investigations and research, enthusiastically do a good job with overall planning work, get a firm hold on preparations for related legislation, mobilize close coordination and cooperation with concerned departments and work together to do a good job in this work. [Text] [Beijing ZHONGGUO SHUILI [WATER CONSERVANCY IN CHINA] in Chinese No 5, 15 May 84 p 2] 12452

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## TRANSPROVINCIAL AFFAIRS

### CONSTRUCTION OF MECHANIZED WELLS IN HAI-LUAN RIVER BASIN

Beijing ZHONGGUO SHUILI /WATER CONSERVANCY IN CHINA/ in Chinese No 10, 15 Oct 84  
pp 6-8

/Article by Yang Gingtao /2799 3237 3447/: "Construction of Mechanized Wells  
in the Hai-Luan River Basin"/

/Text/ Before the founding of the nation, farmland water conservancy in the Hai-Luan River Basin had an extremely weak foundation and agricultural production basically depended on nature for sustenance. Mild winds and gentle rains meant increased output, but droughts could cause drops in production or even no harvests. Production was not guaranteed. Since the nation was founded, the party and government have successfully led the masses to develop water conservancy construction on a large scale. Following the rapid development of industrial and agricultural production and continual improvements in the living standards of urban and rural residents, there have been continual increases in the demand for water from all areas, and the contradiction between supply and demand has become progressively more acute. There were successive years of drought in the Hai-Luan River Basin at the beginning of the 1970's. The amount of runoff in rivers and streams in the basin did not exceed 22 billion cubic meters during the 3 years from 1970 to 1972. It was only 11.7 billion cubic meters in 1972, equal to only 41.2 percent of the long-term average annual runoff of 28.4 billion cubic meters. This led to water shortages and competition for water in industry, agriculture, daily life and other areas. In order to alleviate the ever-sharpening contradiction between supply and demand for water sources, the State Council called on regions of the north to actively develop and utilize underground water and decided to include mechanized well construction in the north in state plans beginning in 1973. For this reason, mechanized well construction in the Hai-Luan River Basin has moved from self-generation to organization and planned development. The state has provided enormous assistance in capital, materials, equipment and other areas. According to incomplete statistics, the state gave more than 600 million yuan in subsidies to the basin for deep wells alone during the 10-year period between 1973 and 1983. Moreover, the state also allocated large amounts of specialized well drilling equipment to all areas. In Tianjin, for example, the state provided 187 sets of specialized well drilling equipment during this 10-year period. Local party and government departments at all levels have paid close attention to mechanized well construction. Special organs have been established at the provincial, city, prefectural and county levels. Most counties and communes have set up well drilling teams.

Some counties and communes have even set up machinery repair plants and manufacturing plants to serve mechanized well construction and to effectively assist in the development of well drilling work. Some areas have compiled and published scientific and technical works related to mechanized well technologies, formulated technical regulations for well drilling and played an active role in popularization of well drilling technologies and continual improvement of the quality of finished wells. Since the 3d Plenum of the 11th CPC Central Committee, under the guidance provided by a series of correct party principles and policies and by the spirit of the Conference on Experiences in Mechanized Well Management in Northern Regions and the National Water Conservancy Conference, mechanized well work in all areas has entered a new era of a goal of "strengthening management and administration, being concerned with economic results." By the end of 1983, the basin had constructed more than 929,000 mechanized wells of various types, 823,000 of which are outfitted. A total of 965,000 pieces of machinery have been installed with an equivalent motive power of 11.27 million HP. The effective irrigated area exceeds 56 million mu. The drinking water problems of more than 5.7 million people and more than 1 million head of livestock in areas with water shortages have been solved. Moreover, high quality water resources are being provided for industry and for daily use by urban residents. Total water usage in industry, agriculture and daily use in the basin amounted to 112.2 billion cubic meters in the 3 years from 1977 to 1979, 45.8 percent of which came from underground water. Underground water now has become an important source of water for agriculture, industry and daily use by urban and rural residents in the region, and enormous economic results have been achieved.

1. In agriculture: The total cultivated land area in the Hai-Luan River Basin amounts to 11 percent of the total amount of cultivated land nationwide, but annual runoff is only 1.1 percent of the national total, amounting to 10 percent of the national average value. According to statistics for Beijing and Tianjin municipalities and for Hebei, Shandong and Henan provinces, grain yields in 1949 averaged only 97.5 jin per mu. Wheat yields averaged only 72.8 jin per mu, 24 percent less than the average yields for all grains. The irrigated area has been expanded continuously following development of mechanized well construction. By the end of 1983, the effective irrigated area from underground water in the basin amounted to 58 percent of the total effective irrigated area. Average grain yields in these five municipalities and provinces reached 559 jin per mu in 1983, a 4.7-fold increase over 1949. Wheat yields reached 416.6 jin per mu, also a 4.7-fold increase over 1949. Practice has proven that although increased yields are the result of water conservancy, soil, fertilizer, seeds and other comprehensive measures, water is the lifeblood. The masses have summarized a bit of experience from many years of drilling wells to fight drought: "With a well, there is a sea of green; without a well, there is a sea of yellow." Mechanized wells are especially important for wheat production. The fact that wheat is planted in the fall and harvested in the summer means that this is the season for relatively little precipitation and surface runoff within the basin. Mechanized wells can effectively regulate and supplement serious shortages in surface water sources, and they are the key water resource for guaranteeing wheat production.

Similarly, mechanized wells also play a great role in increasing output of industrial crops. An example is commodity vegetable production in Tianjin

Municipality. The city currently has 220,000 mu of commodity vegetable land responsible for the supply of vegetables to about 3.7 million persons in six districts of the city and the Tanggu and Hangu suburbs, as well as for a certain amount of vegetables for export and for pickling. Most of this vegetable land is found along river banks, and water from the river has historically been used for irrigating vegetables. A decrease in the amount of water in all the tributaries of the Hai He and successive years of drought resulted in a loss of water guarantees for the vegetable fields in recent years. Responding to changes in the water resources situation, the municipal government proposed drilling wells in commodity vegetable fields, repairing leaking canals, installing spray equipment and constructing a water-conserving vegetable production system. By the end of 1982, more than 1,200 wells had been drilled for irrigation of 135,000 mu of vegetable fields, equal to 61 percent of the total area of commodity vegetable fields. Thus, relative stability in commodity vegetable production has been maintained despite an extreme water shortage in Tianjin Municipality in recent years. Vegetable production in many districts and communes also has increased to substantial extent. Annual vegetable output was 314 million jin in 1981, 396 million jin in 1982 and 417 million jin in 1983. The annual value of output for these 3 years was 14.44 million yuan, 17.96 million yuan and 18.15 million yuan, respectively. The peasants noted that vegetables irrigated using wells had fewer diseases, good quality, high yields and early maturation. This has played a positive role in shortening the off-season for vegetables, enlivening the market and improving the people's standard of living.

2. In industry: Industry is fairly developed within the river basin. The Beijing, Tianjin and Hebei regions, for example, are important industrial base areas in our country and occupy an important position in the national economy. Under a series of correct principles and policies such as opening up to the outside and enlivening the domestic economy following the 3d Plenum of the 11th CPC Central Committee, industry has developed very rapidly and water usage also has increased greatly as a result. At the same time, industrial enterprises such as textiles, chemicals, printing and food products not only require guaranteed amounts of water, but also place special demands on the quality, temperature and other characteristics of the water. This places even higher demands on urban industrial water supplies than does agriculture. However, whether in terms of amount or quality, surface water resources in several primary industrial cities cannot keep up with the demand. For this reason, more and more industrial enterprises and units are drilling wells to provide their own water source. In 1979, the pertinent departments in Tianjin Municipality carried out a survey of the water use situation in more than 1,600 industrial enterprises under the city government and the Central Committee (the amount of water used in these units and the value of output make up more than 90 percent of the city totals). Moreover, extrapolation on this basis showed that total water usage in industrial enterprises in 1979 amounted to 530 million cubic meters. Of this amount, more than 240 million cubic meters or about 46 percent of the total came from well water. The city now has more than 1,500 industrial wells and the water supplied by mechanized wells makes up about half of the total. Moreover, the city also has drilled a group of hot water wells and has achieved certain results in developing the use of geothermal energy, conserving energy resources and other areas. According to statistics from

related departments, there were 381 hot water wells with water temperatures in excess of 30° C at the end of 1983. Of this total, 256 were in use and about 47 million tons are being extracted annually, primarily for use in the textile, printing, knitting and other industries. This not only conserves large amounts of energy, but also has led to an obvious improvement in the lustre and cleanliness of products, and in the degree of stability in printing. Beijing Municipality now has more than 2,300 industrial wells that extract 500 to 600 million cubic meters of underground water annually. According to statistics, 42 percent of the water used in industry in the 3-year period from 1979 to 1981 came from mechanized wells extracting underground water for industrial production. If the amount of water consumed per 10,000 yuan of value of output is calculated at 440 cubic meters, then mechanized wells provide guaranteed water sources for more than 11 billion yuan of industrial output each year. Mechanized wells also are playing a positive role in industrial water usage in other cities as well.

3. Human and animal drinking water: The development of mechanized well construction has made important contributions to improving the drinking water situation for urban and rural residents and for improving health levels. Before the country was founded, many rural people and livestock drank water from rivers or pits. Most well water was extracted from earthen or brick wells only a few meters or 10 to 20 meters deep. A drought could mean a shortage of human and animal drinking water. The drinking water situation was even more difficult for humans and livestock in some water-short mountainous villages. For many years, drinking water had to be brought in from areas several li or several tens of li away or even further. This affected living standards and health. After the nation was founded, the CPC Central Committee and the State Council paid very close attention to drinking water for humans and livestock in mountainous regions, instructed water conservancy departments at all levels to treat it as an important task for resolution as soon as possible, and even provided capital assistance. The whole river basin now has more than 14,000 wells for human and livestock drinking water. Problems with drinking water have basically been resolved in some villages with fairly large problems, and there have been major improvements in the drinking water situation. Some villages that drilled wells also built water towers and laid pipes for transporting the water so that every family and household has running water. The era of "A drop of water as valuable as oil, worrying about drinking water for generations" has ended. According to statistics from the Shijiazhuang Prefecture Water Conservancy Bureau for seven counties in Hebei Province, including Jingxing, Pingshan and Hulou Counties, of the 250 brigades and more than 150,000 persons in dry villages in mountainous regions, the drinking water problems of 246 brigades, 150,000 people and more than 100,000 head of livestock had been solved by the end of 1982. Xijingyu Brigade in Fangyu Commune in Tianjin Municipality's Ji County relied for years on drinking water carried by cart, on people's backs and by draft animals from more than 10 li away. In dry years, it seemed that not a grain was harvested from the slopes. In 1976, the state provided assistance for drilling a deep well. It not only solved the drinking water problems of the 460-plus people and the more than 100 head of livestock in the village, but it also permitted development of irrigated land. Every member of the village received 240 jin of wheat during the major drought in 1981. Household water usage in the cities and towns of the river basin totalled more than 1.3 billion

cubic meters in 1979, about half of which was provided by underground water. In Beijing Municipality shortly after the nation was founded, the annual supply of running water totalled more than 11 million dun. By 1980, seven well water plants had been built with more than 260 deep wells extracting about 300 million cubic meters of underground water annually. About 90 percent of the urban drinking water supply in Beijing Municipality is underground water extracted from deep wells. Statistics for the end of 1983 for Tianjin Municipality show that the running water supply system in only six of the city's districts had 195 completed deep wells with a water supply capacity of 204,000 cubic meters per day. Before the Luan He was diverted, they played a definite role in supplementing running water for the city during the dry season, improving water quality, increasing water pressure and other areas.

4. Comprehensive development of rural areas: there have been continual improvements in the level of mechanization and electrification in production and living throughout rural areas since the founding of the nation. Construction of mechanized wells has played a role in promoting the acceleration of this process. A major portion of the current motive power in rural sideline production (e.g., diesel engines and electric motors) was gradually installed following the development of mechanized well construction. Agricultural irrigation has a strong seasonal character, so the motive power fitted to the wells usually is moved into sideline production during the nonirrigation season (multiple uses for a single machine). Currently, there are more than 960,000 pieces of power equipment fitted to mechanized wells in the region. This provides certain material conditions for gradual mechanization of certain aspects of rural production and life. Most rural communes and brigades in which electricity came universal relatively early were developed following the outfitting of mechanized wells. Moreover, for several years water conservancy departments have trained and tempered technical forces in rural areas through drilling, managing and using wells. These people understand the operation, management, repair and other basic knowledge and technical skills related to machinery to a certain extent and are playing an important role in new rural construction.

In summary, there have been great achievements in mechanized well construction in the Hai-Luan River Basin since the founding of the nation, with enormous contributions to developing production, invigorating the economy and improving the living standards of urban and rural people. Based on the demands of the party for the overall tasks of the new era following the 3d Plenum of the 11th CPC Central Committee, the focus of mechanized well work is moving toward management. Following reforms in rural production systems, mechanized wells have now commonly established various types of management responsibility systems with more and more obvious results. In the future, mechanized wells will come to play an ever larger role in the four modernizations.

12539

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## BRIEFS

SHAANXI SUMMER GRAIN OUTPUT--The reporter has learned from relevant branches of the Department of Agriculture and Animal Husbandry under the Shaanxi Provincial Government that Shaanxi will reap a record bumper harvest of summer grain this year; a total output in excess of 10 billion jin is in sight, approximately a 10 percent increase over last year and an all-time high. This is the second year of comprehensive implementation of the "dual contract" responsibility system in Shaanxi. Despite arid conditions, plant diseases and insect pests, hot, dry winds and cloudy or rainy weather throughout the wheat growth period, because policy was correct and in accord with the will of the people the mass of peasants overcame one difficulty after another and reaped a bumper harvest of wheat. The reporter visited more than 10 counties and prefectures in the western part of the central Shaanxi plain during the period of summer harvesting, planting and field management, and wherever he went vast numbers of cadres and the masses, without exception, expressed heartfelt gratitude for the policies of the Party. Everybody said, "How could we have such bountiful harvests were it were not for the household joint production contracting system!" [Text] [Beijing ZHONGGUO NONGMIN BAO in Chinese 8 Jul 84 p 1] 12513

HENAN WHEAT PRODUCTION--Some good news from Henan Province, one of China's main wheat producing regions, is that total wheat output this year amounted to 32.23 billion jin, equivalent to 6 times that of the early post-liberation period. Per unit area yields were 460 jin, which amounted to 423 jin per capita, an all-time record high. Up to the present time, total wheat output in Henan in the 6 years since the Third Plenary Session of the Party Central Committee has exceeded the total output of the previous 30 years. Since 1979 the provincial Party committee and provincial government has correctly implemented the various economic policies of the Party, put into practice the overall agricultural production responsibility system, promptly extended to the masses production experience with top quality, high- and stable-yielding, low-cost wheat, set up a "10,000 mu experimental field," and "1,000 mu demonstration plot," and formed 252 production activity bases for scientific research. At the same time, we shifted the strategic focus to the medium- to low-yielding regions, which comprise 70 percent of the wheat acreage in the province, and assisted them [the peasants] in the areas of planning, financial and material resources and technology to transform the low yields and thus realized the goals of making high yields even higher, changing low yields to high yields, improving quality, lowering costs and stabilizing development. Wheat output

increased at an average rate of more than 10 percent a year. Last year the peasants sold 11.77 billion jin of grain to the state, 7.59 billion jin of which was wheat. It is estimated that wheat sales to the state this year will amount to more than 8 billion jin. [Text] [Beijing ZHONGGUO NONGMIN BAO in Chinese 15 Jul 84 p 1] 12513

RECORD SHANXI WHEAT HARVEST--By thoroughly implementing the spirit of this year's Central Committee Document No 1, rapidly developing commodity production in the rural areas throughout the province and working on the foundation of 3 consecutive years of bumper wheat harvests, the bountiful harvest in Shanxi this year is an all-time high. Based on sampling surveys of summer grains in 12 counties provincewide, the Shanxi Provincial Statistics Bureau forecasts total wheat production for the province as a whole could amount to 5.603 billion jin. This is an increase in output of 693 million jin, or 14.1 percent, over the previous year; compared to 1978 output, which was before the Third Plenary Session of the 11th Party Central Committee, it is an increase of 3.026 billion jin, or 117.4 percent. This is the 4th consecutive year of increased yields of summer grains in Shanxi. What is the reason for having bumper harvests year after year? Vast numbers of cadres at the grass-roots level and the masses answer in common that it is because both the Party's policy to make the people rich and the practice of scientific farming are working well. The most worrisome problem for the peasants after the bumper wheat harvests is "difficulties in selling the grain." Party and government departments at all levels throughout the province are presently trying in every possible way to employ measures to implement the policy of the central authorities of not setting a cap on grain purchases by the state, and doing all they can to completely satisfy the peasants' demand to sell more grain. [Text] [Taiyuan SHANXI RIBAO in Chinese 7 Jul 84 p 1] 12513

NORTH CHINA GRAIN HARVESTS--To summarize articles contributed by this paper's reporters, the major wheat producing regions in China, which include the provinces of Henan, Shandong, Hebei, Shanxi and Shaanxi, continue to issue good news that the summer grain is being harvested quickly. The various regions have conquered serious natural disasters this year and reaped a bumper harvest as well. As of 10 June, more than 1 million mu of wheat had been harvested in parts of the Weinan, Xianyang and Baoji areas of the central Shaanxi plain. In Henan, the province in China with the greatest wheat acreage and the highest yields, harvesting of 70 million mu of wheat has basically been completed; judging from what has been harvested so far, it is estimated that total output will be 30 billion jin more than last year, another all-time record high. In Yuncheng Prefecture, Shanxi Province, harvest has basically been completed for 5.4 million mu of wheat; it has begun from 3.4 million mu in Linfen Prefecture. Again judging from what has been harvested so far, total wheat production in these two prefectures will surpass 3.5 billion jin, exceeding last year's output by 100 million jin and another all-time record high. In Shandong Province, more than 58 million mu of wheat has ripened and as of 13 June, 20-plus million mu had been harvested provincewide. The peasants overcame such serious natural disasters throughout the province as arid conditions, low temperatures and hail, and obtained their second most bountiful harvest ever. Yields were increased over last year's in Heze Prefecture, Jining Prefecture and City, and Dezhou and other prefectures and

cities. In Hebei Province, 36 million mu were seeded to wheat. The crop ripened in succession from south to north and the vast numbers of peasants were filled with joy as they quickly cut and harvested it. As of the 17th [of June] more than 15 million mu of wheat had been harvested throughout the province; more than 50 percent of the wheat acreage in Handan, Xingtai, Shijiazhuang and Hengshui prefectures has been harvested. Judging from what has been harvested in the various localities so far, this will be another year of bumper wheat harvests in Hebei. Although serious dry, low temperature weather conditions in Hebei this year affected normal wheat growth, the mass of peasants, inspired by Central Committee Document No 1, actively employed effective measures and greatly mitigated losses brought about by the natural disasters. [Text] [Beijing ZHONGGUO NONGMIN BAO in Chinese 21 Jun 84 p 1] 12513

HEBEI GRAIN OUTPUT, MARKETING--There is promise of a bumper harvest of summer grain in Hebei Province and the grain departments are adopting strong measures to ensure the peasants will be able to sell their grain successfully. Wheat acreage in Hebei this year amounted to 36 million mu, 320,000 mu more than last year. Judging from what has been harvested in the various localities so far, this will be another bumper harvest year. Calculations based on preliminary estimates from the different areas indicate that wheat sales to the state will total 1.97 billion jin. This surpasses the planned assigned state grain purchases by 320 million jin. In addition, because of successive bumper harvests in agriculture the last several years, the peasants' grain stores are somewhat large and they are highly enthusiastic about selling summer grain to the state. In order to guarantee that the peasants will be able to sell their grain successfully, the Hebei Provincial Grain Department has decided to adopt the following measures: 1. Increase purchases by the state, adjusting them according to the harvest. So that the peasants do not have to stand in long lines during the period of amassing summer grain for state purchases, the Provincial Grain Department will purchase the peasants' old wheat of good quality before the new wheat goes on the market. Nearly 200 million jin of old wheat has been purchased by the state throughout the province to date. At the same time and in accordance with rational flow, there will be on-the-spot transfer of grain into cities and regions experiencing wheat shortages and expansion of grain receiving capacity in the wheat producing regions to relieve pressure on reserves. 2. Effect payment by instalments and delay placing grain in granaries. Because most of the grain producing regions in Hebei were affected by spring cold this year, the wheat ripening period was postponed somewhat. Therefore, the Provincial Grain Department will consult with households selling large quantities, sign contracts and, according to estimated quantities of sales to the state, make an advance payment of one-half the amount of the purchase first, have the summer grain temporarily stored by the household and postpone delivery. After the grain is delivered to state granaries or transferred, the complete account will be settled based on the actual amount that enters the granary and the grade, as well as a fixed payment for storage costs. 3. Expand marketing and increase the proportion of flour supplied by the various prefectures. 4. Employ new technology and enhance the links in settling accounts. The Provincial Grain Bureau [as

published] has supplied 466 microcomputers to various localities so that accounts may be settled as sales are made to the state. [Text] [Shijiazhuang HEBEI RIBAO in Chinese 29 Jun 84 p 1] 12513

SHAANXI BUMPER GRAIN HARVEST--More good news on the agricultural front: According to an analysis of informal discussions with branches of the Provincial Department of Agriculture and Animal Husbandry, after consecutive bumper harvests of summer grain throughout the province the 3 previous years, this year is the 4th bumper harvest year; a total output of 10 billion jin is in sight, another all-time high. This will be the best year ever for summer grain output in Yan'an Prefecture. Output from the irrigated regions of the central Shaanxi plain and the slopes along the rivers in southern Shaanxi compare favorably with the great bumper harvest of last year. It is generally reported that in the arid zone north of the Weihe River, with a relatively large summer grain acreage, the heads are large and the kernels plump and heavy; "there are goods under the threshing rollers." At present, the broad wheat regions are one vast panorama of bumper crops and shouts of "Bravo!" linger in the air. It is a shame recent cloudy and rainy weather brought about sprouting and mildew to varying degrees on nearly 1 million mu of wheat in northwestern Shaanxi, where vast numbers of cadres and the masses are doing all they can to quickly gather the harvest, transport it away and dry it in the sun, striving to minimize losses due to the natural calamity. [Text] [Xian SHAANXI RIBAO in Chinese 2 Jul 84 p 1] 12513

GUANGZHOU GRAIN OUTPUT--The busy summer harvest season has begun in all areas of Guangzhou from south to north. As of 19 July, 11-plus million mu of early rice had been harvested provincewide, more than 40 percent of the acreage. Except for Hainan Island, where the season is earlier and the harvest has been completed, it will take to the end of July before the crop is in in most areas of the prefectures and cities. The impetus provided by the spirit of this year's Central Committee Document No 1 has raised the enthusiasm of the cadres and broad masses toward production to its highest level ever. Early crops in various areas throughout the province this year overcame the effects of extended periods of low temperatures and cloudy, rainy weather and there was even growth of the cereal crop seedlings over most of the area. Judging from what has been harvested in various areas, aside from those regions which were hit by Class 2 and Class 4 typhoons in succession this year and sustained relatively heavy losses, paddy rice unit-area yields in the remaining prefectures and cities are generally greater even than last year's record highs. The chief reason for the increased unit yields was that 8.81 million mu of early crops provincewide were planted to quality hybrid rice (an increase of 3.35 million mu over last year) and most showed increased yields. According to forecasts of the agriculture departments, total grain output for early crops provincewide is slightly lower than last year's record high for the same period; unit yields maintaining last year's record levels are in sight. There is also expanded acreage and increased output for such economic crops as peanuts, sugarcane and soybeans. Such flourishing economic diversification further stimulates the rural economy. [Text] [Guangzhou NANFANG RIBAO in Chinese 23 Jul 84 p 1] 12513

## USE OF GRAIN TO EXPAND ANIMAL HUSBANDRY ADVOCATED

Hefei ANHUI RIBAO in Chinese 24 Sep 84 p 1

/Commentary: "Promote Reform of the Structure of Agriculture and Properly Handle Grain Conversion Work"

/Text/ Since the 3rd Plenum of the 11th CPC Central Committee, Anhui has achieved an unexpectedly rapid expansion in grain output due to the reforms the province has implemented in the countryside, the principal of which is the production responsibility system. From 1978 to 1983, Anhui's annual grain output increased from 29.6 to 39.4 billion jin, or 33.1 percent; per-capita output in terms of the agricultural population rose from 704 to 908 jin, or 26.2 percent; and the marketing rate for grain climbed from 21 to 35 percent. Another bumper harvest is expected this year, and many areas are experiencing "difficulty in selling grain." This new situation represents a marked improvement in Anhui's grain production.

Nevertheless, we must recognize that the widespread "difficulty in selling grain" does not mean that there is actually an abundance or surplus of grain. According to statistics, the per-capita supply of grain is less than 800 jin nationally and only 780 jin provincially, which is about half of that enjoyed by economically developed countries. Even in the long term, Anhui is unlikely to have a surplus of grain, because China has population of 1 billion people, and arable land is limited to what we have now. Besides the problems of storage and transport, the principal cause of the "difficulty in selling grain" is China's irrational agricultural production structure. For a long time now, we have not devoted sufficient attention to animal husbandry, and this neglect has produced an irrational structure in which one leg is long and the other is short. Animal husbandry accounts for only 13.2 percent of total agricultural production nationally and only 12.95 percent provincially (whereas, in economically developed countries of the world, the ratio reaches more than 50 percent). In the past few years, grain output has been up sharply, but the restructuring of the agricultural product mix has not kept pace, and animal husbandry continues to lag far behind the expansion in grain output. In Anhui, the gap is even greater: "The primary production targets for animal husbandry,

per-capita income from animal husbandry, the ratio of the output value of animal husbandry relative to total agricultural output value, and per-capita supply of poultry, meat, eggs and milk all fall below the national averages and trail those of neighboring provinces. Herein lies the major cause of the "difficulty in selling grain" and the "grain glut." Some developed countries produce about 2,000 jin of grain per capita, but the average person in these countries actually consumes only 120 to 130 jin and instead eats mostly meat, poultry, chickens and dairy products, which, at those consumption levels, require over 1,000 jin of grain per person per annum to produce. The Chinese people still primarily consume grain and eat very little meat, poultry, eggs and dairy products. If our food consumption were suddenly to change, we would find the present grain supply level of 700 to 800 jin insufficient. Relevant departments estimate that 190 billion jin of fodder would be required in order to increase the national consumption ratios of meat, eggs and dairy products to the levels enjoyed in Shanghai and Beijing. We can attempt a few of these computations for Anhui. If each person in the countryside were to raise an average of one laying hen, then there would be 50 million chickens in the province, each of which would require 70 jin of feed per year for a total grain requirement of 3.5 billion jin of grain. If each household were to raise two pigs, there would be 20 million pigs in the province, each of which animal would consume an average of 300 jin of fodder per year for a total grain requirement of 6 billion jin. And if every two households were to raise one head of cattle, there would be 5 million such beasts in the province, each of which would consume an average of 100 jin of grain for a total requirement of 500 million jin. These three items alone would require 10 billion jin of grain. Obviously, once we have completed our grain "conversion" work, grain will be insufficient rather than abundant. Thus the basic route to resolving the problems of the "difficulty selling grain" and the "grain glut" lies in converting grain into fodder so as to promote the expansion of animal husbandry. Once we have developed this sector, we should start expanding our animal-product processing industry--such as producing powdered milk, curds, butter and the like from milk--so as to achieve a multileveled value-added structure of production. Meanwhile, we should also vigorously develop a food processing industry that employs grain as its primary raw material so as to produce many good products and supply market demand.

The autumn grain-harvest and procurement season is upon us. Every locality must adhere to the directives of the party Central Committee and the State Council and conscientiously complete grain requisition work. Whatever amount of grain is supplied must be purchased, and there must be no limitations on or refusals to accept grain. Meanwhile, we must mobilize the forces of each quarter and induce the state, the collective and the individual to work together to expand the feed and food industries, develop animal husbandry and complete the work of grain conversion and improving digestability. In fodder production,

emphasis should be placed on modernized feed mixtures in order to meet the needs of commercialization and of the transformation from small-scale to collective feed production. To reduce transport load and make things convenient for the masses, we should locate feed-industry centers in the countryside and collect raw materials and conduct processing locally. In developing the food industry, we must both revive and develop traditional food products and transcend these products and vigorously develop new ones. And to improve service work before, during and after production, we must place special emphasis on epidemic and disease prevention so as to reduce the incidence of disease and the death rate in domestic animals and poultry, and we should employ a multifaceted approach to assuage the anxieties of the broad masses of peasants. All relevant agencies must make positive contributions to the development of the feed, food and animal husbandry industries. We may have faith that, if everyone achieves a similar understanding and works together, we will surely be able to resolve the grain "glut" problem within a short period of time and promote the continued expansion in Anhui's grain output.

12431

CSO: 4007/38

FURTHER REFORMS ON AGRICULTURAL SIDELINE PRODUCTS REPORTED

Guangdong NANFANG RIBAO in Chinese 22 Aug 84 p 1

[Article: "Purchase Policy on Agricultural Sideline Products Further Relaxed"]

[Text] The Guangdong provincial people's government has recently decided to relax further its purchasing and marketing policy on agricultural sideline products. The purpose of this relaxation is to reduce the managerial scope of centralized procurement and the assigned procurement of products in order to help develop commodity production and to enliven the economy further.

The agricultural sideline products of Guangdong Province always have a higher price; however, this province, through the free circulation of commodities, has put state-operated production, collective production and individual production to work and thus has promoted the rapid growth of agricultural sideline production. In the last 6 months, the agricultural sideline product markets of both the urban areas and the countryside in the whole province witnessed the disappearance of the slack season and a steady lowering of prices. Compared with the same period last year, the index of negotiated commodity prices came down 6.35 percent and the index of country fair trade prices was lowered 6 percent in the whole province. In the above-mentioned index, the index of the negotiated prices of meat, fowl and eggs were lowered 2.7 percent and the index of country fair trade prices was lowered 3.8 percent. The country fair trade prices of chickens, ducks and geese were already closer to the state-set prices. In June it was even lower than the list price. In the second season of this year, the negotiated price for eggs in the whole province was 1.5 yuan per jin on the average, the lowest price level in recent years. In the past, during the period from Spring Festival to Duanwu Festival [Dragon Boat Festival], the quantity of agricultural sideline products on the market was lower whereas the price was higher; but this year, both the production and marketing have been continually brisk, and the price has been steady and sometimes even lower.

In view of the favorable tendency appearing on the market of agricultural sideline products in the whole province, the Guangdong provincial CCP committee and the provincial government held a special discussion on the plan proposed in the finance and trade work conference which just ended. They decided to extend the relaxed purchasing and marketing policy on agricultural sideline products. The decisions are stated as follows:

- To reduce the original 18 categories of products for centralized procurement and assigned procurement to 13 categories. Tea, pepper, red and white glory-vine, cattleshide and Chinese cinnamon [cassia oil] which originally belonged to the second-category products are now in the third category. In order to promote economic growth in the mountain regions, all restrictions on traditional Chinese medicinal material have been lifted. The first- and second-category agricultural sideline products which are not included in the transportation and safe plan are permitted to have their purchasing and marketing prices handled flexibly according to the supply and demand conditions of the market by the operational units, and the price will be decided according to the market quotation, with no limited or protective prices.

- To restructure the system of vegetable purchasing and marketing by centralized procurement and exclusive sales. This restructuring will lead to a gradual realization of a free and direct relation between production and marketing without intrusion. The product will be priced according to quality and the market quotations, and the bargain will be made with negotiated prices. After the restrictions are lifted, both the urban areas and the suburbs must continue to carry on the policy of stressing the growing of vegetables and to guarantee the vegetable-growing areas; the varieties of vegetables grown will be determined and arranged by the vegetable growers themselves in accordance with the needs of the market. The city gate must be opened to let the vegetable growers from other places come for their sales and participate in market competition. Because vegetables are indispensable to the masses' livelihood, the provincial authorities emphasize the steady and safe place of free operation. In recent years, medium-sized cities like Jiangmeng, Zhaoqing, Chaoguan and Chaozhou, through this free operation, have already achieved the results of reducing allowances from the state, satisfying consumers and increasing the vegetable growers' incomes. At the beginning of last May, Guangzhou Municipality established first in Hedong District and later in Huangpu District an experimental unit for the free operation of vegetable sales. Preparations are being made for an overall free operation by the end of this year.

- To lift gradually the restrictions on pork supplies and sales according to the negotiated price instead of the list price. The provincial authorities stipulate that on the premise of completing the assigned procurement responsibility of pork (the responsibility includes exports and quantities turned over to the higher authorities) and having a non-increase in the financial allowance, it is permissible to try in some counties and cities to replace the list price for pork sales for residents with a negotiated price for the supply of pork; furthermore, the difference between the list price and the negotiated price of the original ration supply will be taken as an additional supply for the residents in towns and cities. Recently, Lianjiang county seat has tried this method, which has been good for steadying pork production, raising meat quality and protecting the interests of the consumers. At present, the provincial authorities are summing up their experiences.

12705

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## SUGAR REFINING INDUSTRY BEFORE, AFTER LIBERATION COMPARED

Guangzhou NANFANG RIBAO in Chinese 11 Aug 84 p 1

[Article: "Sugar Output Increases 18 Times in 34 Years"]

[Text] In the 35 years since the founding of the People's Republic, the sugar refining industry of our province has been flourishing. In 1983, the sugar output of the whole province was 1.42 million tons, 37.6 percent of the gross output of sugar in all China or 18 times that of 1949. The annual output of the counties of Fanyu, Shunde, Zhongshan, Doumen and Suixi were all over 100,000 tons, and the sugar output of one single county has already surpassed the annual output of the whole province on the eve of liberation.

Guangdong Province is located in the tropics of a subtropical zone with a warm climate, abundant rainfall and good natural conditions for growing sugar cane crops. Guangdong has always been one of our country's main productive bases of sugar; as early as in the mid-thirties, Guangdong had built in succession six sugar refineries in Shitou, Xinzhaio, Huiyang, Shunde, Dongwan and Jieyang, respectively. The daily sugarcane-pressing output of designed capacity totaled about 6,000 tons. But then, because the output was always not enough for these sugar refineries and so were forced to use the imported sugar label with the trademark of Guangdong Sugar, this production became a big joke. On the eve of liberation, the annual sugar output of the whole province was only 75,000 tons, in which there were 27,000 tons of machine-processed sugar. After the establishment of New China, especially since the 3d Plenum of the 11th CPC Central Committee, the good system of socialism gave full play to the sub-tropics' good natural conditions so that the cane sugar had a chance of survival. Not only had the old sugarcane districts in the Zhu Jiang delta developed further but new sugar production districts such as Zhanjiang, Hainan, Shantou and other districts were also opened up. Now, the cane-growing areas in the whole province have reached 4.25 million mu, 8.2 times greater than on the eve of liberation, and the average yield per mu of industrial cane has been raised from less than 1 ton before liberation to 3 tons at present. Now, the whole province has 162 sugar refineries, with 37 refineries having a daily cane-pressing output of over 1,000 tons. Pressing capacity has increased 14.4 times compared with that of 1949. Since the annual sugar output broke the record of 1 million tons during the period from 1980 to the pressing season of 1981, there were four pressing seasons in succession with an annual sugar output over 1 million tons, and the highest record reached 1.49 million tons.

In 1983, the sugar output of the whole province reached 1.42 million tons, 37.6 percent of the gross output of all China. This is 18 times greater than 1949. For the above output, the annual sugar output of the counties of Fanyu, Shunde, Zhongshan, Doumen and Suixi were all above 100,000 tons. In the past 35 years, the sugar turned over to the state by our province has been more than 12.5 million tons, which is 55.8 percent of the gross sugar output of the whole province. In 1983, 388 million yuan in taxes and profits were turned over to the state by the refineries of the whole province, more than 10 percent of the financial income of the whole province.

Before liberation, the sugar refineries burned, sold or just threw away the bagasse, cane molasses and filtered mud as waste material. Now, many sugar refineries, besides producing cane sugar, are utilizing waste materials such as the bagasse, the cane molasses, the filtered mud, etc. to manufacture paper, fiberboard, alcohol, furfural, medical yeast, fertilizer, feed, cement, etc. According to statistics, last year 80 percent of the sugar refineries in the whole province had started to some extent the comprehensive utilization of sugar cane, and more than 100 workshops of comprehensive utilization were established to produce or manufacture on trial more than 30 varieties of production; the output value of comprehensive utilization had reached 200 million yuan, over 15 percent of the gross industrial output value of the sugar refining industry in the whole province.

12705

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# COST ACCOUNTING, COMMODITY PRODUCTION EXAMINED

Beijing NONGYE JISHU JINGJI [ECONOMICS FOR AGRICULTURAL PRODUCTION TECHNOLOGY] in Chinese No 8, Aug 84 pp 20-24

[Article by Tang Wenhan [0781 2429 3352] of the Guizhou Provincial Agricultural Department: "Do Cost Accounting Well and Accelerate the Development of Commodity Production--On the Potential of Raising Agricultural Economic Results As Viewed from the Cost Accounting of Agricultural, Animal Husbandry, Industrial and Sideline Products in Guizhou"]

[Text] In 1983, the agricultural department of Guizhou Province carried out cost accounting work on agricultural, animal husbandry, industrial and sideline products among more than 1,300 representative peasant households selected from among 47 counties, cities and districts (approximately 54.7 percent of the total number of counties in the province) throughout the province. Of the varieties included in the cost accounting, 13 were under crop planting (see Table 1), 7 under domestic animals and fowl (see Table 2) and 9 under industrial and sideline production, including flours, rice flour, beancurd and wine making (see Table 3).

Based on the results of accounting and proceeding from the demands of accelerating the development of agricultural commodity production, this article will discuss, specifically from the angle of improving operations and management, the prospect of developing the agricultural commodity economy and raising economic results in Guizhou Province.

## I. Accelerating the Development of Commodity Grain Production

Guizhou Province has a population of 29,014,500 people and its total annual grain output amounts to 14.06 billion jin. Since per-capita grain consumption averages 485 jin, it has to ship in grain from other places. Thus, accelerating the development of commodity grain production is a vital task which brooks no delay. Guizhou Province is endowed with superior natural conditions, its annual precipitation averages over 1,000 mm and its abundant water resources provide tremendous potential for developing grain. Developing grain as commodity will not only satisfy the needs of the state but is also profitable to those undertaking the task. To this end, a good job should be done in the following four areas:

Table 1. Crop Planting (per Dan Average)

| Kind of Crop              |                                          |               |       |       |          |                  |         |
|---------------------------|------------------------------------------|---------------|-------|-------|----------|------------------|---------|
| Item                      |                                          | Paddy<br>rice | Wheat | Corn  | Rapeseed | Cured<br>Tobacco | Peanuts |
| Income<br>(Yuan)          | Actual Income                            | 107.42        | 42.06 | 56.34 | 63.33    | 242.73           | 106.01  |
|                           | Based on State<br>Price                  | 104.04        | 41.52 | 54.98 | 57.33    | 254.64           | 106.55  |
| Production Cost<br>(Yuan) |                                          | 78.93         | 46.86 | 55.56 | 52.97    | 118.16           | 76.03   |
| Tax Burden (Yuan)         |                                          | 3.20          | 2.67  | 2.46  | 2.37     | 2.07             | 2.62    |
| Profit<br>(Yuan)          | Computation<br>Based on<br>Actual Income | 25.29         | -7.47 | -1.68 | 4.14     | 122.50           | 27.36   |
|                           | Computation<br>Based on<br>State Price   | 21.91         | -8.01 | -3.04 | 1.99     | 134.41           | 27.90   |
| Profit Rate<br>%          | Computation<br>Based on<br>Actual Income | 32.0          | -15.9 | -3.0  | 7.8      | 103.7            | 36.0    |
|                           | Computation<br>Based on<br>State Price   | 27.8          | -17.1 | -5.5  | 3.8      | 113.8            | 36.7    |

  

| Kind of Crop      |                             |                   |          |               |                  |                           |        |        |
|-------------------|-----------------------------|-------------------|----------|---------------|------------------|---------------------------|--------|--------|
| Item              |                             | Sweet<br>Potatoes | Soybeans | Sugar<br>Cane | Water-<br>melons | Coix<br>Lachryma<br>Seeds | Cotton | Sesame |
| Inc.<br>(Yuan)    | Act. Inc.                   | 107.02            | 41.22    | 106.25        | 231.12           | 128.99                    | 76.29  | 5.82   |
|                   | Based on<br>St. Pr.         | 101.23            | 39.91    | 95.63         | 231.12           | 128.99                    | 76.29  | 5.82   |
| Prod. Cost (Yuan) |                             | 78.10             | 33.24    | 63.45         | 116.83           | 51.38                     | 36.55  | 21.73  |
| Tax Burden (Yuan) |                             | 3.22              | 1.91     | 2.29          | 3.21             | 1.22                      | 1.82   | 1.06   |
| Profit<br>(Yuan)  | Comp. Based<br>on Act. Inc. | 25.70             | 6.07     | 40.51         | 111.08           | 76.39                     | 37.92  | -16.97 |
|                   | Comp. Based<br>on St. Pri.  | 19.91             | 4.76     | 29.89         | 111.08           | 76.39                     | 37.92  | -16.97 |
| Profit<br>Rate %  | Comp. Based<br>on Act. Inc. | 32.9              | 18.3     | 63.8          | 95.1             | 148.7                     | 103.7  | -7.81  |
|                   | Comp. Based<br>on St. Pri.  | 25.5              | 14.3     | 47.1          | 95.1             | 148.7                     | 103.7  | -7.81  |

Table 2. Domestic Animals and Fowl

| Item                       | No. of Head Investigated | Production Cost (Yuan) | Output Value (Yuan) | Net Profit (Yuan) | Remarks          |
|----------------------------|--------------------------|------------------------|---------------------|-------------------|------------------|
| Farm Cattle                | 30                       | 567.21                 | 574.39              | 7.18              | Average per head |
| Hogs                       | 72                       | 222.39                 | 208.92              | -13.47            | Average per head |
| Chicken for Eggs           | 170                      | 983.64                 | 1,992.42            | 1,008.78          | Total            |
| Ducks for Eggs             | 164                      | 1,152.74               | 3,280.40            | 2,127.66          | Total            |
| Meat Chicken               | 150                      | 256.50                 | 377.00              | 120.50            | Total            |
| Milk (Mountain) Goats      | 15                       | 85.98                  | 148.60              | 70.12             | Average per head |
| Vegetable (Mountain) Goats | 15                       | 25.39                  | 33.17               | 6.98              | Average per head |

Table 3. Industrial and Sideline Production

| Item                  | Quantity of Products | Computation Unit | Unit Products          |                          |            |               |                 |
|-----------------------|----------------------|------------------|------------------------|--------------------------|------------|---------------|-----------------|
|                       |                      |                  | Production Cost (Yuan) | Production Income (Yuan) | Tax (Yuan) | Profit (Yuan) | Profit Rate (%) |
| Flour Processing      | 200,000 jin          | per 100 jin      | 1.57                   | 4.00                     | 0.20       | 2.23          | 66.0            |
| Rice Flour Processing | 1,526 jin            | per 100 jin      | 3.42                   | 12.00                    | 0.60       | 7.98          | 233.3           |
| Bean Curd Processing  | 8,190 jin            | per 100 jin      | 42.10                  | 62.50                    |            | 20.31         | 48.1            |
| Wine making           | 132,000 jin          | per 100 jin      | 4.82                   | 22.07                    | 12.00      | 5.29          | 108.9           |
| Rapeseed Processing   | 30,000 jin           | per 100 jin      | 1.84                   | 3.60                     | 0.18       | 1.58          | 85.9            |
| Lime                  | 400,000 jin          | per 10,000 jin   | 89.68                  | 130.0                    | 6.50       | 33.82         | 37.7            |
| Bricks                | 50,000 pcs           | per 50,000 jin   | 319.28                 | 600.0                    | 30.00      | 250.72        | 78.5            |

Explanation: Production cost includes material cost and labor cost. Labor value is computed at 1.39 yuan per standard workday. This is the nationally unified working scale used by agricultural departments which is more compatible with actual conditions in our province.

1. Raising Unit-area Output. Of the four major grain crops of paddy rice, corn, wheat and potatoes in the whole province, paddy rice and potatoes are profit-making crops. The key to making profits lies in a relatively higher per-unit output. Based on average figures in selected points, the per-mu paddy rice output is 796.4 jin and the per-mu potato output is 2,620 jin (based on a "5 to 1" discount rate in computation, it equals 524 jin of unprocessed grain). An important reason why corn and wheat incurred losses is the excessively low per-unit output. Per-unit corn output is 431.5 jin, only 54.2 percent of that of paddy rice; per-unit wheat output is 229.5 jin, a mere 28.8 percent of that of paddy rice. If the per-mu output of corn and wheat can be raised 50 percent on the present basis, instead of losing money, corn will net a profit of 12.10 yuan per mu; wheat will also be turned from losing 3.04 yuan to making a profit of 9.60 yuan per mu. Since the base figures for the per-unit output of wheat and corn throughout the province are low, a 50 percent increase is achievable. The Wanlitou production team of Shuanglong Commune in Suiyang County, growing hybrid corn inter-planted with soybeans, achieved a per-unit output of 1,125 jin without discounting the soybean acreage. This figure is 2.6 times higher than the average figures in selected points throughout the province. That production team also achieved a per-unit wheat output of 514 jin or 1.3 times higher than the provincial average. The per-mu wheat output of 476 jin achieved by the Xiaobao team of Shuangbao Commune in Anshun County is also over 100 percent higher than the average figures.

The potential for increasing the production of grain crops with relatively higher per-unit output base figures is also substantial. For instance, there are many units whose per-unit output surpassed the average figures of selected points, that is, a per-mu output of 1,000 jin. The per-mu output of the Xiangyang No 3 team of Chengguan Town of Huishui County totaled 1,221 jin; the Zhaishang team of Zhuhua Commune of Xifeng County, 1,180 jin; and the Jieshang No 3 team of Banqiao Commune of Sinan County, 1,035 jin. The per-mu output of the remote Chengguan Banji team of Libo County was 1,145 jin and the per-mu output of the Luoja team of Hezi Commune of Yuanhe County totaled 1,004 jin. If the average per-mu output of grain crops throughout the province can be raised by 100 jin at the present level and computed on the basis of the 28.58 million mu of cultivated land at present, grain output can be expected to increase by nearly 3 billion jin. In other words, income from grain alone will add between 300 and 400 million yuan to the total agricultural output value. This will not only put an end to the practice of consuming grain shipped in from other places in Guizhou but also increase the annual per-capita income of the agricultural population in the province by 12-16 yuan.

2. Reducing Material Cost. This means in essence increasing the proportion of the net output value of the total income. As viewed from crop-growing undertakings, since the system of contracted responsibilities on the household basis with remuneration linked to output was implemented, the labor cost has basically been transformed into peasant income.

Material cost is the actual consumption in production. Reducing material cost therefore helps those who are engaged in the undertaking to increase their net personal income. Reducing material cost in grain production by scientific farming can be achieved at the present level of the forces of production. Meanwhile it has been found from investigation that smaller material cost do not mean lower output or income. The Yangjiayuan team of Tuanyang Commune in Fuquan County achieved a per-mu paddy rice output of 1,052 jin, which is 255.6 jin higher than the average figure of selected points in the whole province or 32.1 percent more. However, its per-mu material cost is 7.34 yuan lower than the average figure of selected points. Taking both increase and decrease into consideration under conditions where the labor cost remains constant, the per-mu income averages 36.86 yuan more or 35.4 percent higher than that of the selected points throughout the province.

A reduction of material cost under conditions where output and labor costs remain constant means more net profits for those who engaged in the undertakings. Based on the calculation of the four major crop varieties of paddy rice, wheat, corn and potatoes, the material cost of producing 100 jin of mixed grain amounts to 4.39 yuan. If it can be reduced by 10 percent, the material cost for 100 jin will also be reduced by 0.44 yuan. It means a reduction by 61,864,000 yuan in achieving the total grain output in the entire province. In other words, if the material cost is reduced by 10 percent at the present level, it will mean, in grain crops alone, an increase of 61,864,000 yuan in net income for the peasants, which is equivalent to an increase of more than 536,000 jin of paddy rice.

3. Lowering Labor Consumption. Under the present level of the forces of production in Guizhou Province, the labor cost for growing most grain crops accounts for more than half of the total cost (paddy rice 58.1 percent, wheat 60.5 percent, corn 60.5 percent, sweet potatoes 52.6 percent and potatoes 63.2 percent). The waste of manpower has become serious after the responsibility system was implemented as an operation and management cannot keep up with the surplus labor force. The level of operations and management determines the reduction of labor consumption for similar varieties under similar conditions. The Muguahé production team of Caotang Commune in Wengan County achieved an average per-mu paddy rice output of 741.2 jin using 27.8 persons per mu or 3.8 persons per 100 jin. Of the 25 commune member households, 14 used manpower below the average level or 56 percent of the total number of households. However, using less manpower does not necessarily result in lower per-unit output. Of the 11 households using manpower below the average level, 6 achieved a per-mu output exceeding the average level, or 54.5 percent of the total number of households. On the other hand, of the 14 households using manpower above the average level, 8 achieved a per-mu output below the average, or 57.1 percent of the total number of households. It should also be considered worthwhile when more manpower is used, resulting in a bigger increase in the per-unit output that

surpasses the increase in manpower. For instance, commune member Wang Qiying [3769 0796 5391] used 2.6 percent more manpower above the average but his per-unit output exceeded the average by 25.7 percent and became the only household in that production team who achieved a per-unit output of 1,000 jin.

In short, production cost can be reduced either by raising efficiency or lowering labor consumption. If the 14 households under the Muguahé team mentioned above using manpower above the average level can lower the use of manpower below the average level, then the level of manpower used in the entire team for producing every 100 jin of paddy rice will drop from 3.8 to 3.47, or a drop of 0.33 persons. This means a drop of 0.46 yuan in cost if all other conditions remain unchanged. With paddy rice output in the province totaling 7.5 billion jin, the net income from this item alone will mean an increase of 35 million yuan.

4. Adequately Marking up the Grain Procurement Price. Procuring grain at a lower price over a long time is one of the root causes frustrating the initiative of grain-growing peasants for production and the demand of grain exceeding supply in Guizhou Province over the years.

First of all, let us look at the procurement price parties between grain and oil-bearing and industrial crops:

| Item                               | Rapeseed | Cured Tobacco | Peanuts |
|------------------------------------|----------|---------------|---------|
| Paddy Rice                         | 1:3.46   | 1:7.49        | 1:3.91  |
| Wheat                              | 1:2.55   | 1:5.51        | 1:2.88  |
| Corn                               | 1:3.45   | 1:7.46        | 1:3.90  |
| Sweet potatoes                     | 1:2.96   | 1:6.41        | 1:3.35  |
| (Based on "5 to 1" Discount Ratio) |          |               |         |
| Potatoes                           | 1:2.58   | 1:5.58        | 1:2.92  |

Comparing the major grain varieties with those of industrial and oil-bearing crops, there is a wide gap between the procurement prices, the lowest of which exceeds 2.5 times and the highest reaches 7.5 times.

Second, let us look at the output value and profits for each standard workday:

| Item           | Output Value (Yuan) | Profits (Yuan) | Item           | Output Value (Yuan) | Profits (Yuan) |
|----------------|---------------------|----------------|----------------|---------------------|----------------|
| Paddy Rice     | 3.15                | 0.66           | Rapeseed       | 2.40                | 0.08           |
| Wheat          | 2.04                | -0.39          | Cured Tobacco  | 4.72                | 2.52           |
| Corn           | 2.27                | -0.13          | Peanuts        | 3.42                | 0.89           |
| Sweet Potatoes | 2.85                | 0.56           | Watermelons    | 4.61                | 2.22           |
| Potatoes       | 2.60                | -0.10          | Coix           | 5.66                | 3.35           |
|                |                     |                | Lachryma Seeds |                     |                |

In terms of the use value of the labor force and comparing seasons, grain is not as good as industrial and oil-bearing crops. A comparison between rapeseed and wheat shows that the difference in profit in a standard workday is 0.47 yuan. The use value of the labor force in growing paddy rice which nets the most profit among major seasonal crops is 79 percent lower compared with cured tobacco, 56 percent lower compared with peanuts, 77 percent lower compared with watermelons and 83 percent lower compared with Coix Lachryma seeds.

## II. Development of Industrial Crops

Most of the industrial crops are being produced as commodities, and they will lose their competitiveness if the quality is poor. Attention should be paid to improving the quality of industrial crops that will bring more real benefits to the peasants. Guizhou Province, which is in the mountainous region, has the advantage of developing three-dimensional agriculture and there are numerous avenues for diversified undertakings. For instance, some specialized households have already set an example in cultivating walnuts, Chinese chestnuts, fruits and herbal medicines such as *Eucommia ulmoides*, *Gastrodia elata* and *Panax pseudo-ginseng* which have a huge market. In Zhijin County, the per-mu net profit from Coix Lachryma seed is 76.39 yuan, 3.5 times higher than the most profitable paddy rice (21.91 yuan) or 2.6 times higher than corn (29.28 yuan). It is thus very clear that the development of industrial crops plays a role in increasing earnings.

## III. Development of Domestic Animals and Fowl

1. Shortening the Period of Prenatal Raising and Reducing Cost of Products. In our investigation of 11 teams last year, with the exception of 1, the rest of the 10 teams all incurred a loss in raising hogs, losing as little as 0.07 yuan or as much as 0.50 yuan per day. Among them, four teams could not cover the expenses of the day with their income from the same day. Only by listing manure and other by-products as income could some of the teams consider themselves as making a marginal profit. The reason why hog raising incurs losses is that the raising period is too long. In selected points throughout the province, not counting the piglet-growing period of 2 months, the fattening period alone averaged as long as 338.6 days, the longest being 455 days. (See the table on the following page for details).

The investigation shows that with all other factors remaining constant, so long as we reduce the per-head hog-raising period by 10 percent, that is, by 1 month, we will reduce the per-head hog-raising cost by 20 yuan. The animal pork output throughout the province in 1983 was 750,823 jin, approximately equivalent to 3 million head of fat hogs weighing 250 jin each. Based on this calculation, 60 million yuan in investment for hog raising will be reduced in 1 year.

Analytical Table on the Per-Head Earnings from Hog Raising by Five Selected Points in 1984 Based on an Investigation

| Units Investigated | Items | Average No. of Days for Raising (Day) | Average Weight Gained (Jin) | Net Income per Day (Output Value Minus Cost) (Yuan) | Average per day        |              | Cost of Raising per Day |                     |                      |                   |
|--------------------|-------|---------------------------------------|-----------------------------|-----------------------------------------------------|------------------------|--------------|-------------------------|---------------------|----------------------|-------------------|
|                    |       |                                       |                             |                                                     | Weight Increased (Jin) | Value (Yuan) | Labor (Unit)            | Working Wage (Yuan) | Material Cost (Yuan) | Total Cost (Yuan) |
| (1)                |       | 338.6                                 | 226.0                       | -0.19                                               | 0.67                   | 0.47         | 0.18                    | 0.25                | 0.41                 | 0.66              |
| (2)                |       | 271.8                                 | 141.1                       | -0.12                                               | 0.52                   | 0.46         | 0.09                    | 0.13                | 0.45                 | 0.58              |
| (3)                |       | 455.0                                 | 280.0                       | 0                                                   | 0.62                   | 0.42         | 0.15                    | 0.21                | 0.21                 | 0.42              |
| (4)                |       | 340.0                                 | 245.0                       | -0.11                                               | 0.72                   | 0.48         | 0.20                    | 0.28                | 0.31                 | 0.59              |
| (5)                |       | 236.5                                 | 132.5                       | -0.50                                               | 0.56                   | 0.38         | 0.25                    | 0.35                | 0.53                 | 0.88              |
| (6)                |       | 320.0                                 | 231.5                       | -0.46                                               | 0.72                   | 0.51         | 0.33                    | 0.46                | 0.51                 | 0.97              |

- Key: 1. Whole Province (73 Head)  
 2. Xingfuzhuang No 2 Team, Dengta Commune, Tongren County.  
 3. Winery Team, Jinxing Commune, Wengan County.  
 4. Lishangzhai Team, Zhongping Commune, Wengan County.  
 5. Xiangyang No 6 Team, Chengguanzhen, Huishui County.  
 6. Shengli Team, Junchang Commune, Dafang County.

2. Changing the Traditional Raising Methods. The traditional methods of raising domestic animals and fowl being applied in Guizhou Province are generally confined to putting them out to pasture the natural way and feeding them cooked fodder. This is the cause of having a long raising period. Take hog raising as an example. If the hogs are fed with raw fodder instead of cooked fodder, the method will reduce the fuel and labor cost for preparing cooked fodder. Our investigation in the 11 teams showed that the cost of producing 100 jin of pork can be reduced by 5.22 yuan. By adopting this measure alone throughout the province in 1983, 39.2 million yuan in expenditures could be saved.

3. Knowing the Market Information Well and Opening up Circulation Channels. Poor sales and failure to make sales according to schedule will certainly increase the raising cost; income will decrease if products must be sold at a lower price. Throughout the province, with the exception of pork which is being procured at a lower price, all other meats (eggs), subject very little to assigned purchase, have adapted themselves to the market trends. A good market will have an impact on the market price, and in order to have a good market, it is necessary to know the relationship between supply and demand and market information well. At times, due to the restrictions of various objective factors, the price parities for the same product between regions are very large. Only by mastering the relationship between supply and demand and understanding the market quotations can production gain the initiative and make a profit.

#### IV. Development of Industrial and Sideline Commodity Economy

The development of industrial and sideline commodity economy must be based on drawing on local resources. The processing of agricultural and sideline products is an important area. It will provide the cities and the countryside with large quantities of finished and semi-finished products and at the same time raise the commodity value of agricultural products; it will also open the way to fully utilizing the enormous surplus labor force in the countryside to let the peasants increase their income. The following tables give a picture of the production of part of the grain and oil-bearing products and the profits derived from processing:

Labor Needed for Producing Every 100 Jin of Primary Products and Processing Products from some of the Grain and Oil-bearing Crops and Profits Derived by Each Worker Used:

| Primary Products |                                   |                          | Processed Products          |                                   |                          |
|------------------|-----------------------------------|--------------------------|-----------------------------|-----------------------------------|--------------------------|
| Variety          | Labor Needed in Production (Unit) | Profit per Worker (Yuan) | Variety                     | Labor Needed in Production (Unit) | Profit per Worker (Yuan) |
| Rice             | 5.76                              | 0.48                     | Rice Flour                  | 1.6                               | 4.99                     |
| Soybeans         | 14.83                             | 0.30                     | Bean curd                   | 4.5                               | 4.51                     |
| Rapeseed         | 15.97                             | 0.09                     | Vegetable                   | 1.0                               | 1.58                     |
|                  |                                   |                          | Oil (Raw Material, 100 Jin) |                                   |                          |
| Wheat            | 8.89                              | -0.39                    | Flour                       | 0.8                               | 2.79                     |

The above shows that there is a big gap between producing raw materials and processing products from the standpoint of profits created by the labor force.

The ratios are as follows:

Producing rice: processing rice flour -- 1:10.4

Producing soybeans: processing bean curd -- 1:15.0

Producing rapeseed: processing vegetable oil -- 1:17.6

Wheat turned from a deficit in production to a profit in processing flour -- from losing 0.39 yuan to gaining 2.79 yuan.

If the situation in which the peasants only produce but do not become involved in processing can be changed to incorporate production and processing to form a continuous line, the use value of the labor force will be greatly increased: [see following page]

| Item                                          | Profit per Worker (Yuan)       |
|-----------------------------------------------|--------------------------------|
| Producing rice + processing rice flour        | $(0.48 + 4.99) \div 2 = 2.74$  |
| Producing soybeans + processing bean curd     | $(0.30 + 4.51) \div 2 = 2.41$  |
| Producing rapeseed + processing vegetable oil | $(0.09 + 1.58) \div 2 = 0.84$  |
| Producing wheat + processing flour            | $(-0.39 + 2.79) \div 2 = 1.20$ |

The above figures show that only by incorporating production with processing to form a continuous line instead of only engaging in production can the profits created by labor increase as little as 5 times or as many as 10 times.

In the meantime, the commodity value of crop products also increases after processing. Take rice for instance. The procurement price for 100 jin of paddy rice is 11.55 yuan. Converting the paddy into rice at a 72 percent ratio, the price for 100 jin of rice becomes 16.04 yuan. The selling price for flour processed from 100 jin of rice becomes 23 yuan. Based on this way of calculating, by processing rice into flour, the value per 100 jin of rice will increase by 6.96 yuan or 43.4 percent. The price per 100 jin of soybeans is 34.50 yuan; after processing it into bean curd, it can be sold for 62.50 yuan by increasing the value by 28 yuan or 81.2 percent.

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CSO: 4007/19

## BRIEFS

QUESTIONS ON GRAIN PRICES ANSWERED--Comrade Li Kexi [2621 0344 1585], deputy director of the provincial grain bureau, gives a reply to the letter from a reader of KUAIBAO as follows: With regard to the grains procured by the state and the grains procured above the centralized procurement price, starting at the beginning of the state procurement of summer grain this year, our province has tried to set the grain price according to the reverse ratio of 3:7, that is, 30 percent of the grain is set as the centralized procurement price and 70 percent is priced above the centralized procurement price. There is no change in the centralized price of the state's planned procurement. With reference to an appearance of a difference in prices at the grain distribution station of Lidoukou, a difference in prices is normal if the grain is priced according to quality. However, if the variety and quality are the same and the prices different, it is unpermissible to change at one's free will the state's grain procurement price. With regard to the lowered price of mung beans, Comrade Li said that the mung beans, soya beans and small food grains, with the exception of wheat and rice, are already out of the scope of state centralized procurement and marketing and are now handled by the method of negotiated procurement and marketing. The price is raised or lowered according to quotations on the market. [Text] [Wuhan HUBEI RIBAO in Chinese 22 Aug 84 p 1] 12705

CSO: 4007/4

## DEVELOPMENT OF STATE FARM SYSTEM IN JIANGSU PROVINCE

Beijing NONGYE JISHU JINGJI /ECONOMICS FOR AGRICULTUEAL PRODUCTION TECHNOLOGY/  
in Chinese No 10, Oct 84 pp 9-10

/Article by Yang Daolian /2799 6670 3425/ of the Jiangsu Provincial State Farm System Agricultural, Industrial and Commerce Integration Corporation: "State Farms Are Making Progress in Jiangsu Province"/

/Text/ Most state farms in the Jiangsu state farm system were established between the beginning of the 1950's and the beginning of the 1960's. They have gone through four major stages from their creation up to today: Comrade Mao Zeondg's authorization of stationing troops to open up wasteland and protect the borders and the establishment of state farms in 1950; the consolidation at the beginning of the 1960's; the chaotic production and successive years of deficits during the "Great Cultural Revolution"; and the period of restoration and improvement after the establishment of the Jiangsu State Farm Bureau in 1975. Especially important is resolute adherence to the lines, principles and policies of the party since the 3rd Plenum of the 11th CPC Central Committee. Many forms of economic responsibility have been established, the structure of production has been readjusted, financial contracting is being promoted, advanced science and technology are being extended, and enterprises that integrate agriculture, industry and commerce have been established. The initiative of enterprises, employees and S&T personnel has been motivated. We have achieved great successes and made major improvements in economic results. The total value of output from industrial and agricultural production increased by 69 percent between 1978 and 1983, while profits increased by 23.6 times. A total of 360 million yuan in taxes and profits were created, which exceeds the total amount of state investments over the past 32 years. Practice over the past few years has caused us to realize deeply that the essential road to moving the state farms from poverty to riches is to reform the system, relax policies and integrate agriculture, industry and commerce.

The development of the state farm system in Jiangsu Province has the following special characteristics:

1. There Have Been New Developments in Systems of Contractual Responsibility For Output Quotas by Households

Systems of contractual responsibility for output quotas by households have been expanded to 95 percent of the 1,218 agricultural and sideline industry brigades

in the system. Of this number, 609 brigades or 50 percent have implemented the three links (linking output, capital and profits) for laborers or households. There are 553 brigades or 45 percent with large scale assignment of responsibilities to households. Development of systems for large scale assignment of responsibility has led to obvious improvements in economic results in agriculture. There were 58 agricultural brigades in the system with a surplus of more than 100,000 yuan. Major changes have occurred in the Huxi State Farm since the implementation of large scale assignment of responsibilities a year ago. Total grain output increased by 7.5 times and total cotton output increased by 1.5 times. The entire farm has had increased output during every season, and every brigade has increased output. Output increased in all items and every family had a bumper harvest. The employees happily said, "The warehouse is full of grain and the jug is full of oil. I've found a wife and built a new house. I've even paid off my old debts and have some money in the bank." Quite a few families of state farm employees in the system have more than 1,000 yuan in bank savings and more than 1,000 jin of surplus grain. There are even some families with 10,000 yuan. On the basis of rapid development of large scale assignment of responsibilities, there are now 19,800 households that have contracted for assigned responsibilities in all lines of endeavor. The special characteristics of the large contracting households are enormous improvements in labor productivity and the commodity production rate. The family of Cao Tongshan /2580 0681 1472/ in Brigade No 43 of the Huaihai State Farm has five laborers who contracted for 470 mu of paddy. Total output was 320,000 jin and the percentage of marketed products was about 95 percent. Each laborer produced 64,000 jin. The rapid development of big households with contractual responsibility has led to the appearance of employee family farms. Preliminary statistics show more than 500 such families. The three families of Song Xingyi /1345 5281 5030/, Hu Yumei /5170 3768 5019/ and Du Futian /2629 4395 3944/ have six laborers and contracted for development of 311 mu of barren land. They achieved a total output of 238,900 jin with yields of 768 jin per mu. They paid 6,200 yuan in taxes and had a total income of 17,633 yuan for the three families, or 5,877 yuan per family. The experience of these three families has already been introduced in RENMIN RIBAO and other publications.

## 2. A Respect for Science, Active Extension of Advanced Technologies

There were new breakthroughs in the application of new technologies in 1983. In agriculture, leaf age modelling has been extended in paddy rice and wheat cultivation, usually with a 14 percent increase in yields. Plastic membrane ground cover has been extended for cotton and now covers an area of 100,000 mu. Yields per mu are more than 30 percent greater than conventional cotton. The system has basically achieved the use of improved varieties in paddy, wheat, cotton and broomcorn millet. Chemical herbicides were used on an area of 720,000 mu in 1982, a 3.5 times increase over the 1978 figure of 160,000 mu. Excellent results have been obtained in such areas as using growth regulating agents for cotton, expanding aerial technologies for agricultural purposes, and active promoting deep loosening and limited cultivation, precision drilling and other advanced technologies. In pig-raising, obvious results have been obtained in extending experiences in making a changeover from coarse to refined feed, from single feeds to mixed feeds, and from penned fattening to integrated fattening, and in improving breeds and hybrid advantages.

### 3. Major Improvements in Industry and in Farm and Sideline Products Processing Industries.

The state farm system successfully tested colored textiles from its chemical fiber plant in 1983. This will play an important role in improving product quality, expanding the scope of their utilization and other areas. There have been obvious achievements in improving product quality in the pharmaceutical industry with the construction or rebuilding of the Qinfen Medicine Plant's sodium chloride workshop, the Qingjiang Medicine Plant's terramycin workshop, the Huanghai /Medicine/ Plant's Chinese medicine workshop and pill molding workshop, and the value of output and profits have greatly increased. There have been new developments in updating the technical equipment used in the grain and oil processing, foodstuffs and feed industries. In the area of industrial production under the jurisdiction of the Bureau, 1983 saw a focus on readjustments in production, products and the structure industry in relation to distribution. An example is the State Farm System No 1 Textile Plant, which has consolidated domestic trade and expanded foreign trade. A general purpose plant was changed into a knitting mill. The No 2 Textile Plant is changing from pure cotton to polyester fiber, and the No 2 Textile Plant is changing from pure cotton to acrylic fibers. With the exception of a few small power plants that consumed large amounts of energy and had problems in obtaining raw materials that have been shut down, the Phosphate Fertilizer Plant which mainly uses coking coal is being transformed into a glucose plant to provide raw materials for developing the food and pharmaceutical industries. On the basis of the original focus on developing light and textile industries, state farm-run industries are beginning to focus on developing the food products and feed industries. The number of farm-operated plants has increased from 108 in the 1970's to 238 in 1983, and the number of products increased from 30 to more than 200. This will play a major role in further development of the farm and sideline product processing industries.

### 4. The Structure of Agriculture Is Becoming More Rational.

In 1983, in the area of the structure of agriculture, we have adhered to guidance by state plans, planted grain where grain is most suited and cotton where cotton is most suited, made adjustments in the ratio between grain and cotton on the basis of stable increases in grain, and expanded industrial crops. The area plants in cotton increased from 280,000 mu in 1975 to 340,000 mu in 1983. Total output in 1983 was 426,000 dan, the highest level in history. There is a new momentum to intensive administration and there are more than 70 production projects, an increase of more than 40 projects over the 1970's. The value of output from forestry, animal husbandry, sideline production and fisheries was 30.71 million yuan in 1983, an increase of 10.08 million yuan or 48.8 percent over 1979. In the makeup of the value of output, the value of output derived from these activities climbed from 12 percent of the total value of agricultural output in 1975 to 17 percent in 1983. A rational structure in agriculture not only transforms the old situation of losses in agriculture relying on supplements from industry, but has made it possible for agriculture itself to begin producing a surplus every year since 1981.

5. New Developments in Enterprises That Integrate Agriculture, Industry and Commerce Have Played an Important Role in Promoting Dynamism in the State Farm Economy.

First of all, by starting to place the focus of our attention and actions on developing commodity production, we have provided a source of materials for the processing industry and commerce. The Corporation has established 14 aquaculture base areas, 8 knitting production base areas, 5 livestock and poultry base areas, and 10 liquor production base areas in the state farms. Several excellent-selling products with a high commodity rate and strong competitive ability have appeared. Some 5,000 tons of liquor were produced during 1983, a 4.1 times increase over 1979. Knitting production now has a production capacity of more than 7 million pieces. In 1983, 60 percent of the total amount of retail commodity sales were commodities produced within the state farm system itself. Secondly, with the widespread development of self-production and self-supply and an increase in the number of commerce network points, through the expansion of service projects and organizing the active shipment of commodities to urban areas for exhibition and sales, and other areas, we have developed commercial activities and opened up circulation channels. Commercial retail sales in 1983 totalled 30.62 million yuan, net profits were 2.584 million yuan, there were 370 points in the commercial network and 1,545 service personnel, increases of 34, 69, 106 and 48 percent over 1980, respectively. Interest free loans are provided to farm-run plants and we have organized market surveys and collected various types of informational materials to guide and assist industrial and agricultural production. Third, new joint economic arrangements have been formed. In 1983, on the basis of the original specialized joint arrangements, we developed multi-industry joint arrangements, and within the system we set up joint arrangements between commercial enterprises, between a gricultural and commercial enterprises, and between industrial and commercial enterprises. Examples include joint management by the Corporation and its subsidiaries at the prefectural level of retail sales of grain left over after completing plan tasks, joint administration by the state farm system and the Jiangsu Office in Shanghai of imported agricultural means of production, a joint arrangement with a Juai'an County Plant and a commune in Nantong County for processing preserved eggs, plastic boxes, and so on.

The state farm economy in Jiangsu has developed rapidly in the past few years. The total value of industrial and agricultural output reached 452 million yuan, an average annual rate of increase of 14.4 percent. Achieving the required quadrupling of the total value of industrial and agricultural output on the basis of the 1980 figure of 300 million yuan will require an 7.2 percent average annual rate of increase. Given the current situation, if we continue to conscientiously implement the principles and policies of the party, make full use of all types of resources, give play to our advantages, actively import and extend domestic and foreign capital, advanced technologies and equipment, move toward broader, deeper and more precise production, take the road of integrating agrciulture, industry and commerce, strengthen intensive administration and continually improve economic results, then it will be entirely possible for us to achieve the goal mentioned above.

## SYSTEM MANAGEMENT IN COTTON PRODUCTION REVIEWED

Beijing NONGYE JISHU JINGJI [ECONOMICS FOR AGRICULTURAL PRODUCTION TECHNOLOGY]  
in Chinese No 10, Oct 84 pp 17-20

[Article by Xu Hong'ao [1776 3163 7840], Zhou Gang [0719 0474], Hao Bingcheng [6787 3521 1004] and Song Jiahua [1345 1367 5478] of the Shandong Provincial Academy of Sciences Scientific and Technical Information and Research Institute: "Implement System Management, Develop a New Situation in Cotton Production"]

[Text] I. Cotton and the Production of Its Products Is a Social, Economic, Scientific and Technical System

The color, quality and quantity demands for textile products in consumer markets must be met through the production process as determined by the technical level and production capacity of the textile industry. Moreover, the quality and quantity of the raw materials used in the textile industry determine the outcome of production and the level of economic results. This principle is reflected in agriculture in the requirements of product quality, cultivation and management measures and output. Management (commercial) departments purchase, process, store and transport cotton, thereby integrating demand for cotton in the textile industry with cotton production in agricultural departments into a whole system. The ultimate management goal of this system is to unite the four subsidiary systems--markets, textiles, cotton management and cotton growing--with their corresponding control systems so as to satisfy the diverse demands in textile markets. The relationships between the four subsystems of the whole system are such that, from markets to cotton growing, the former is the target or goal of the latter, and the latter is a means to the former, forming a clearly demarcated arrangement. Markets provide information on demand for cotton growers, while the latter directs and performs its functions according to the information received, thereby satisfying the needs of the markets, displaying a high degree of order.

II. The Current Situation and Problems in Cotton Production in Shandong Province

Cotton production in Shandong Province has taken four major steps in the 4 years from 1980 and 1983. The old situation of annual output that hovered around 3 to 5 million dan and amounted to only about 10 percent of the national total has been smashed. Output reached 24.5 million dan in 1983, making

Shandong the province that ships out the most cotton. Demand within the province is 5 million dan in 1984. Some 7 million dan will be shipped to other provinces, 900,000 dan were arranged for export, and 9.6 million dan were put into state reserves. The province still has overstocks of 2 million jin.

### III. Meeting the Demands of the Textile Industry for Cotton Is the Foundation for Improving Economic Results in the System

From a systems viewpoint, the essential functional goal of the cotton management and cotton growing subsystems is to meet the quality and quantity requirements of the textile industry subsystem. This also is a fundamental economic restrictive condition in the operation of these two subsystems. High levels of cotton output have an economic significance only if they satisfy this restrictive condition. The various yarns and different textile goods used in textile production require different types of raw cotton. Mixed cotton requires the selection of different raw cottons before product quality can be guaranteed, markets found and the optimum economic results achieved.

In view of the current surplus in national cotton output, textile mills have the right to be selective in the quality of cotton used as a raw material in the textile industry and they have the right to select supplying units. Cotton management departments should take the needs of textile enterprises into consideration in making arrangements for a rational balance according to the production and transport situation of the raw cotton and the needs of textile mills for mixed cotton. Buying and selling units should sign legal contracts. Similarly, economic contracts also should be signed between cotton management departments and cotton growing departments for types, grades, quantities and area planted. All aspects should be coordinated and we should strive to achieve unity and integration in the whole system and improve economic results.

### IV. Reduce the Area Planted in Cotton, Raise Yields, Establish Rational Ecological and Economic Structures in Agriculture

1. Rationally control the area planted in cotton, establish an ecological and economic structure in agriculture for forestry-cotton-grain-grass-cattle (sheep) processing.

Along with completing state plan requirements for commodity cotton production and achieving self-sufficiency and surpluses in grain, we should utilize the advantage of fairly large potential of land to integrate rational rotation of cotton and grain and develop grass growing and cattle and sheep raising. Establish a special ecological and economic system in agriculture in cotton regions with the corresponding processing of forestry-cotton-grain-grass-cattle (sheep) that is mutually adapted to cropping and breeding in order to fully and rationally utilize the natural, plant and labor resources in cotton regions. According to estimates, if the 2 billion jin of cotton seed cake that Shandong Province now produces each year was used for raising beef cattle, and if we planted 1.5 to 2 million mu of pasture land, and if a portion of the crop stalks was used as forage, the protein feed requirements (1,000 jin/head) for 2 million improved cattle could be met basically without using grain. If used to raise dairy cattle (or sheep) and if an additional 3.36 billion jin of grain is added (including processed grain sideline products), then 800,000 head

of producing dairy cattle and 480,000 head of reserve cows could be raised. These 800,000 dairy cattle could produce 7 to 8 billion jin of milk annually with an income of 800 million to 1 billion yuan. The manure collected from these livestock could also increase grain output by 3.2 to 4 billion jin.

With this in mind, we feel that the amount of cotton land in key cotton growing regions of Shandong Province at present should be controlled at 0.6 to 1.2 mu per person depending on production circumstances. Units with low yields should control or reduce the area planted in cotton. The amount of land planted in cotton in high-yield regions should not exceed one-half the total cultivated land. Overall, the proportion of land in cotton in the four cotton regions in northwest Shandong and in nearby Jining Prefecture can be about one-third of total cultivated land, or roughly 15 million mu. Key cotton producing regions should plant around 40 percent of their cultivated land in cotton.

In summary, the strategy of cotton production in Shandong Province should be to reduce the area, increase yields, stabilize or increase overall production, improve cotton quality and improve economic results throughout the system. It is best if the area planted in cotton in the province is controlled according to state plans at about 18 million mu. In this way, some land can be taken out of cultivation and used for planting or interplanting grass to develop animal husbandry.

In the future, on the basis of raising cotton yields and quality, following readjustment of the national distribution of cotton production, 45 percent of the cultivated land or about 6 million mu in the northwest part of Shandong (13 counties and cities, including all of Liaocheng Prefecture and the western part of Dezhou Prefecture) can be planted in cotton. Cotton regions in northern Shandong (16 counties and cities in the eastern part of Dezhou Prefecture, the western part of Huimin Prefecture and Zhangqiu County) can plant 40 percent of their cultivated land in cotton, equal to about 5.5 million mu. The cotton growing regions of southwest Shandong (18 counties, including all of Heze Prefecture and a major part of Jining Prefecture) should plant about 30 percent of the cultivated land or 5.5 million mu in cotton. These three areas raise a total of 17 million mu of cotton. There are an additional 3 million mu of cotton land in the southcentral Shandong cotton district, Jiaodong cotton district and Binhai cotton district. The total area planted in cotton in the province would be 20 million mu, which is feasible.

2. Cotton varieties should be suited to the needs of the textile industry and ecological conditions, while quality and amounts produced should be unified.

The leading cotton variety in Shandong Province at present is Lu Cotton No 1. Textile units feel that it has poor color and that the quality standards of finished yarn goods are low. Only a portion of it is suited for fine count yarn, but the grade and length are too good for medium count yarn and it is not economically rational. The most prominent contradiction between cotton and textile production at present is low fiber strength, little or no variation in grades, no possibility of selectiveness and an inability to meet the needs of the textile industry for developing the number of product varieties. For example, exported combed knitting yarn has a low count, at only 30 to 40,

but the primary mixed cotton must come from Egypt or America. If all the dyed washed cotton was Lu Cotton No 1, the color would be light and would fade. High quality top-brand products use Jiangsu or Hubei cotton with its even strands and full cover. It is obvious that improvement of product varieties is urgently needed because of the poor quality of the cotton [grown in Shandong].

In order to meet the needs of the textile industry for multiple product varieties, all areas should plant multiple types of varieties. Each variety should be adapted to the different ecological conditions of each region. The quality of cotton is related not only to the type of variety but is also closely related to ecological conditions and cultivation and management measures. An example is China Cotton Institute No 10 which was sown during the summer at Anyang, Henan. The maturity coefficient was 1.69, the strength was 4.27 grams and the breaking distance was 28,700 meters. It is an excellent summer variety. When planted during the summer at Linyi in Shandong, however, the maturity coefficient was only 1.45, the strength dropped to 3.5 grams and the breaking distance was 23,700 meters. It could not meet the needs of the textile industry. For this reason, multiple varieties should be emphasized throughout the province. In order to facilitate seed management, prevent mixing and regression, and guarantee stability in the quality of mixed cotton to achieve multiple varieties with no mixing and singularity in the distribution, we must guarantee that there is only one variety within the scope of each cotton ginning mill.

#### V. Reform the Cotton Management System, Improve the Economic Results of Cotton Management

There are three links in cotton administration at present: basic level stations, basic level supply and marketing cooperatives, and cotton processing plants. The three links can be transformed into a single link, which would eliminate the various measures requiring that cotton purchased from cotton farmers by basic level supply and marketing cooperatives in the past undergo examination before purchase, weighing, calculation, stacking, storage and then unstacking, wrapping and shipment to the cotton mill, thereby avoiding repetitive work, reducing materials consumption and conserving expenses. It also can benefit cotton sales by cotton growers and reduce the pressure on short-haul transport. It is estimated that the province could save administrative costs of 33.81 million yuan through direct purchasing by cotton mills. Expenses could be reduced by 32.36 million yuan, and costs from cotton losses could be reduced by 14.78 million yuan, making a total of 80.95 million yuan. Cotton is a product that is purchased seasonally and supplied throughout the year. Cotton mills serving as direct storage of cotton is more economically rational than storage in secondary level stations. There are a lot of cotton mills and they have a large potential storage area. This would require no investments or only small investments. It also could solve storage problems. Second-level stations have a small storage capacity at the present time and their warehouses are full. An additional state investment of 300 million yuan would only provide additional storage capacity for 2 million dan. This still would not solve the storage problem. Storage in second-level stations involves an increased number of links in turnover and costs too much. The cost of handling one dan of cotton in a second level station averaged 4.16 yuan in 1982 (including 1.73

yuan in interest). Of this amount, 1.09 yuan went for storage and short-haul transport. In 1982, the average cost per dan was only 0.25 yuan for a total of 300,000 dan of cotton grown in Danxian County and sent directly from the cotton mill to the Dangshan [Anhui] and Yucheng railway stations. This was 94 percent less than the handling costs of 4.16 yuan. If we change over to direct shipment by cotton mills, based on shipments of 12.9 million dan of cotton from Shandong in 1983, there could be an estimated savings of more than 10 million yuan.

#### VI. Use Technology and Economic Policies for Optimum Control of the System, Improve Overall Economic Results

Every economic activity is restricted by economic laws and every such activity has a technological scope. The two are mutually restrictive, mutually permeated, mutually transforming and closely interwoven, forming a technical and economic unity. The control system involved in achieving optimum control naturally involves technical and economic measures. For convenience, they may be differentiated into technical controls and economic controls. Technical controls include standards for mixed cotton, standards for cotton inspection, quality standards for raw cotton processing, varieties, cultivation and extension standards, and so on. Economic controls primarily include planning, area, quantity and pricing policies, tax and interest policies, purchasing policies, and so on.

There are a lot of problems in the production of cotton and cotton products in Shandong Province at present that block improvement of economic results. All of them are caused by deficiencies and functional dislocations in control structures. Irrational price ratios for cotton have led to a loss of control over expansion of the area planted in cotton. Although this type of pricing policy has played a major role in changing the economic situation in cotton regions, it has not facilitated the rapid establishment of an ecological and economic system in agriculture with a comprehensive developmental structure for cropping, animal raising and economic diversification. A superficial stress on output and neglect of quality in breeding standards has led to drabness in product varieties and declining quality. Because the state's present purchasing policies do not take into account the quality or quantity of the cotton but instead purchase all of it, state plans no longer play a role in controlling cotton production. For these reasons, we should:

1. Revise cotton quality standards and correctly grade cotton according to the standards.

The current length of raw cotton in the nation has basically reached 29 mm [as published], which meets the needs of the textile industry, but the strength is often far less than foreign cotton. We should correctly set standards for fiber strength. In order to promote and encourage improvements in the strength of the cotton and bring about comprehensive development of the qualities of cotton, there should be adjustments in pricing policies and cotton that is of below-standard strength should be reduced in grade. The degree of maturity is a comprehensive standard for cotton quality and should be stipulated in the standards. Use high-quality pricing policies to motivate the initiative of cotton growers to plant high quality cotton according to local conditions.

## 2. Cotton varieties should meet the needs of the textile industry.

The goal of breeding and selection of cotton varieties should be to meet the many needs of the textile industry. Good varieties are those that meet the quality requirements of the textile industry, that are suited to the ecological conditions of the cropping area, and that cotton growers feel are economically feasible.

To deal with the problem of poor fiber quality of the cotton varieties currently grown in Shandong Province, seed departments have proposed that the target quality in selection of successive varieties should be equivalent to Daizi No 15, and that the time of maturation would be no later than and yields no lower than Lu Cotton No 1. Textile departments feel that although the yields and pre frost flowering rates of "2352" are 5.8 percent and 4.9 percent lower, respectively, than Lu Cotton No 1, the strength is as high as 25,350 meters, the yarn count is 42, and the high quality points are 2,505 points, 405 points or 19 percent higher than Lu Cotton No 1. The state's No 4 Cotton Mill in Jinan used "2352" for trial weaving of export knitting yarn, and it is hoped that it can be substituted for a portion of imported cotton. Some 2,000 mu were planted in Linqing in 1983. Average yields were 170 jin per mu, and most of the cotton was grade 1 or 2. The degree of maturity reached 1.57 to 1.62. The peasants feel that yields are acceptable and they are willing to plant more of it. These conditions and opinions definitely deserve consideration and study.

## 3. Reform pricing policies.

The policy of increased purchase prices for cotton was formulated when quantities of cotton were insufficient and should be suspended under the current conditions. We should transform part of the subsidies given to agriculture through increased prices into average prices and reformulate new cotton purchase prices according to macrolevel plans based on the different cotton regions of the country. For agriculture, formulation of purchasing prices for cotton should take into account a proper ratio with the prices of other farm crop products. It should contribute to realization of state plans for the distribution of cotton products and to equilibrium in the agriculture ecosystem in cotton growing regions and a balance in the incomes of cotton growers.

Current cotton standards set prices according to product grade and length. Other product quality indicators are not reflected in the price. Therefore, on the basis of modernization of inspection tools, we should set grades and prices according to the variety, product grade and length, fiber fineness and strength of single fibers of the cotton. Moreover, the current type two or three cotton short pile should be changed to setting prices on the basis of fiber content.

## 4. Rely on economic legislation, strictly adhere to plan controls.

A planned economy is the primary factor and market regulation as the secondary factor is a special characteristic of the socialist economy. Cotton should be planted in accordance with the planned area and purchases should be made according to the quality and quantity requirements of plans. Despite the

certain amount of instability in agricultural production and the fact that there is a certain amount of flexibility in plan requirements, the area planted in cotton still must be arranged according to the needs of the state and society. State planning of cotton production should be carried out in coordination with cotton management departments and agricultural departments. Management departments should provide cotton growing departments with production information on domestic and foreign markets, market forecasts and feedback. Moreover, they should coordinate with cotton growing departments for joint study and implementation of cotton production plans for the next year and next several years, including the area planted, varieties, product grade requirements, selection standards for purchasing, purchase prices, yields, awards and sales of the corresponding means of production, and so on. Moreover, they should be put into effect in the form of economic contracts. In order to encourage the cotton growers to improve growing techniques and increase yields, the output from the area within the contract should be purchased regardless of the amount. Cotton mills should organize small groups to guide and supervise cotton production and to coordinate local agricultural administrative and technical departments to guide the peasants in producing according to contracts. Cotton produced on areas outside plans and contracts can be purchased at reduced prices, or it may not be purchased at all and permitted to enter the free market.

12539

CSO: 4007/86

## BRIEFS

WHEAT IN RESERVE--Up until 5 August, Shanxi already had 806,870,000 jin of what in reserve, and we had completed the state procurement contracting responsibility of "one fix" for 3 years with 16.5 percent above quota. More than 75 percent of the wheat reserve is good wheat in the first and second categories. This year, there are two outstanding characteristics in the procurement of wheat: first, leaders of all levels have emphasized and have practically enhanced their leadership in the work on wheat procurement. The regional CPC committee of Yuncheng and the administrative office have taken strong measures to borrow or rent the organizations and the unoccupied rooms, spare rooms or storerooms of schools, enterprising units, institutions, communes and brigades to start the work of building the wheat reserve for the state by the people. This has caused the reserve capacity to reach 800 million jin to satisfy the requirements of the peasants who sell grain to the state because of their patriotism. Second, the attentive service and various forms of procurement are helpful to the peasants in selling grains. A large number of peasants have come happily to sell their grains and have left satisfied. [Text] [Taiyuan SHANXI RIBAO in Chinese 10 Aug 84 p 1] 12705

CSO: 4007/4

## RAPID INCREASE IN AGRICULTURAL PRODUCTION REPORTED

Chengdu SICHUAN RIBAO in Chinese 28 Sep 84 p 1

/Article by the Sichuan Statistics Bureau: "Agricultural Production in Sichuan Advances by Leaps and Bounds: The 1983 Gross Output Value Represents a 2.5-fold Increase over 1949; In the 5 Years Since the Third Plenum, Gross Output Value Has Increased at an Average Annual Rate of 7.8 Percent"

/Text Sichuan's agriculture has achieved tremendous success in the 35 years since the founding of the PRC. In 1983, our province's gross agricultural output value reached 25.3-plus billion yuan, which represents a 2.8-fold increase over 1949 and an average annual growth rate of 4 percent.

Sichuan has a temperate climate and abundant rainfall, is rich in natural resources and has long been known as the "land of plenty." Under the reactionary rule of the Guomindang, however, agricultural production was very low, and the people were extremely impoverished. After Liberation, the CPC and the People's Government placed great emphasis on agricultural production, implemented numerous reforms of the rural economy, formulated a series of policies to expand output and devoted great efforts to improve productive conditions and increase output. Sichuan vigorously undertook hydraulic engineering construction and expanded irrigated and cultivated areas; energetically developed the chemical-fertilizer and agricultural-machinery industries and increased fertilizer use and mechanization; and enthusiastically disseminated advanced technology and improved crop varieties in order to raise the level of scientific farming. All of these efforts greatly contributed to the steady expansion in agricultural output and the rapid improvement in labor productivity, the latter of which rose, by 1983, 2.1-fold over 1949. Agricultural development has been especially rapid since the 3rd Plenum of the 11th CPC Central Committee, during which period each locality has conscientiously implemented the party's policy on the agricultural economy, the household contract responsibility system has been thoroughly realized, the agricultural structure has progressively been readjusted and the peasants have shown an unprecedented

upsurge in enthusiasm for production. During this period, gross output value has increased at an average annual rate of 7.8 percent, which far exceeds the growth rate for the 35 years since Liberation.

In 1983, grain output in Sichuan topped 80 billion jin, a 1.7-fold increase over 1949, and thus the food problem for our population of 100 million has basically been resolved. Cotton production reached 2.15 million dan, a 6-fold increase over 1949. Output of oil, sugar and hemp crops, tobacco and other cash crops rose across the board. Silkworm-cocoon, tea and fruit production doubled and redoubled. Hog inventories reached 53-plus million and sales topped 35 million, an increase of 4.3- and 10-plus-fold over 1949, respectively. Per-capita supply of pork averaged 42.5 jin, an increase of 38 jin over 1949. And procurement of sideline agricultural products totaled 1.2-plus billion yuan, an 8.5-fold increase over 1952.

Prior to Liberation, Sichuan market towns had very little industry. Thereafter, however, enterprises began to flourish in the countryside and in small towns through the organization of handicraft cooperation and teams, which have developed especially rapidly since the Third Plenum. In 1983, there were 14,000 rural and small town enterprises which had a total output value of more than 5 billion yuan and employed 1.7-some million people, or 4.2 percent of the rural labor force.

With the rapid expansion in agricultural production, peasant incomes in Sichuan have steadily increased and living standards have shown marked improvement. A sample survey conducted in 1983 revealed that peasants' net incomes averaged 258 yuan per capita, a 3.6-fold increase over 1954. Peasant consumption expenditures rose across the board and living standards showed marked improvement.

12431  
CSO: 4007/38

## ECONOMIC BENEFITS OF HYBRID RICE PRODUCTION ASSESSED

Beijing NONGYE JISHU JINGJI [ECONOMICS FOR AGRICULTURAL PRODUCTION TECHNOLOGY] in Chinese No 5, May 84 pp 25-27

[Article by Chen Zhongqi [7115 0022 1142] and Ma Xiaoya [7456 2556 1246] of the Sichuan Province Fuling Prefecture Agriculture Bureau: "A Brief Analysis of the Economic Benefits of Hybrid Rice Production"]

[Text]

## I. The Role of Hybrid Rice in Rice Production

Ten counties in Fuling Prefecture on the rim of the Sichuan Basin began planting hybrid rice in 1977. The results of 7 years of experiments are obvious. The area planted in 1983 totalled 667,833 mu, an increase of 50.8 times over 1977. The area planted in hybrids increased from 0.41 to 21.60 percent of the total rice area. Per mu yields increased from 752 to 982 jin, an increase of 30.59 percent. Output of hybrid rice as a proportion of total rice output increased from 0.61 to 36.56 percent, a 58-fold increase. This greatly exceeds the rate of increase in area and the proportion it comprises. In 1983, hybrid rice produced 340 million jin of paddy rice more than did conventional rice, increasing the value of output by 46.9557 million yuan. Total rice output in the prefecture reached 1.795 billion jin, the highest in history.

## II. Evaluating the Economic Benefits of Hybrid Rice Production

Although hybrid rice has developed to a certain degree, there has been a lack of attention to accounting the economic benefits of its production, to the extent that most cadres and the masses have no idea of the economic benefits of hybrid rice production. Many people feel that "although hybrid rice yields are high, it takes a lot of fertilizer and labor and higher investments--although there's not a lot of "guoba rice" [inferior quality rice], it may not be worth it."

We now have information from a production economics survey of rural commune member households in Fengdu, Qianjiang, Youyang and Xiushan Counties. Twenty survey points were set up for hybrid rice and for conventional rice, and the economic benefits of production in 111 commune member households have been analyzed and compared.

## 1. Land productivity is higher with hybrid rice

The 111 commune member households planted 94.16 mu of hybrid rice and 138.75 mu of conventional rice. Per mu yields of hybrid rice were 958 jin, 383 jin or 66.61 percent higher than conventional rice. The gross value of output was 66.60 percent higher, net value of production was 72.08 percent higher and profits were 95.08 percent higher, as shown in Table 1.

Table 1. Comparison of Land Productivity for Hybrid Rice and Conventional Rice

| <u>Type</u>  | <u>Area<br/>(mu)</u> | Primary<br>Product<br>(jin) | <u>Average Per Mu</u>                       |                                           | Profit<br>(yuan) |
|--------------|----------------------|-----------------------------|---------------------------------------------|-------------------------------------------|------------------|
|              |                      |                             | <u>Gross Value<br/>of Output<br/>(yuan)</u> | <u>Net Value<br/>of Output<br/>(yuan)</u> |                  |
| Hybrid       | 94.16                | 958                         | 131.25                                      | 108.00                                    | 75.30            |
| Conventional | 138.75               | 575                         | 78.78                                       | 62.76                                     | 38.60            |

Commune member Fu Tingyou [0102 1694 0645] and 11 other households planted 10.25 mu of hybrid rice. Per mu yields were 1,031 jin, 69.73 percent higher than the yields of 598 per mu of conventional rice (13.83 mu). Profits were 103.85 percent higher.

## 2. Labor productivity of hybrid rice is high

Labor productivity is determined by the amount of goods or value created during a unit of labor time. In the actual production process, however, there cannot be excessive conservation or investment of labor in simple pursuit of labor productivity. This creates an enormous amount of idleness and waste. Fuling Prefecture has a lot of labor and limited cultivated land. The problem of surplus labor has become quite prominent since implementation of systems of contractual responsibility for output quotas. This makes choosing to produce a crop variety that consumes large amounts of labor an important route to solving the problem of surplus rural labor power. A mu of hybrid rice requires 6.1 labor days more than conventional rice, 42.39 percent higher. The labor productivity of hybrid rice is higher than conventional rice, however.

The amount of primary products created per labor day in hybrid rice are 17.04 percent higher than conventional rice. The gross value of output is 17.00 percent higher, the net value of output is 20.87 percent higher, and profits are 36.94 percent higher.

Table 2. Comparison of Labor Productivity for Hybrid Rice and Conventional Rice

| Type         | Amount of Labor per Mu (standard days) | Amount per Standard Labor Day* |                              |                            |               |
|--------------|----------------------------------------|--------------------------------|------------------------------|----------------------------|---------------|
|              |                                        | Primary Product (jin)          | Gross Value of Output (yuan) | Net Value of Output (yuan) | Profit (yuan) |
| Hybrid       | 20.5                                   | 46.7                           | 6.40                         | 5.27                       | 3.67          |
| Conventional | 14.4                                   | 39.9                           | 5.47                         | 4.36                       | 2.68          |

3. Costs per unit of primary product for hybrid rice are low

a) Hybrid rice is very intensive. It requires 15.77 yuan per mu in additional investments compared with conventional rice, 43.83 percent more. Materials expenses are 45.13 higher. Labor costs are 42.77 percent higher.

Table 3. Comparison of the Structure of Primary Production Costs for Hybrid Rice and Conventional Rice

(Figures given in yuan)

| Type         | Costs per Mu | Materials Costs | (including) Seeds | Greenhouse Seedlings Fee | Chemical Fertilizer | Farm Chemicals |
|--------------|--------------|-----------------|-------------------|--------------------------|---------------------|----------------|
| Hybrid       | 51.75        | 23.25           | 3.27              | 1.52                     | 13.25               | 1.30           |
| Conventional | 35.98        | 16.02           | 2.63              | --                       | 8.91                | 0.93           |

  

| Type         | Labor Costs | Preparation and Sowing of Seeds | (including) Fertilizer Application | Plant Protection | Harvesting |
|--------------|-------------|---------------------------------|------------------------------------|------------------|------------|
| Hybrid       | 28.50       | 12.20                           | 4.17                               | 1.56             | 6.23       |
| Conventional | 19.96       | 7.63                            | 2.92                               | 0.92             | 5.35       |

\*Note: The value of a standard working day is calculated according to the value of 1.39 yuan decided upon by the Ministry of Agriculture and the State Statistics Bureau in 1981.

Hybrid rice requires only 2.3 jin of seed per mu, 9.8 times less than conventional rice, reducing waste of materials. Expenses are 24.33 percent higher, however. This is due to exchange price differentials. Fertilizer costs are 48.71 percent higher. Greenhouse seedling raising costs 1.52 yuan, a special production expense for hybrid rice. Farm chemical costs are 39.78 percent higher. In labor costs, the amount of labor used in seed preparation and sowing is 59.90 percent higher. Labor costs for fertilizer application are 42.81 percent higher. Labor costs for plant protection are 69.57 percent higher.

b) Costs per hundred jin of primary product are lower for hybrid rice. Because the degree of intensity for hybrid rice is higher than that for conventional rice, it makes full use of soil fertility and gives play to the productive superiority of hybrid rice. For this reason, all cost items are lower than conventional rice.

Production costs per hundred jin of primary product are 13.74 percent lower than for conventional rice. Materials costs are 12.90 percent lower. Labor costs are 14.41 percent lower. Seed costs are 26.09 percent lower. Farm chemical costs are 12.50 percent lower. Fertilizer application costs are 10.97 percent lower. Taxes are 39.73 percent lower. The cost-profit rate of hybrid rice is 38.23 percent higher than conventional rice. It thus has displayed fairly good economic benefits from production.

Table 4. Comparison of Primary Costs per 100 Jin of Primary Product for Hybrid Rice and Conventional Rice

(Figures given in yuan)

| Type         | Per 100 Jin of Primary Product |                    |                |               |                           |                     |
|--------------|--------------------------------|--------------------|----------------|---------------|---------------------------|---------------------|
|              | Costs                          | Materials<br>Costs | Labor<br>Costs | Seed<br>Costs | Farm<br>Chemical<br>Costs | Fertilizer<br>Costs |
| Hybrid       | 5.40                           | 2.43               | 2.97           | 0.34          | 0.14                      | 1.38                |
| Conventional | 6.26                           | 2.79               | 3.47           | 0.46          | 0.16                      | 1.55                |

4. The benefits of capital investments are higher for hybrid rice

There is a fairly large differential between the capital capacity and economic benefits of hybrid and conventional rice. Output of hybrid rice per 1 yuan invested is 14.80 percent higher than conventional rice, and profits were 34.02 percent higher. That is to say, within a suitable range of investments, the investment of a certain amount of embodied labor is more profitable for hybrid rice production than for conventional rice production.

### III. Primary Measures for Improving the Economic Benefits of Hybrid Rice Production

Average yields of 1,021 jin per mu were obtained by 39 of the 111 commune member households on 40.31 mu of land. This was 6.58 percent higher than conventional rice yields. Profits per mu were 4.63 percent higher. Each labor day produced an additional 2.5 jin of paddy rice and 0.29 yuan in additional profits, a 7.90 percent increase. The costs per hundred jin of primary product were 4.10 percent lower, and profits were 3.49 percent higher. In order to continue to improve the economic benefits of hybrid rice production, primacy should be given to increasing per unit area yields so as to lower production costs. Based on the experiences of the 39 households with yields higher than 1,000 jin per mu and on other high producers, the following three measures should be adopted to achieve higher yields of hybrid rice:

#### 1. Two-stage seedling raising in greenhouse--a key measure for increasing hybrid rice yields

Fuling Prefecture lies at a fairly high elevation. The climate is complex, and hybrid rice planted along the river is subject to damage from high temperatures and drought. Level areas at high elevations are easily affected by extended periods of rain. It is often impossible to safely achieve spike growth and flowering. Two-stage raising of seedlings in greenhouses permits normal growth of the rice seedlings in the greenhouse, bringing them in season earlier and selecting the best seedlings. It also favors the cultivation of multi-till seedlings and batch growth of seedlings which permits the advantage of balanced growth of a field. At the same time, direct planting of small seedlings favors rational close planting and full planting of the base seedlings in order to achieve high yields. An experiment in 38 communes in Fuling City and Nanchuan County used seedlings grown in the two-stage process in greenhouses to plant 98,100 mu of hybrid rice and achieved yields of 919 jin per mu over a large area, an increase in output of 19.50 percent over open-air seedlings. Muliang Commune in Nanchuan County lies at an elevation of 800 to 1,000 meters. They used small seedlings from greenhouses to direct-plant 4,230 mu. Yields were 1,013 jin per mu, and 7.7 mu had yields of 1,337.7 jin. According to a survey by the Fuling City Agriculture Bureau on 199 land parcels along the river and 169 land parcels on level ground, yields from greenhouse seedlings compared to open-air seedlings were 98.4 jin and 106.1 jin greater, respectively. A comparative investigation showed that yields were 89.4 jin higher in similar fields for five peasant households in Zhihan Commune.

#### 2. Increased fertilizer application--an effective measure for increasing hybrid rice yields

Although hybrid rice yields have continued to increase over the past 2 years, they are very uneven, with the highest being over 1,000 jin per mu and the lowest being only 690 jin. This latter figure is

292 jin lower than the average for the entire prefecture and 320 jin lower than high-yield Fengdu County. The area with yields under 800 jin per mu still comprises 77.73 percent of the hybrid rice area for the prefecture. One of the main reasons for these low yields is a low level of fertilizer application. A survey of fertilizer application levels in Shizhu County in 1982 showed that 5.38 percent of farm households applied less than 5 jin of pure nitrogen per mu; 30.11 percent applied 5 to 10 jin per mu; 37.63 percent applied 10 to 15 jin per mu; 20.43 percent applied 15 to 20 jin per mu; and only 6.45 percent applied more than 20 jin per mu. The results of a large area sample investigation by the Fuling City Agriculture Bureau last year showed that yields with pure nitrogen applications less than 5 jin per mu were 847.2 jin per mu; yields were 975.9 jin for application of 5 to 10 jin; yields for application of more than 20 jin were 1,049.2 jin per mu. Fertilizer application created a 212 jin differential between the high and low yields. Each jin of pure nitrogen increased output of paddy rice by 12 to 15 jin. It is obvious that increased applications of fertilizer on hybrid rice gives enormous potential for increasing hybrid rice output.

### 3. Forecasting and preventing diseases and pests--an important measure for increasing hybrid rice yields

Because hybrid rice has certain biological characteristics and has been grown for a long time in Fuling Prefecture, it is easily damaged by disease and pests. Spike-tip rice virus [?] is becoming increasingly serious in some regions, greatly threatening improved yields and expansion of the area planted. In the short run, until they can be replaced with more resistant varieties, we should strengthen forecasting and prevention of diseases and pests in order to guarantee continued high and stable yields in hybrid rice.

Some 70 percent of the paddy fields in Fuling Prefecture are below 800 meters in elevation, and about 2 million mu could be planted in hybrid rice. Calculated at normal yields of 950 jin, there could be an additional 911.79 million jin of paddy produced compared to 1983, which could increase the value of output by 124.915 million yuan. Profits would be 32.846 million yuan higher, equivalent to each agricultural laborer in the prefecture creating an additional 50.69 yuan in value of output and 13.33 yuan in profits. This would be decisive in the economic development of this mountainous region.

12539

CSO: 4007/26

## YUNNAN'S SPECIALIZED, PRIORITY HOUSEHOLDS DISCUSSED

Kunming JINGJI WENTI TANSUO [INQUIRY INTO ECONOMIC PROBLEMS] in Chinese No 7,  
Jul 84 pp 11-15

[Article by Liang Lin [4731 2651] of the Rural Work Bureau of the Yunnan Provincial Party Committee: "Further Emancipate the Mind, Have a Free Hand in Developing Specialized Households"]

[Text] Special Features of the Development of Yunnan's Two Households

Currently, the conditions for developing Yunnan's rural specialized households and priority households are excellent. In Yunnan there are 569,917 specialized and priority households of every type, or 10.5 percent of the province's total rural households and nearly a two-fold increase compared to the total of 380,045 households in 1982.

The development of Yunnan's specialized and priority households has the following features in common:

First, the momentum of development is powerful and the rate of increase is rapid. Before 1982, the "two households" had appeared in only a small number of places. By the end of 1982, there were only a few more than the 189,800 "two households" in the province, or 3.59 percent of all rural households, and in some areas there was less than 1 percent. By May 1983, the number of "two households" grew to more than 274,800, or 5.19 percent of all rural households. By the end of September 1983, in a period of just 4 months the total grew to more than 473,800, or 8.8 percent of all rural households. Since January of this year, there have been developments in the number of households; the proportion of "two households" of all rural households has increased 1.7 percent compared to July of last year. The increase has been fairly quick in Yuxi County where the "two households" constitute 16.7 percent of all the prefecture's rural households. The rate of development of the "two households" has also been quick in some mountainous regions and minority areas on the border which have not really developed their commodity economies. In 1982, there were only 1,356 of the "two households" in Xishuangbanna Dai Autonomous Prefecture, accounting for only 1.8 percent of the prefecture's rural households. This has currently grown to 7.9 percent.

Second, the growth of the "two households" is becoming broader and the scope of management encompasses the quality and range of production and is covering every field. Yunnan mainly engaged in the breeding and growing industries when it started with the "two households." Since 1983, the "two households" have expanded from agriculture into such fields as industry, commerce, circulation, service, science and technology and culture. Of the province's 569,917 specialized and priority households, 229,322, or 40.3 percent, are engaged in the growing industry (this includes 18,182 specialized food households, 22,509 specialized crop households and 6,504 specialized forestry households); 164,267, or 28.8 percent are engaged in the breeding industry; 49,109, or 8.6 percent, work in the processing industries; 52,681 households, 9.2 percent, are engaged in commercial and service industries; 31,867 households, 5.6 percent, work in transportation and the transportation and sale of commodities; 2,492 households, 0.44 percent, are large households that deal in open-style management; and 88,193 households, 1.6 percent of the total, work in agricultural science and technology. With regard to the specialized households in every industry, the projects being worked on are continuously expanding. In circulation there has been a development from small-scale management such as the catering service and commission sales of articles of everyday use to caravan transportation, motor vehicle transportation and large-volume, long-distance transportation of agricultural produce and sideline products. In Yunnan, a group of specialized households for cultural activities and medicine and health has sprung up, and they are engaged in specialized books, films, tourism and medical matters.

Third, the "two households" have further stressed science and technology and economic results. Not only are they carrying on and making full use of the outstanding traditions of Chinese farmers, but they are intensively studying and grasping new technology, demonstrating and propagandizing, promoting the transformation from traditional to modern agriculture and continuously improving economic results. There are many households that are both specialized households and scientific and technical households. In order to learn about technology, some specialized households order five or six scientific and technical periodicals and both study and practice. Some households travel outside the province at their own expense to study and cultivate technology. And some invite specialists from Beijing, Shanghai and Guangzhou to provide technical guidance. The economic results from each type of specialized household are high: the average person's income is over 1,000 yuan, and the average work income is a few thousand yuan, sometimes even above 10,000 yuan. Deng Ziyi [6772 1311 5030] of the specialized household of Fangtun Commune of Yimen County had a great thirst for new technical knowledge, and in 1982 he developed a vermicelli machine and received a grade-4 science and technology award from Yuxi Prefecture. In 1983 he also developed a constant-temperature incubator for chicks using electricity and fire. He successfully cultivated the indigenous "beifeng" mushroom, and from July 1981 to the end of 1983 in a 40-square-meter room he produced 5 tons of "qipeng" fungus. He is also producing different varieties of mushrooms; the artificial mushrooms that he produces have already entered the Kunming market, and in 2 years and 5 months he has already earned 71 million yuan from the sale of mushrooms and fungi. He is currently experimenting

with cultivating dried mushrooms. Wang Yinbao's [3769 6892 1405] pig-breeding specialized household of the Nanshao Brigade of Hanzhuang Commune of Baoshan County successfully produced medicinal herbs designed to fatten pigs and caused each pig to gain more than 1.8 jin per day, and every year the income from raising pigs exceeded 18,000 yuan. Yang Xinghan [2799 2502 3352] of the Rice Paddy Manufacturing Household of the Tuguo Stockade of Longquan Village of Xichou County grew a total of 7.24 mu in 1983, yielding 2,454 jin. He sold 2,334 jin amounting to 23,334 jin of rice paddies, and he thus contributed toward promoting excellent growing in the area. Li Zongshang [2621 1350 3932] of the ploughshare production specialized household of Huaning County continuously studied and improved ploughshare technology. He changed cold-blowing furnaces into eight-eye, hot-blowing furnaces which can burn both steel and iron. He also changed from a sand-cast model to a model using water-tolerant materials and raised the number of cast-iron ploughs from 500 to 1,200. After these changes, in 1 year he saved 20 tons of coking coal valued at 3,000 yuan.

Fourth, there has been an improvement in the realm of thought of the "two households"; it appears more distant and the style is improved. They are the leaders of the material civilization and are also seekers of the spiritual civilization. Not only do they dare to think, act and take charge in working hard for prosperity, but their new communist habits shine out in their thoughts, words and deeds. Not only do they lead, implement and propagate the party's policies, but with initiative they also help the troubled economy, initiate public welfare work and spur on the common prosperity of the people. Zhang Shaowen [7022 4801 2429] of the film production specialized household of Jiangchuan County is such a model. Every time he shows a film he uses slides to propagate the plans and policies of the party, and he has also set forth seven circumstances under which he will give free film shows: 1) villages with 90 or more households of which 8 households have received single-child permits; 2) villages which have two persons who in 1 year have passed a test to be admitted to a university; 3) families that have not had a party at their wedding; 4) villages that in 1 year have two households that have sold more than 25 big porkers to the state; 5) households that in 1 year have produced 10,000 jin of food and received 10,000 yuan in revenue; 6) farms that in 1 year have planted more than 10,000 trees and have a survival rate above 90 percent; and 7) farms that have raised more than 300 chickens and ducks in 1 year. Since July of last year, Zhang Shaowen has given more than 217 film shows of which 27 have been free shows. Not only has he been successful himself, but he has caused every village to be successful. Recently, he organized both a few households having difficulties and the cadres leaving brigades and production brigades and started a cement plant and bone dust plant. He calculates that within 3 years, 50 percent of the commune members in the village will be engaged in farm work and 50 percent will be engaged in work and commerce, and this will be a great boost to the village's economy.

Fifth, the "two households" have gradually developed in the direction of specialization and new economic cooperation. Currently, in a few areas there are a number of specialized households that are already starting to become separated from the land and are engaging in specialized commodity

production. Based on their own characteristics, in practice many specialized households gradually develop away from "small and complete" and toward "small and specialized" and economic diversification using one industry as primary. Liu Guoxing [0491 0948 5281] of the Yumichong Production Brigade of the Chalima Brigade of the Lianchi Cooperative of Yongren County, based on the actual circumstances of his area lacking farm equipment and machinery for processing agricultural produce and sideline products, purchased 8 kinds of equipment including a tractor, diesel engine, pulverizer, rice mill, thresher, rotocultivator, threshing machine and water pump--12 pieces altogether. He established a farm machinery specialized household, he was called "the minister of the eight machines" and he engaged in specialized farm machinery service. Under the impetus of specialized households, a number of places have already started to combine their funds, technology, labor and land under the principles of equality, voluntary participation and mutual benefit and they have established multi-faceted, integrated bodies. Some combine their funds, some are combinations of specialized households and state-run units, some are alliances between specialized households and some are alliances between specialized households and normal commune member households.

Experience has proven that the rise of specialized households and priority households has had a great promoting effect on the process of carrying out Yunnan's rural transformation from a self-sufficient and semi-self-sufficient economy to large-scale commodity production and the transformation from traditional agriculture to modern agriculture. In recent years, the widespread implementation of a responsibility system for agricultural production has brought with it the liberation of productive forces and the development of commodity production. The "two households" are thus the result of the household joint production contract responsibility system and the development of commodity production. The development of the "two households" has also broken through Yunnan's long-standing production attitude in the countryside of self-sufficiency and semi-self-sufficiency and has vigorously promoted the speedy development of rural commodity production and science and technology. The development of the "two households" is a significant strategic issue, and it has an immeasurable and far-reaching significance in realizing a quadrupling of the province's gross industrial and agricultural output value, constructing material and cultural civilization in the countryside and reforming the superstructure.

#### Important Reasons for Developing the "Two Households"

Under the guidance of the correct lines, plans and policies of the CPC Central Committee, party organizations and governments at all levels as well as all relevant departments have done a great deal of work in developing the "two households" and have received good experience in supporting the development of the "two households." Specialized households have already created good experience for working hard for prosperity, and they must summarize these experiences and promote and exchange them.

Concerning leadership work, we must do mainly the following:

1. We must earnestly implement the central government's relevant policies for stimulating the rural economy and unify the ideological understanding of leading cadres at all levels for developing the "two households." Experience proves that wherever policy is vigorously and fully propagated and implemented, and wherever the cadres and the masses recognize that they can easily solve problems, the "two households" will develop quickly and commodity production will be stimulated. The guiding ideology of a few prefectural and county party committees makes clear that leaders must personally start work in considering the development of the "two households" as the key to developing commodity production. Some regard the development of the "two households" as the substance of the cadre's personal responsibility system and have established a combined system of cadres and specialized households. The Eshan County party committee assigns the responsible people of the county party committee, the county government and the standing committee of the county people's congress and the cadres above the rank of bureau chiefs, and each person must integrate one or two specialized and priority households and carry out periodic inspections. The vice-county magistrate in charge of working with the "two households," in order to solve promptly the problems of "two households," organized responsible specialized comrades for units such as an agricultural bank, supply and marketing cooperative, bureau of industry and commerce, foodstuffs company, feed company, livestock veterinary station and a bureau of financial affairs. He gave this his seal, and a contract was jointly signed by each cooperative and 428 specialized and priority households for loans, purchases and sales and livestock healthcare, and this caused a great development of the "two households." A cadre of Xiangshu Commune of Yimen County originally did not understand the significance of developing the "two households" and said that "households with material difficulties will be visited often and specialized households will be less hassled, so as not to avoid getting in trouble when the next movement comes along." In 1983, the commune party committee used the central government's rural economic policies as their substance, carried out widespread rotational training for the cadres and raised the consciousness of cadres in implementing policy. In the commune, 42 percent of cadres from brigades and 39.2 percent of cadres from production brigades took the initiative in managing specialized and priority households, used actions to provide a model to the people and caused the "two households" to develop quickly in this commune.

2. We must combine the directives of the higher authorities with the actual circumstances of each area, proceed from reality, adopt a few effective measures and arouse the enthusiasm of the "two households" in developing commodity production. Some places give priority to supporting such aspects as funds, planting, technology and materials, and they have achieved outstanding economic results. Linca County took more than 1.5 million yuan in funds intended to support impoverished teams and other special projects and used these funds to give support to specialized households, priority households, households with material difficulties and other types of economic integrated bodies. Through 3 years of work, the county received great results in developing such projects as livestock, pigs, tea, shellac, walnuts, pepper and sugar cane. In 1983 the county produced 17,623 dan of tea, a 13.3 percent increase compared to 1981, and planted more than 6,500 mu

of tea. In the county there were more than 4.4 head of livestock per household, an 11.7 percent increase compared with 1981. The Nanyang district party committee of Yiliang County carried out five priority tasks for specialized households and priority households dealing in commodity grain: 1) giving priority to contracting for reserve land; 2) giving priority to tractor ploughing; 3) giving priority to technical guidance; 4) giving priority to improved varieties; and 5) giving priority to supplying fertilizer and pesticides. The committee caused the speedy development of commodity grain. Last year, the "two households" that sold more than 10,000 jin and more than 5,000 jin of grain to the state constituted 4.6 percent of all rural households, and 59 percent of the No 11 Production Cooperative of Zhongle Township in this district was made up of commodity grain "two households."

3. Each relevant department must enthusiastically give support. Each department of such systems as banking, finance, commerce, supply and marketing, food, industry and communications must give different degrees of help and support to the "two households." The system of agricultural banks has had particular success in this work. They consider the support of the "two households" and the development of commodity production to be their own duty, and the leadership personally takes the lead in going into the "two households" and in carrying out investigations and research. They continuously improve their own work and suit the needs of the development of the "two households." According to statistics, in 1983 Yunnan's agricultural banks and credit unions provided support to more than 150,890 of the "two households." This constituted 27.9 percent of all "two households," and more than 120 million yuan, or an average loan of 755 yuan, were provided in support. Yunnan's agricultural scientific and technical departments at all levels adopted such forms as establishing scientific and technical coordination, holding all types of training classes and technical night classes and setting up a technical consulting center; provided the "two households" with scientific and technical data; and played a strong role in raising the scientific and technical level of the two households. Animal husbandry departments provide improved varieties of livestock and carry out epidemic prevention for livestock specialized households. The facts prove that if an area has liberated thinking, if the party committees and government are attentive and if all departments give support, then their "two households" will develop quickly.

Under the care and support of the party and the central government, many different types of specialized households and priority households in practice have also created a large amount of good experience. Vice Premier Wan Li, in a speech at the National Rural Work Conference, summarized well the joint experiences of the "two households." He said: "Even if their economic conditions, political conditions, social experience and management projects are all different and even if the level and the pace of prosperity are divergent, yet if we summarize their experiences, we can then see the emergence of the phrase 'working diligently for prosperity.' 'Diligence' includes enthusiastically studying science and technology, being adept at assimilating all types of information and improving management and administration. This also includes being bold to develop new management projects

and not being afraid to take risks, and it means being willing to make great efforts. This is an important source of the prosperity of the peasants." The experience of all types of Yunnan's specialized households in being prosperous lies in the word "diligence." Because of diligence, there is a way to make money, a door leading to prosperity, a direction for management and a lofty spirit. They dare to be prosperous, they can be prosperous and they are taking the proper road. Specifically, they are relying on the following few points in working diligently for prosperity: they depend on 1) the party's policies, 2) science and technology, 3) the opening of new roads and 4) the stress on culture.

#### We Must Pay Attention To Solving New Problems That Appear in the Course of the Development of the Two Households

Currently, specialized households and priority households have come across many new situations and problems in the course of development, and they have also encountered many obstacles. Party committees at all levels and all departments must come together to study and solve these problems and they must pay attention to competently solving the following few problems:

1. We must further liberate thinking, eliminate "leftist" influences and competently solve and correctly handle the attitude problems of the first peasants to become prosperous. The development of the "two households" is another big policy for the party to continue after agriculture carries out the joint production contract responsibility system and is a strategic measure for accelerating the development of rural commodity production. However, the thinking of some comrades is not liberated enough in dealing with the problems of the "two households," their understanding is still not unified and every kind of obstacle exists. These obstacles mainly come from leftist influences, and the spirit of the mistaken leftist thinking of "poor and glorious, rich and revisionist" still remains. Some people regard the first peasants who become wealthy as "offensive," and some people fear that we "will create a split into two classes." "Labor is returning to the field," "farmers only till the land and businessmen do not engage in honest work" and other misconceptions are ingrained in some people's heads. Thus, some people who are prejudiced in their views toward households that are engaged in the processing, commercial and transportation industries say: "The prosperity from planting and breeding is a drop in the bucket, it is tough work and we admire this. Opening factories, doing business and running transportation take away from our surplus value, and what 'ism' is there in getting rich unjustly?" These comrades do not make a clear distinction between working diligently for prosperity and exploiting to make a fortune and they do not clearly differentiate between legal and illegal income. Some people mistakenly attack transportation and sales activities as criminal economic activities. Some have the egalitarian thinking of "either everyone should be prosperous or everyone should be poor." They suffer from "pink eye" and the belief "everyone should have a little taste of the honey at the tip of the knife." Due to "leftist" influences, a number of specialized households have misgivings. There are a number who "fear a change in party policy" and fear that "they are liable to be attacked and from their prominent positions will be the first to rot." They fear that they will be

labeled capitalists, that "they will rise in class, suffer criticism and attacks and be locked up in prison" and that after the land is changed there will be no room to maneuver. Some say: "We can insure the fields, but engaging in a prosperous industry is dangerous" and "Black cannot be red and the poor cannot be rich." Many people only dare to be a little prosperous and do not dare to be very prosperous. They only dare to be prosperous on the sly and do not dare boldly and openly to work diligently for prosperity.

The response to this mistaken ideology can mainly be summarized in two points: First, it lumps together the development of socialist commodity production with capitalism; second, it does not have a clear understanding of the nature of specialized households and does not correctly treat those peasants who are the first to become wealthy. For a long time, due to "leftist" influences, some cadres and some of the people have had mistaken views concerning socialist commodity production and regard the development of commodity production as capitalist. We must educate cadres and the masses and we must make the people understand that socialism cannot be established on an economy of self-sufficiency. We must develop commodity production; we can then have a prosperous people and strong nation and we can then realize the four modernizations. The rural economy is not only agricultural production, it also includes agriculture, forestry, animal husbandry, sideline products, fishing, industry, commerce and other areas and such fields as production, exchange, distribution and consumption. Peasants not only are "perfectly justified" in tilling the fields but are also "perfectly justified" in working in industry and doing business, and this is reasonable and legitimate work. We should in no way treat the large-scale development of rural commodity production with old viewpoints, conventions and restrictions, and we must heighten our understanding of the importance and urgency of developing socialist commodity production.

On the basis of carrying out a family joint production contract responsibility system, the development of every type of specialized household is a policy for a prosperous people and strong country that our party is using to persuade peasants to develop commodity production. Our goal in developing the "two households" is to use the peasants who are the first to become rich as examples and models in order to promote the development of the entire rural economy, to achieve the goal of joint prosperity and to achieve the glorious goals raised by the 12th Party Congress of the CPC. Experience bears out that these goals can be completely achieved as long as we develop the "two households" and promote the "two households" in thousands of households.

In the final analysis, our party's rural economic policies must fully arouse the enthusiasm of the masses for production, have a free hand in developing commodity production and enable peasants to work diligently for prosperity as quickly as possible. This requires that we earnestly support the leaders in developing commodity production and working diligently for prosperity and that we rouse the "mules" and "lead the ox by its harness." We can then arouse thousands of households and arouse the rural commodity economy.

2. Every industry and department must give the green light to the development of the "two households," eliminate their problems, solve their difficulties and strive to contribute to the rural development of commodity production. Currently, villages have already comprehensively developed such industries as agriculture, forestry, animal husbandry, sideline products, fishing, industry, commerce, communications and transportation and have carried out a new stage of comprehensive control in the political, economic and cultural fields. Rural work is not only the business of agricultural departments but is also the business of the party and government as well as all political, economic and cultural work departments. There is a close relationship between the development of the "two households" and all departments, and we must depend on and arouse the strengths of all departments. In recent years, all departments have done a great deal of work in developing the countryside and have achieved numerous results. In short, unsuitable problems are still common, particularly with the emergence of specialized households and priority households. The scale of commodity production is becoming larger and larger and the rate of development is becoming faster and faster. All types of unsuitable problems are more prominent and contradictions in every respect are becoming more acute. We must reform as quickly as possible the situation of the superstructure being unsuited to the economic base and break through the old conventions, old restrictions and old methods that are restricting the peasants' development of commodity production and that are restricting the peasants in working diligently for prosperity. We must cause the agricultural, commercial, financial, banking, tax collection, industrial and communications, industrial and commercial management, scientific and technological, political and legal, cultural, education and health departments as quickly as possible to suit our needs in the new situation in the countryside.

What are the demands of specialized households and priority households on leaders at every level and on all departments? How should these demands be supported? From a survey of a few specialized households, their most urgent need is for the leadership to provide the necessary social services, to meet the demand for information, supply and marketing and technological advances and to help them solve the problem of difficulties in buying and difficulties in selling. Doing a good job in social services is an extremely important and prominent problem. The history of the development of commodity production both at home and abroad explains that the more detailed the division of social labor is, the stronger the social services will be, and if social services work well, then this will further promote the division of specialized labor. Further, the households demand that their rights and interests be legally protected. Each system and department must lead and take the initiative, go into the countryside, earnestly investigate and study, improve work habits and provide good service to the "two households" before, during and after production. Some localities have organized a few comprehensive service organizations, i.e., they have established a "'Two Households' Integral Service Company" and a "Commodities Information Service Company." We should follow the examples of these new experiences.

## IMPROVEMENT IN LIVING STANDARDS REPORTED

Hangzhou ZHEJIANG RIBAO in Chinese 25 Sep 84 p 1

/Article: "Living Standards for Urban and Rural Residents Improve; The Gap Between Workers and Peasants Has Been Reduced: In 1983, Per-Capita Incomes for Zhejiang Workers Was 505 Yuan and for Peasants, 359 Yuan; The Ratio Between Peasant and Worker Incomes Was 1:1.4"

/Text/ Following the rapid expansion in industrial and agricultural production since the founding of the People's Republic, living standards for urban and rural residents have steadily increased; food, clothing, appliances and housing have improved; and the gap between worker and peasant incomes has declined.

Sample surveys conducted by the Zhejiang Statistics Bureau indicate that, in 1983, the per-capita, unadjusted income for workers reached 505 yuan, an increase of 3.4-fold, or an actual rise of 2.2-fold--when increases in the cost of living are deducted--over 1949; and an increase of 66.4 percent, or an actual rise of 39.9 percent, over 1978. Per-capita net income for peasants was 359 yuan in 1983, an increase of 6.6-fold over 1949 and of 1.2-fold over 1978. Peasant incomes have increased faster than those of workers: The ratio between the two income levels was 1:2.5 in 1945, 1:1.84 and 1:1.14 in 1983, respectively.

In the last 5 years, the state has increased wages and implemented a system of incentive bonuses for workers, which measures have engendered a general rise in worker incomes. In 1983, the average wage income for Zhejiang workers was 760 yuan, which represented an increase of 34.5 percent over 1978. Meanwhile, employment channels have been broadened, many unemployed youth have been placed in jobs, and thus 60.2 percent of the members of the average urban worker family are now wage earners. In addition, the state has also appropriated much money to subsidize consumption and welfare benefits for urban residents. For example, in 1983 labor insurance benefits alone amounted to 721 million yuan, or 25 percent of the total wage bill.

Following increases in income, the consumption levels of rural and urban residents have risen. In 1983, per-capita living expenses for urban workers stood at 484 yuan, an increase of 2.3-fold, or an actual, adjusted rise of 1.4-fold, over 1952; and an increase of 61 percent, or an actual rise of 35 percent, over 1978. Per-capita consumption expenditures for peasants amounted to 326 yuan in 1983, an increase of 5.4-fold over 1949 and of 1.1-fold over 1978. The gap in consumption between peasant and worker families was 1:1.19 in 1978 and 1:1.15 in 1983, respectively.

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